Road Impact Fee Study

APPENDICES
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PREPARED FOR

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ROAD IMPACT FEE STUDY

APPENDICES

LIST OF APPENDICES

Appendix A:
Indiana State Impact Fee Code

IC 36-7-4-1300

1300 Series_Impact Fees

Sec. 1300. This series (sections 1300 through 1399 of this chapter) may be cited as follows: 1300 SERIES _ IMPACT FEES.

As added by P.L.221-1991, SEC.1.

IC 36-7-4-1301

"Community level of service" defined

Sec. 1301. As used in this series, "community level of service" means a quantitative measure of the service provided by the infrastructure that is determined by a unit to be appropriate.

As added by P.L.221-1991, SEC.2.

IC 36-7-4-1302

"Current level of service" defined

Sec. 1302. As used in this series, "current level of service" means a quantitative measure of service provided by existing infrastructure to support existing development.

As added by P.L.221-1991, SEC.3.

IC 36-7-4-1303

"Development" defined

Sec. 1303. As used in this series, "development" means an improvement of any kind on land.

As added by P.L.221-1991, SEC.4.

IC 36-7-4-1304

"Fee payer" and "person" defined

Sec. 1304. (a) As used in this series, "fee payer" means the following:

(1) A person who has paid an impact fee.

(2) A person to whom a person who paid an impact fee has made a written assignment of rights concerning the impact fee.

(3) A person who has assumed by operation of law the rights concerning an impact fee.

(b) As used in this series, "person" means an individual, a sole proprietorship, a partnership, an association, a corporation, a fiduciary, or any other entity.

As added by P.L.221-1991, SEC.5.

IC 36-7-4-1305

"Impact fee" and "capital costs" defined

Sec. 1305. (a) As used in this series, "impact fee" means a monetary charge imposed on new development by a unit to defray or mitigate the capital costs of infrastructure that is required by, necessitated by, or needed to serve the new development.

(b) As used in this section, "capital costs" means the costs incurred to provide additional infrastructure to serve new development, including the following:

(1) Directly related costs of construction or expansion of infrastructure that is necessary to serve the new development, including reasonable design, survey,

engineering, environmental, and other professional fees that are directly related to the construction or expansion.

(2) Directly related land acquisition costs, including costs incurred for the following:

(A) Purchases of interests in land.

(B) Court awards or settlements.

(C) Reasonable appraisal, relocation service, negotiation service, title insurance, expert witness, attorney, and other professional fees that are directly related to the land acquisition.

(3) Directly related debt service, subject to section 1330 of this chapter.

(4) Directly related expenses incurred in preparing or updating the comprehensive plan or zone improvement plan, including all administrative, consulting, attorney, and other professional fees, as limited by section 1330 of this chapter.

As added by P.L.221-1991, SEC.6.

IC 36-7-4-1306

"Impact fee ordinance" defined

Sec. 1306. As used in this series, "impact fee ordinance" means an ordinance adopted under section 1311 of this chapter.

As added by P.L.221-1991, SEC.7.

IC 36-7-4-1307

"Impact zone" defined

Sec. 1307. As used in this series, "impact zone" means a geographic area designated under section 1315 of this chapter.

As added by P.L.221-1991, SEC.8.

IC 36-7-4-1308

"Infrastructure" defined

Sec. 1308. As used in this series, "infrastructure" means the capital improvements that:

(1) comprise:

(A) a sanitary sewer system or wastewater treatment facility;

(B) a park or recreational facility;

(C) a road or bridge;

(D) a drainage or flood control facility; or

(E) a water treatment, water storage, or water distribution facility;

(2) are:

(A) owned solely for a public purpose by:

(i) a unit; or

(ii) a corporation created by a unit; or

(B) leased by a unit solely for a public purpose; and

(3) are included in the zone improvement plan of the impact zone in which the capital improvements are located.

The term includes site improvements or interests in real property needed for a facility listed in subdivision (1).
As added by P.L.221-1991, SEC.9.

IC 36-7-4-1309
"Infrastructure type" defined

Sec. 1309. As used in this series, "infrastructure type" means any of the following types of infrastructure covered by an impact fee ordinance:

(1) Sewer, which includes sanitary sewerage and wastewater treatment facilities.

(2) Recreation, which includes parks and other recreational facilities.

(3) Road, which includes public ways and bridges.

(4) Drainage, which includes drains and flood control facilities.

(5) Water, which includes water treatment, water storage, and water distribution facilities.

As added by P.L.221-1991, SEC.10.

IC 36-7-4-1310
"Infrastructure agency" defined

Sec. 1310. As used in this series, "infrastructure agency" means a political subdivision or an agency of a political subdivision responsible for acquiring, constructing, or providing a particular infrastructure type.
As added by P.L.221-1991, SEC.11.

IC 36-7-4-1311
Ordinance; jurisdiction to adopt; impact fees and other charges

Sec. 1311. (a) The legislative body of a unit may adopt an ordinance imposing an impact fee on new development in the geographic area over which the unit exercises planning and zoning jurisdiction. The ordinance must aggregate the portions of the impact fee attributable to the infrastructure types covered by the ordinance so that a single and unified impact fee is imposed on each new development.

(b) If the legislative body of a unit has planning and zoning jurisdiction over the entire geographic area covered by the impact fee ordinance, an ordinance adopted under this section shall be adopted in the same manner that zoning ordinances are adopted under the 600 SERIES of this chapter.

(c) If the legislative body of a unit does not have planning and zoning jurisdiction over the entire geographic area covered by the impact fee ordinance but does have jurisdiction over one (1) or more infrastructure types in the area, the legislative body shall establish the portion of the impact fee schedule or formula for the infrastructure types over which the legislative body has jurisdiction. The legislative body of the unit having planning and zoning jurisdiction shall adopt an impact fee ordinance containing that portion of the impact fee schedule or formula if:

(1) a public hearing has been held before the legislative body having planning and zoning jurisdiction; and

(2) each plan commission that has planning jurisdiction over any part of the geographic area in which the impact fee is to be imposed has approved the proposed impact fee ordinance by resolution.

(d) An ordinance adopted under this section is the exclusive means for a unit to impose an impact fee. An impact fee imposed on new development to pay for infrastructure may not be collected after January 1, 1992, unless the impact fee is imposed under an impact fee ordinance adopted under this chapter.

(e) Notwithstanding any other provision of this chapter, the following charges are not impact fees and may continue to be imposed by units:

(1) Fees, charges, or assessments imposed for infrastructure services under statutes in existence on January 1, 1991, if:

(A) the fee, charge, or assessment is imposed upon all users whether they are new users or users requiring additional capacity or services;

(B) the fee, charge, or assessment is not used to fund construction of new infrastructure unless the new infrastructure is of the same type for which the fee, charge, or assessment is imposed and will serve the payer; and

(C) the fee, charge, or assessment constitutes a reasonable charge for the services provided in accordance with IC 36-1-3-8(6) or other governing statutes requiring that any fees, charges, or assessments bear a reasonable relationship to the infrastructure provided.

(2) Fees, charges, and assessments agreed upon under a contractual agreement entered into before April 1, 1991, or fees, charges, and assessments agreed upon under a contractual agreement, if the fees, charges, and assessments are treated as impact deductions under section 1321(d) of this chapter if an impact fee ordinance is in effect.

As added by P.L.221-1991, SEC.12.

IC 36-7-4-1312

Ordinance; prerequisites to adoption

Sec. 1312. (a) A unit may not adopt an impact fee ordinance under section 1311 of this series unless the unit has adopted a comprehensive plan under the 500 SERIES of this chapter for the geographic area over which the unit exercises planning and zoning jurisdiction.

(b) Before the adoption of an impact fee ordinance under section 1311 of this chapter, a unit shall establish an impact fee advisory committee. The advisory committee shall:

(1) be appointed by the executive of the unit;

(2) be composed of not less than five (5) and not more than ten (10) members with at least forty percent (40%) of the membership representing the development, building, or real estate industries; and

(3) serve in an advisory capacity to assist and advise the unit with regard to the adoption of an impact fee ordinance under section 1311 of this chapter.

(c) A planning commission or other committee in existence before the adoption of an impact fee ordinance that meets the membership requirements of subsection (b) may serve as the advisory committee that subsection (b) requires.

(d) Action of an advisory committee established under subsection (b) is not required as a prerequisite for the unit in adopting an impact fee ordinance under section 1311 of this chapter.

As added by P.L.221-1991, SEC.13.

IC 36-7-4-1313

Other permissible fees and charges of adopting unit

Sec. 1313. This series does not prohibit a unit from doing any of the following:

(1) Imposing a charge to pay the administrative, plan review, or inspection costs associated with a permit for development.

(2) Imposing, pursuant to a written commitment or agreement and as a condition or requirement attached to a development approval or authorization (including permitting or zoning decisions), an obligation to dedicate, construct, or contribute goods, services, land or interests in land, or infrastructure to a unit or to an infrastructure agency. However, if the unit adopts or has already adopted an impact fee ordinance under section 1311 of this chapter the following apply:

(A) The person dedicating, contributing, or providing an improvement under this subsection is entitled to a credit for the improvement under section 1335 of this chapter.

(B) The cost of complying with the condition or requirement imposed by the unit under this subdivision may not exceed the impact fee that could have been imposed by the unit under section 1321 of this chapter for the same infrastructure.

(3) Imposing new permit fees, charges, or assessments or amending existing permit fees, charges, or assessments. However, the permit fees, charges, or assessments must meet the requirements of section 1311(e)(1)(A), 1311(e)(1)(B), and 1311(e)(1)(C) of this chapter.

As added by P.L.221-1991, SEC.14.

IC 36-7-4-1314

Ordinance; application

Sec. 1314. (a) Except as provided in subsection (b), an impact fee ordinance must apply to any development:

(1) that is in an impact zone; and

(2) for which a unit may require a structural building permit.

(b) An impact fee ordinance may not apply to an improvement that does not create a need for additional infrastructure, including the erection of a sign, the construction of a fence, or the interior renovation of a building not resulting in a change in use.

As added by P.L.221-1991, SEC.15.

IC 36-7-4-1315

Ordinance; establishment of impact zones

Sec. 1315. (a) An impact fee ordinance must establish an impact zone, or a set of impact zones, for each infrastructure type covered by the ordinance. An impact zone established for a particular infrastructure type is not required to be congruent with an impact zone established for a different infrastructure type.

(b) An impact zone may not extend beyond the jurisdictional boundary of an infrastructure agency responsible for the infrastructure type for which the impact zone was established, unless an agreement under IC 36-1-7 is entered into by the infrastructure agencies.

(c) If an impact zone, or a set of impact zones, includes a geographic area containing territory from more than one (1) planning and zoning jurisdiction, the applicable legislative bodies and infrastructure agencies shall enter into an agreement under IC 36-1-

7 concerning the collection, division, and distribution of the fees collected under the impact fee ordinance.
As added by P.L.221-1991, SEC.16.

IC 36-7-4-1316
Impact zones; geographical area
Sec. 1316. A unit must include in an impact zone designated under section 1315 of this chapter the geographical area necessary to ensure that:
(1) there is a functional relationship between the components of the infrastructure type in the impact zone;
(2) the infrastructure type provides a reasonably uniform benefit throughout the impact zone; and
(3) all areas included in the impact zone are contiguous.
As added by P.L.221-1991, SEC.17.

IC 36-7-4-1317
Ordinance; identification of responsible infrastructure agency
Sec. 1317. A unit must identify in the unit's impact fee ordinance the infrastructure agency that is responsible for acquiring, constructing, or providing each infrastructure type included in the impact fee ordinance.
As added by P.L.221-1991, SEC.18.

IC 36-7-4-1318
Ordinance; zone improvement plan preparation; contents of plan
Sec. 1318. (a) A unit may not adopt an impact fee ordinance under section 1311 of this chapter unless the unit has prepared or substantially updated a zone improvement plan for each impact zone during the immediately preceding one (1) year period. A single zone improvement plan may be used for two (2) or more infrastructure types if the impact zones for the infrastructure types are congruent.
(b) Each zone improvement plan must contain the following information:
(1) A description of the nature and location of existing infrastructure in the impact zone.
(2) A determination of the current level of service.
(3) Establishment of a community level of service. A unit may provide that the unit's current level of service is the unit's community level of service in the zone improvement plan.
(4) An estimate of the nature and location of development that is expected to occur in the impact zone during the following ten (10) year period.
(5) An estimate of the nature, location, and cost of infrastructure that is necessary to provide the community level of service for the development described in subdivision (4). The plan must indicate the proposed timing and sequencing of infrastructure installation.
(6) A general description of the sources and amounts of money used to pay for infrastructure during the previous five (5) years.
(c) If a zone improvement plan provides for raising the current level of service to a higher community level of service, the plan must:
(1) provide for completion of the infrastructure that is necessary to raise the current

level of service to the community level of service within the following ten (10) year period;

(2) indicate the nature, location, and cost of infrastructure that is necessary to raise the current level of service to the community level of service; and

(3) identify the revenue sources and estimate the amount of the revenue sources that the unit intends to use to raise the current level of service to the community level of service for existing development. Revenue sources include, without limitation, any increase in revenues available from one (1) or more of the following:

(A) Adopting or increasing the following:

(i) The county adjusted gross income tax.

(ii) The county option income tax.

(iii) The county economic development income tax.

(iv) The annual license excise surtax.

(v) The wheel tax.

(B) Imposing the property tax rate per one hundred dollars ($100) of assessed valuation that the unit may impose to create a cumulative capital improvement fund under IC 36-9-14.5 or IC 36-9-15.5.

(C) Transferring and reserving for infrastructure purposes other general revenues that are currently not being used to pay for capital costs of infrastructure.

(D) Dedicating and reserving for infrastructure purposes any newly available revenues, whether from federal or state revenue sharing programs or from the adoption of newly authorized taxes.

(d) A unit must consult with a qualified engineer licensed to perform engineering services in Indiana when the unit is preparing the portions of the zone improvement plan described in subsections (b)(1), (b)(2), (b)(5), and (c)(2).

(e) A zone improvement plan and amendments and modifications to the zone improvement plan become effective after adoption as part of the comprehensive plan under the 500 SERIES of this chapter or adoption as part of the capital improvements program under section 503(5) of this chapter. If the unit establishing the impact fee schedule or formula and establishing the zone improvement plan is different from the unit having planning and zoning jurisdiction, the unit having planning and zoning jurisdiction shall incorporate the zone improvement plan as part of the unit's comprehensive plan and capital improvement plan.

(f) If a unit's zone improvement plan identifies revenue sources for raising the current level of service to the community level of service, impact fees may not be assessed or collected by the unit unless:

(1) before the effective date of the impact fee ordinance the unit has available or has adopted the revenue sources that the zone improvement plan specifies will be in effect before the impact fee ordinance becomes effective; and

(2) after the effective date of the impact fee ordinance the unit continues to provide adequate funds to defray the cost of raising the current level of service to the community level of service, using revenue sources specified in the zone improvement plan or revenue sources other than impact fees.

As added by P.L.221-1991, SEC.19.

IC 36-7-4-1319

Amendment to ordinance or zone improvement plan

Sec. 1319. (a) A unit shall amend a zone improvement plan to make adjustments in the nature, location, and cost of infrastructure and the timing or sequencing of infrastructure installations to respond to the nature and location of development occurring in the impact zone. Appropriate planning and analysis shall be carried out before an amendment is made to a zone improvement plan.

(b) A unit may not amend an impact fee ordinance if the amendment makes a significant change in an impact fee schedule or formula or if the amendment designates an impact zone or alters the boundary of a zone, unless a new or substantially updated zone improvement plan has been approved within the immediately preceding one (1) year period.

As added by P.L.221-1991, SEC.20.

IC 36-7-4-1320

Ordinance; fee schedule and formula

Sec. 1320. (a) An impact fee ordinance must include:

(1) a schedule prescribing for each impact zone the amount of the impact fee that is to be imposed for each infrastructure type covered by the ordinance; or

(2) a formula for each impact zone by which the amount of the impact fee that is to be imposed for each infrastructure type covered by the ordinance may be derived.

(b) A schedule or formula included in an impact fee ordinance must provide an objective and uniform standard for calculating impact fees that allows fee payers to accurately predict the impact fees that will be imposed on new development.

As added by P.L.221-1991, SEC.21.

IC 36-7-4-1321

Fee schedule or formula; requirements; limitations

Sec. 1321. (a) An impact fee schedule or formula described in section 1320 of this chapter shall be prepared so that the impact fee resulting from the application of the schedule or formula to a development meets the requirements of this section. However, this section does not require that a particular methodology be used in preparing the schedule or formula.

(b) As used in this section, "impact costs" means a reasonable estimate, made at the time the impact fee is assessed, of the proportionate share of the costs incurred or to be incurred by the unit in providing infrastructure of the applicable type in the impact zone that are necessary to provide the community level of service for the development. The amount of impact costs may not include the costs of infrastructure of the applicable type needed to raise the current level of service in the impact zone to the community level of service in the impact zone for development that is existing at the time the impact fee is assessed.

(c) As used in this section, "nonlocal revenue" means a reasonable estimate, made at the time the impact fee is assessed, of revenue that:

(1) will be received from any source (including but not limited to state or federal grants) other than a local government source; and

(2) is to be used within the impact zone to defray the capital costs of providing

infrastructure of the applicable type.

(d) As used in this section, "impact deductions" means a reasonable estimate, made at the time the impact fee is assessed, of the amounts from the following sources that will be paid during the ten (10) year period after assessment of the impact fee to defray the capital costs of providing infrastructure of the applicable types to serve a development:

(1) Taxes levied by the unit or on behalf of the unit by an applicable infrastructure agency that the fee payer and future owners of the development will pay for use within the geographic area of the unit.

(2) Charges and fees, other than fees paid by the fee payer under this chapter, that are imposed by any of the following for use within the geographic area of the unit:

(A) An applicable infrastructure agency.

(B) A governmental entity.

(C) A not-for-profit corporation created for governmental purposes.

Charges and fees covered by this subdivision include tap and availability charges paid for extension of services or the provision of infrastructure to the development.

(e) An impact fee on a development may not exceed:

(1) impact costs; minus

(2) the sum of nonlocal revenues and impact deductions.

As added by P.L.221-1991, SEC.22.

IC 36-7-4-1322

Fee assessment date; increase or decrease in fees; developments against which fees may not be assessed; existing contracts

Sec. 1322. (a) Except as provided in subsection (b), an impact fee ordinance must require that, if the fee payer requests, an impact fee on a development must be assessed not later than thirty (30) days after the earlier of:

(1) the date the fee payer obtains an improvement location permit for the development; or

(2) the date that the fee payer voluntarily submits to the unit a development plan for the development and evidence that the property is properly zoned for the proposed development. The plan shall be in the form prescribed by the unit's zoning ordinance and shall contain reasonably sufficient detail for the unit to calculate the impact fee.

(b) An impact fee ordinance may provide that if a proposed development is of a magnitude that will require revision of the zone improvement plan in order to appropriately serve the new development, the unit shall revise the unit's zone improvement plan and shall assess an impact fee on a development not later than one hundred eighty (180) days after the earlier of the following:

(1) The date on which the fee payer obtains an improvement location permit for the development.

(2) The date on which the fee payer submits to the unit a development plan for a development and evidence that the property is properly zoned for the proposed development. The development plan must be in the form prescribed by the unit's zoning ordinance and must contain reasonably sufficient detail for the unit to calculate the impact fee.

(c) An impact fee assessed under subsections (a) or (b) may be increased only if the structural building permit has not been issued for the development and the requirements

of subsection (d) are satisfied. In the case of a phased development, only a portion of an impact fee assessed under subsection (a) or (b) that is attributable to the portion of the development for which a permit has not been issued may be increased if the requirements of subsection (d) are satisfied.

(d) Unless the improvement location permit or development plan originally submitted for the development is changed so that the amount of impact on infrastructure the development creates in the impact zone is significantly increased, an impact fee assessed under:

(1) subsection (a)(1) or (b)(1) may not be increased for the period of the improvement location permit's validity; and

(2) subsection (a)(2) or (b)(2) may not be increased for three (3) years.

(e) An impact fee assessed under subsection (a) or (b) shall be decreased if the improvement location permit or development plan originally submitted for the development is changed so that the amount of impact on infrastructure that the development creates in the impact zone is significantly decreased. If a change occurs in the permit or plan that results in a decrease in the amount of the impact fee after the fee has been paid, the unit that collected the fee shall immediately refund the amount of the overpayment to the fee payer.

(f) If the unit fails to assess an impact fee within the period required by subsection (a) or (b), the unit may not assess an impact fee on the development unless the development plan originally submitted for the development is materially and substantially changed.

(g) Notwithstanding other provisions in this chapter, a unit may not assess an impact fee against a development if:

(1) an improvement location permit has been issued for all or a part of a development before adoption of an impact fee ordinance that is in compliance with this chapter; and

(2) the development satisfies all of the following criteria:

(A) The development is zoned for commercial or industrial use before January 1, 1991.

(B) The development will consist primarily of new buildings or structures. As used in this clause, the term "new buildings or structures" does not include additions or expansions of existing buildings or structures.

(C) The parts of the development for which a structural building permit has not been issued are owned or controlled by the person that owned or controlled the development on January 1, 1991.

(D) A structural building permit is issued for the development not more than four (4) years after the effective date of the impact fee ordinance.

(E) The development is part of a common scheme of development that:

(i) involves land that is contiguous;

(ii) involves a plan for development that includes a survey of the land, engineering drawings, and a site plan showing the anticipated size, location, and use of buildings and the anticipated location of streets, sewers, and drainage;

(iii) if plan approval is required, resulted in an application being filed with an appropriate office, commission, or official of the unit before January 1, 1991, that resulted or may result in approval of any phase of the development plan referred to in item (ii);

(iv) has been diligently pursued since January 1, 1991;

(v) resulted before January 1, 1991, in a substantial investment in creating, publicizing, or implementing the common scheme of development; and

(vi) involved the expenditure of significant funds before January 1, 1991, for the provision of improvements, such as roads, sewers, water treatment facilities, water storage facilities, water distribution facilities, drainage systems, or parks, that are on public lands or are available for other development in the area.

(h) Notwithstanding any other provision of this chapter, this chapter does not impair the validity of any contract between a unit and a fee payer that was:

(1) entered into before January 1, 1991; and

(2) executed in consideration of zoning amendments or annexations requested by the fee payer.

As added by P.L.221-1991, SEC.23.

IC 36-7-4-1323

Fee due date; proration; repeal or lapse of ordinance

Sec. 1323. (a) Except as provided in section 1324 of this chapter, an impact fee assessed in compliance with section 1322 of this chapter is due and payable on the date of issuance of the structural building permit for the new development on which the impact fee is imposed.

(b) For a phased development, an impact fee shall be prorated for purposes of payment according to the impact of the parcel for which a structural building permit is issued in relation to the total impact of the development. In accordance with section 1324 of this chapter, only the prorated portion of the assessed impact fee is due and payable on the issuance of the permit.

(c) If an impact fee ordinance is repealed, lapses, or becomes ineffective after the assessment of an impact fee on a development but before the issuance of the structural building permit for part or all of the development:

(1) any part of the impact fee attributable to the part of the development for which a structural building permit has not been issued is void and is not due and payable, in the case of a phased development; and

(2) the entire impact fee is void and is not due and payable, in the case of a development other than a phased development.

As added by P.L.221-1991, SEC.24.

IC 36-7-4-1324

Ordinance; installment payment plan; fee upon permit issuance; interest; penalty for late payment

Sec. 1324. (a) An impact fee ordinance must include an installment payment plan. The installment payment plan must at least offer a fee payer the option of paying part of an impact fee in equal installment payments if the impact fee is greater than five thousand dollars ($5,000). In an installment plan under this section:

(1) a maximum of five thousand dollars ($5,000) or five percent (5%) of the impact fee, whichever is greater, may become payable on the date the structural building permit is issued for the development on which the fee is imposed;

(2) the first installment may not become due and payable less than one (1) year after

the date the structural building permit is issued for the development on which the fee is imposed; and

(3) the last installment may not be due and payable less than two (2) years after the date the structural building permit is issued for the development on which the fee is imposed.

(b) An impact fee ordinance may require an impact fee of five thousand dollars ($5,000) or less to be paid in full on the date the structural building permit is issued for the development on which the impact fee is imposed.

(c) An impact fee ordinance may provide that a reasonable rate of interest, not to exceed the prejudgment rate of interest in effect at the time the interest accrues, may be charged if the fee payer elects to pay in installments. If interest is charged, the ordinance must provide that interest accrues only on the portion of the impact fee that is outstanding and does not begin to accrue until the date the structural building permit is issued for the development or the part of the development on which the impact fee is imposed.

(d) An impact fee ordinance may provide that if all or part of an installment is not paid when due and payable, the amount of the installment shall be increased on the first day after the installment is due and payable by a penalty amount equal to ten percent (10%) of the installment amount that is overdue. If interest is charged under subsection (c), the interest shall be charged on the penalty amount.

As added by P.L.221-1991, SEC.25.

IC 36-7-4-1325

Collection of unpaid fees; lien; receipt for payments

Sec. 1325. (a) A unit may use any legal remedy to collect an impact fee imposed by the unit. A unit must bring an action to collect an impact fee and all penalties, costs, and collection expenses associated with a fee not later than ten (10) years after the fee or the prorated portion of the impact fee first becomes due and payable.

(b) On the date a structural building permit is issued for the development of property on which the impact fee is assessed, the unit acquires a lien on the real property for which the permit is issued. For a phased development, the amount of the lien may not exceed the prorated portion of the impact fee due and payable in one (1) or more installments at the time the structural building permit is issued.

(c) A lien acquired by a unit under this section is not affected by a sale or transfer of the real property subject to the lien, including the sale, exchange, or lease of the real property under IC 36-1-11.

(d) A lien acquired by a unit under this section continues for ten (10) years after the impact fee or the prorated portion of the impact fee becomes due and payable. However, if an action to enforce the lien is filed within the ten (10) year period, the lien continues until the termination of the proceeding.

(e) A holder of a lien of record on any real property on which an impact fee is delinquent may pay the delinquent impact fee and any penalties and costs. The amount paid by the lien holder is an additional lien on the real property in favor of the lien holder and is collectible in the same manner as the original lien.

(f) If a person pays an impact fee assessed against any real property, the person is entitled to a receipt for the payment that is:

(1) on a form prescribed by the impact fee ordinance; and

(2) issued by a person designated in the impact fee ordinance.
As added by P.L.221-1991, SEC.26.

IC 36-7-4-1326
Ordinance; special reduced rates for affordable housing development

Sec. 1326. (a) An impact fee ordinance may provide for a reduction in an impact fee for housing development that provides sale or rental housing, or both, at a price that is affordable to an individual or a family earning less than eighty percent (80%) of the median income for the county in which the housing development is located. If the housing development comprises more than one (1) residential unit, the impact fee reduction shall apply only to the residential units that are affordable to an individual or a family earning less than eighty percent (80%) of the median income of the county.

(b) If the impact fee ordinance provides for a reduction in an impact fee under subsection (a), the ordinance must:

(1) contain a schedule or formula that sets forth the amount of the fee reduction for various types of housing development specified in subsection (a);

(2) require that, as a condition of receiving the fee reduction, the owner execute an agreement that:

(A) is binding for a period of at least five (5) years on the owner and subsequent owners; and

(B) limits the tenancy of residential units receiving the fee reduction to individuals or families who at the time the tenancy is initiated are earning less than eighty percent (80%) of the median income of the county;

(3) contain standards to be used in determining if a particular housing development specified in subsection (a) will receive a fee reduction; and

(4) designate a board or an official of the unit to conduct the hearing required by subsection (c).

(c) A fee reduction authorized by this section must be approved by a board or official of the unit at a public hearing.
As added by P.L.221-1991, SEC.27.

IC 36-7-4-1327
Fee reduction; appeal procedures

Sec. 1327. An impact fee ordinance must provide a procedure through which the fee reduction decision made under section 1326 of this chapter may be appealed by the following persons:

(1) The person requesting the fee reduction.

(2) An infrastructure agency responsible for infrastructure of the applicable type for the impact zone in which the impact fee reduction is granted.
As added by P.L.221-1991, SEC.28.

IC 36-7-4-1328
Fee reduction; complementary payment by granting unit

Sec. 1328. A unit that provides a fee reduction under section 1326 of this chapter shall pay into the account or accounts established for the impact zone in which the fee was

reduced an amount equal to the amount of the fee reduction.
As added by P.L.221-1991, SEC.29.

IC 36-7-4-1329
Fund for impact fee collections; establishment; management; reports

Sec. 1329. (a) A unit imposing an impact fee shall establish a fund to receive amounts collected under this series.

(b) Money in a fund established under subsection (a) at the end of the unit's fiscal year remains in the fund. Interest earned by the fund shall be deposited in the fund.

(c) The fiscal officer of the unit shall manage the fund according to the provisions of this series. The fiscal officer shall annually report to the unit's plan commission and to each infrastructure agency responsible for infrastructure in an impact zone. The report must include the following:

(1) The amount of money in accounts established for the impact zone.

(2) The total receipts and disbursements of the accounts established for the impact zone.

(d) A separate account shall be established in the fund for each impact zone established by the unit and for each infrastructure type within each zone. Interest earned by an account shall be deposited in that account.
As added by P.L.221-1991, SEC.30.

IC 36-7-4-1330
Use of fees

Sec. 1330. An impact fee collected under this series shall be used for the following purposes:

(1) Providing funds to an infrastructure agency for the provision of new infrastructure that:

(A) is necessary to serve the new development in the impact zone from which the fee was collected; and

(B) is identified in the zone improvement plan.

(2) In an amount not to exceed five percent (5%) of the annual collections of an impact fee, for expenses incurred by the unit that paid for the consulting services that were used to establish the impact fee ordinance.

(3) Payment of a refund under section 1332 of this chapter.

(4) Payment of debt service on an obligation issued to provide infrastructure described in subdivision (1).
As added by P.L.221-1991, SEC.31.

IC 36-7-4-1331
Infrastructure construction

Sec. 1331. (a) An infrastructure agency shall, within the time described in the zone improvement plan, construct infrastructure for which:

(1) a zone improvement plan has been adopted;

(2) an impact zone has been established; and

(3) an impact fee has been collected.

(b) A unit may amend the unit's zone improvement plan, including the time provided in

the plan for construction of infrastructure, only if the amount of expenditures provided for the construction of infrastructure in the original plan does not decrease in any year and the benefit to the overall impact zone does not decrease because of the amendment. *As added by P.L.221-1991, SEC.32.*

IC 36-7-4-1332

Impact fee refunds

Sec. 1332. (a) A fee payer is entitled to a refund of an impact fee if an infrastructure agency:

(1) has failed to complete a part of the infrastructure for which the impact fee was imposed not later than:

(A) twenty-four (24) months after the time described in section 1331 of this chapter; or

(B) a longer time as is reasonably necessary to complete the infrastructure if unforeseeable and extraordinary circumstances that are not in whole or in part caused by the unit have delayed the construction;

(2) has unreasonably denied the fee payer the use and benefit of the infrastructure during the useful life of the infrastructure; or

(3) has failed within the earlier of:

(A) six (6) years after issuance of the structural building permit; or

(B) the anticipated infrastructure completion date as specified in the zone improvement plan existing on the date the impact fee was collected;

to make reasonable progress toward completion of the specific infrastructure for which the impact fee was imposed or thereafter fails to make reasonable progress toward completion.

(b) An application for a refund under subsection (a) must be filed with the unit that imposed the impact fee not later than two (2) years after the right to a refund accrues. A unit shall issue a refund in part or in full or shall reject the application for refund not later than thirty (30) days after receiving an application for a refund.

(c) If a unit approves a refund in whole or in part, the unit shall pay the amount approved, plus interest from the date on which the impact fee was paid to the date the refund is issued. The interest rate shall be the same rate as the rate that the unit's impact fee ordinance provides for impact fee payments paid in installments.

(d) If a unit rejects an application for refund or approves only a partial refund, the fee payer may appeal not later than sixty (60) days after the rejection or partial approval to the unit's impact fee review board established under section 1338 of this chapter by filing with the board an appeal on a form prescribed by the board. The board shall issue instructions for completion of the form. The form and the instructions must be clear, simple, and understandable to a lay person.

(e) An impact fee ordinance shall designate the employee or official of the unit who is responsible for accepting, rejecting, and paying a refund and interest.

(f) A unit's impact fee review board shall hold a hearing on all appeals for a refund under this section. The hearing shall be held not later than forty-five (45) days after the application for appeal is filed with the board. A unit's impact fee review board shall provide notice of the application for refund to the infrastructure agency responsible for the infrastructure for which the impact fee was imposed.

(g) An impact fee review board holding a hearing under subsection (f) shall determine the amount of a refund that shall be made to the fee payer from the account established for the infrastructure for which the fee was imposed. A refund ordered by the board must include interest from the date the impact fee was paid to the date the refund is issued at the same rate the ordinance provides for impact fee payments paid in installments.

(h) A party aggrieved by a final decision of an impact fee review board in a hearing under subsection (f) may appeal to the circuit or superior court of the county in which the unit is located and is entitled to a trial de novo.

As added by P.L.221-1991, SEC.33.

IC 36-7-4-1333

Impact fees; appeal of amount before impact review board; judicial review; effect on pending fee payments

Sec. 1333. (a) A person against whom an impact fee has been assessed may appeal the amount of the impact fee. A unit may not deny issuance of a structural building permit on the basis that an impact fee has not been paid or condition issuance of the permit on the payment of an impact fee. However, in the case of an impact fee of one thousand dollars ($1,000) or less a unit may require a fee payer to:

(1) pay the impact fee; or

(2) bring an appeal under this section;

before the unit issues a structural building permit for the development for which the impact fee was assessed.

(b) A person must file a petition for a review of the amount of an impact fee with the unit's impact fee review board not later than thirty (30) days after issuance of the structural building permit for the development for which the impact fee was assessed. An impact fee ordinance may require a petition to be accompanied by payment of a reasonable fee not to exceed one hundred dollars ($100). A fee payer shall receive a full refund of the filing fee if:

(1) the fee payer prevails;

(2) the amount of the impact fee or the reductions or credits against the fee is adjusted by the unit, the board, or a court; and

(3) the body ordering the adjustment finds that the amount of the fee, reductions, or credits were arbitrary or capricious.

(c) A unit's impact fee review board shall prescribe the form of the petition for review of an impact fee under subsection (b). The board shall issue instructions for completion of the form. The form and the instructions must be clear, simple, and understandable to a lay person. The form must require the petitioner to specify:

(1) a description of the new development on which the impact fee has been assessed;

(2) all facts related to the assessment of the impact fee; and

(3) the reasons the petitioner believes that the amount of the impact fee assessed is erroneous or is greater than the amount allowed by the fee limitations set forth in this series.

(d) A unit's impact fee review board shall prescribe a form for a response by a unit to a petition for review under this section. The board shall issue instructions for completion of the form. The form must require the unit to indicate:

(1) agreement or disagreement with each item indicated on the petition for review

under subsection (c); and

(2) the reasons the unit believes that the amount of the fee assessed is correct.

(e) Immediately upon the receipt of a timely filed petition on the form prescribed under subsection (c), a unit's impact fee review board shall provide a copy of the petition to the unit assessing the impact fee. The unit shall not later than thirty (30) days after the receipt of the petition provide to the board a completed response to the petition on the form prescribed under subsection (d). The board shall immediately forward a copy of the response form to the petitioner.

(f) An impact fee review board shall:

(1) review the petition and the response submitted under this section; and

(2) determine the appropriate amount of the impact fee not later than thirty (30) days after submission of both petitions.

(g) A fee payer aggrieved by a final determination of an impact fee review board may appeal to the circuit or superior court of the county in which the unit is located and is entitled to a trial de novo. If the assessment of a fee is vacated by judgment of the court, the assessment of the impact fee shall be remanded to the board for correction of the impact fee assessment and further proceedings in accordance with law.

(h) If a petition for a review or an appeal of an impact fee assessment is pending, the impact fee is not due and payable until after the petition or appeal is finally adjudicated and the amount of the fee is determined.

As added by P.L.221-1991, SEC.34.

IC 36-7-4-1334

Ordinance; appeal provision for amount of fees

Sec. 1334. An impact fee ordinance must set forth the reasons for which an appeal of the amount of an impact fee may be made. The impact fee ordinance must provide that an appeal of the amount of an impact fee may be made for the following reasons:

(1) A fact assumption used in determining the amount of an impact fee is incorrect.

(2) The amount of the impact fee is greater than the amount allowed under sections 1320, 1321, and 1322 of this chapter.

As added by P.L.221-1991, SEC.35.

IC 36-7-4-1335

Fee payer credits; infrastructure or improvements; amount of credit

Sec. 1335. (a) As used in this section, "improvement" means an improvement under section 1313(2) of this chapter or a site improvement, land, or real property interest as follows:

(1) That is to be used for at least one (1) of the infrastructure purposes specified in section 1309 of this chapter.

(2) That is included in or intended to be used relative to an infrastructure type for which the unit has imposed an impact fee in the impact zone.

(3) That is not a type of improvement that is uniformly required by law or rule for the type of development on which the impact fee has been imposed.

(4) That is or will be:

(A) public property; or

(B) furnished or constructed under requirements of the unit and is or will be

available for use by other development in the area.

(5) That is beneficial to existing development and future development in the impact zone and is not beneficial to only one (1) development.

(6) That either:

(A) allows the removal of a component of infrastructure planned for the impact zone;

(B) is a useful addition to the zone improvement plan; or

(C) is reasonably likely to be included in a future zone improvement plan for the impact zone.

(7) That is:

(A) constructed, furnished, or guaranteed by a bond or letter of credit under a request by an authorized official of the:

(i) applicable infrastructure agency; or

(ii) unit that imposed the impact fee; or

(B) required to be constructed or furnished under a written commitment that:

(i) is requested by an authorized official of the applicable infrastructure agency or the unit that imposed the impact fee;

(ii) concerns the use or developing of the development against which the impact fee is imposed; and

(iii) is made under section 613, 614, or 921 of this chapter.

(b) A fee payer is entitled to a credit against an impact fee if the owner or developer of the development constructs or provides:

(1) infrastructure that is an infrastructure type for which the unit imposed an impact fee in the impact zone; or

(2) an improvement.

(c) A fee payer is entitled to a credit under this section for infrastructure or an improvement that:

(1) is constructed or furnished relative to a development after January 1, 1989; and

(2) meets the requirements of this section.

(d) The amount of a credit allowed under this section shall be determined at the date the impact fee is assessed. However, if an assessment is not requested, the amount of the credit shall be determined at the time the structural building permit is issued. The amount of the credit shall be:

(1) determined by the:

(A) person constructing or providing the infrastructure or improvement; and

(B) applicable infrastructure agency; and

(2) equal to the sum of the following:

(A) The cost of constructing or providing the infrastructure or improvement.

(B) The fair market value of land, real property interests, and site improvements provided.

(e) The amount of a credit may be increased or decreased after the date the impact fee is assessed if, between the date the impact fee is assessed and the date the structural building permit is issued, there is a substantial and material change in the cost or value of the infrastructure or improvement that is constructed or furnished from the cost or value determined under subsection (d). However, at the time the amount of a credit is determined under subsection (d), the person providing the infrastructure or improvement

and the applicable infrastructure agency may agree that the amount of the credit may not be changed. The person providing the infrastructure or improvement may waive the person's right to a credit under this section.
As added by P.L.221-1991, SEC.36.

IC 36-7-4-1336
Fee payer credits; petition to determine amount; proceeding before impact review board

Sec. 1336. (a) If the parties cannot agree on the cost or fair market value under section 1335(d) of this chapter, the fee payer or the person constructing or providing the infrastructure or improvement may file a petition for determination of the amount of the credit with the unit's impact fee review board not later than thirty (30) days after the structural building permit is issued for the development on which the impact fee is imposed. A petition under this subsection may be made as part of an appeal proceeding under section 1334 of this chapter or may be made under this section.

(b) An impact fee review board shall prescribe the form of the petition for determination of the amount of a credit under this section. The board shall issue instructions for completion of the form. The form and the instructions must be clear, simple, and understandable to a lay person.

(c) An impact fee review board shall prescribe a form for a response by the applicable infrastructure agency to a petition under this section for determination of a credit amount. The board shall issue instructions for completion of the form.

(d) Immediately after receiving a timely filed petition under this section for determination of a credit amount, an impact fee review board shall provide a copy of the petition to the applicable infrastructure agency. Not later than thirty (30) days after receiving a copy of the petition, the infrastructure agency shall provide to the board a response on the form prescribed under subsection (c). The board shall immediately provide the petitioner with a copy of the infrastructure agency's response.

(e) The impact fee review board shall:

(1) review a petition and response filed under this section; and

(2) determine the amount of the credit not later than thirty (30) days after the response is filed.

(f) A fee payer aggrieved by a final determination of an impact fee review board under this section:

(1) may appeal to the circuit or superior court of the county in which the unit is located; and

(2) is entitled to a trial de novo.
As added by P.L.221-1991, SEC.37.

IC 36-7-4-1337
Ordinance; allocation of credits to fee payer provisions

Sec. 1337. An impact fee ordinance shall do the following:

(1) Establish a method for reasonably allocating credits to fee payers in situations in which the person providing infrastructure or an improvement is not the fee payer.

(2) Allow the person providing infrastructure or an improvement to designate in writing a reasonable and administratively feasible method of allocating credits to future

fee payers.
As added by P.L.221-1991, SEC.38.

IC 36-7-4-1338
Impact fee review board; membership; powers and duties

Sec. 1338. (a) Each unit that adopts an impact fee ordinance shall establish an impact fee review board consisting of three (3) citizen members appointed by the executive of the unit. A member of the board may not be a member of the plan commission. An impact fee ordinance must do the following:

(1) Set the terms the members shall serve on the board.

(2) Establish a procedure through which the unit's executive shall appoint a temporary replacement member meeting the qualifications of the member being replaced in the case of conflict of interest.

(b) An impact fee review board must consist of the following members:

(1) One (1) member who is a real estate broker licensed in Indiana.

(2) One (1) member who is an engineer licensed in Indiana.

(3) One (1) member who is a certified public accountant.

(c) An impact fee review board shall review the amount of an impact fee assessed, the amount of a refund, and the amount of a credit using the following procedures:

(1) The board shall fix a reasonable time for the hearing of appeals.

(2) At a hearing, each party may appear and present evidence in person, by agent, or by attorney.

(3) A person may not communicate with a member of the board before the hearing with intent to influence the member's action on a matter pending before the board.

(4) The board may reverse, affirm, modify, or otherwise establish the amount of an impact fee, a credit, a refund, or any combination of fees, credits, or refunds. For purposes of this subdivision, the board has all the powers of the official of the unit from which the appeal is taken.

(5) The board shall decide a matter that the board is required to hear:

(A) at the hearing at which the matter is first presented; or

(B) at the conclusion of the hearing on the matter, if the matter is continued.

(6) Within five (5) days after making a decision, the board shall provide a copy of the decision to the unit and the fee payer involved in the appeal.

(7) The board shall make written findings of fact to support the board's decision.
As added by P.L.221-1991, SEC.39.

IC 36-7-4-1339
Declaratory relief; challenge of ordinance

Sec. 1339. (a) This section applies to a person having an interest in real property that may be subject to an impact fee ordinance if the development occurs on the property.

(b) A person may seek to:

(1) have a court determine under IC 34-26-1 any question of construction or validity arising under the impact fee ordinance; and

(2) obtain a declaration of rights, status, or other legal relations under the ordinance.

(c) The validity of an impact fee ordinance adopted by a unit or the validity of the application of the ordinance in a specific impact zone may be challenged under this

section on any of the following grounds:

(1) The unit has not provided for a zone improvement plan in the unit's comprehensive plan.

(2) The unit did not prepare or substantially update the unit's zone improvement plan in the year preceding the adoption of the impact fee ordinance.

(3) The unit has not identified the revenue sources the unit intends to use to implement the zone improvement plan, if identification of the revenue sources is required under section 1318(c) of this chapter.

(4) The unit has not complied with the requirements of section 1318(f) of this chapter.

(5) The unit has not made adequate revenue available to complete infrastructure improvements identified in the unit's zone improvement plan.

(6) The impact fee ordinance imposes fees on new development that will not create a need for additional infrastructure.

(7) The impact fee ordinance imposes on new development fees that are excessive in relation to the infrastructure needs created by the new development.

(8) The impact fee ordinance does not allow for reasonable credits to fee payers.

(9) The unit imposed a prohibition or delay on new development to enable the unit to complete the adoption of an impact fee ordinance.

(10) The unit otherwise fails to comply with this series in the adoption of an impact fee ordinance.

As added by P.L.221-1991, SEC.40. Amended by P.L.1-1998, SEC.206.

IC 36-7-4-1340

Ordinance; effective date; duration; replacement

Sec. 1340. (a) An impact fee ordinance may take effect not earlier than six (6) months after the date on which the impact fee ordinance is adopted by a legislative body.

(b) An impact fee may not be collected under an impact fee ordinance more than five (5) years after the effective date of the ordinance. However, a unit may adopt a replacement impact fee ordinance if the replacement impact fee ordinance complies with the provisions of this series.

As added by P.L.221-1991, SEC.41.

IC 36-7-4-1341

Delay of new development pending fee process

Sec. 1341. A unit may not prohibit or delay new development to wait for the completion of all or a part of the process necessary for the development, adoption, or updating of an impact fee.

As added by P.L.221-1991, SEC.42.

IC 36-7-4-1342

Application of 1300 Series to certain towns; expiration of provision

Sec. 1342. The general assembly finds that the powers of a local governmental unit to permit and provide for infrastructure are not limited by the provisions of this chapter except as expressly provided in this chapter.

As added by P.L.221-1991, SEC.43.

Appendix B:
Road Segment Level of Service Criteria

Road Segment Level of Service Criteria

Table 4-2 from the Florida Department of Transportation *Quality/Level of Service Handbook* (2002) is shown on the following pages. This table was used to evaluate roadway segment level of service for the Westfield Road Impact Fee Study based on average daily two-way volume, roadway type, number of lanes and left turn treatment. The conditions and assumptions on which these table values are based are considered to be appropriate for infrastructure planning in Westfield. The following road types were used for evaluation:

- US 31 was evaluated as a Class I two-way state arterial.
- SR 32 and SR 38 were evaluated as Class II two-way state arterials.
- All other roads were evaluated as major city/county non-state roadways.

TABLE 4 – 2
GENERALIZED ANNUAL AVERAGE DAILY VOLUMES FOR FLORIDA'S AREAS TRANSITIONING INTO URBANIZED AREAS OR AREAS OVER 5,000 NOT IN URBANIZED AREAS*

UNINTERRUPTED FLOW HIGHWAYS

		Level of Service				
Lanes	Divided	A	B	C	D	E
2	Undivided	2,100	6,900	12,900	18,200	24,900
4	Divided	18,600	30,200	43,600	56,500	64,200
6	Divided	27,900	45,200	65,500	84,700	96,200

STATE TWO-WAY ARTERIALS

Class I (>0.00 to 1.99 signalized intersections per mile)

		Level of Service				
Lanes	Divided	A	B	C	D	E
2	Undivided	**	4,000	13,100	15,500	16,300
4	Divided	4,600	27,900	32,800	34,200	***
6	Divided	6,900	42,800	49,300	51,400	***

Class II (2.00 to 4.50 signalized intersections per mile)

		Level of Service				
Lanes	Divided	A	B	C	D	E
2	Undivided	**	**	10,500	14,500	15,300
4	Divided	**	3,700	24,400	30,600	32,200
6	Divided	**	6,000	38,000	46,100	48,400

Class III (more than 4.5 signalized intersections per mile)

		Level of Service				
Lanes	Divided	A	B	C	D	E
2	Undivided	**	**	5,000	11,800	14,600
4	Divided	**	**	11,700	27,200	30,800
6	Divided	**	**	18,400	42,100	46,300

NON-STATE ROADWAYS

Major City/County Roadways

		Level of Service				
Lanes	Divided	A	B	C	D	E
2	Undivided	**	**	7,000	13,600	14,600
4	Divided	**	**	16,400	29,300	30,900
6	Divided	**	**	25,700	44,100	46,400

Other Signalized Roadways
(signalized intersection analysis)

		Level of Service				
Lanes	Divided	A	B	C	D	E
2	Undivided	**	**	4,400	9,400	12,000
4	Divided	**	**	10,300	20,200	24,000

Source: Florida Department of Transportation 02/22/02
Systems Planning Office
605 Suwannee Street, MS 19
Tallahassee, FL 32399-0450
http://www11.myflorida.com/planning/systems/sm/los/default.htm

FREEWAYS

	Level of Service				
Lanes	A	B	C	D	E
4	23,500	38,700	52,500	62,200	69,100
6	36,400	59,800	81,100	96,000	106,700
8	49,100	80,900	109,600	129,800	144,400
10	61,800	101,800	138,400	163,800	182,000

BICYCLE MODE

(**Note:** Level of service for the bicycle mode in this table is based on roadway geometrics at 40 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/ Bicycle Lane	Level of Service				
Coverage	A	B	C	D	E
0-49%	**	1,900	3,300	13,600	>13,600
50-84%	**	2,500	4,000	>4,000	***
85-100%	3,200	7,100	>7,100	***	***

PEDESTRIAN MODE

(**Note:** Level of service for the pedestrian mode in this table is based on roadway geometric at 40 mph posted speed and traffic conditions, not number of pedestrians using the facility.) (Multiply motorized vehicle volumes shown by number of directional roadway lanes to determine two-way maximum service volumes.)

	Level of Service				
% Sidewalk Coverage	A	B	C	D	E
0-49%	**	**	**	6,300	15,400
50-84%	**	**	**	9,800	18,800
85-100%	**	2,200	11,200	>11,200	***

ARTERIAL/NON-STATE ROADWAY ADJUSTMENTS

DIVIDED/UNDIVIDED

Lanes	Median	Left Turn Lanes	Adjustment Factors
2	Divided	Yes	+5%
2	Undivided	No	-20%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

ONE-WAY FACILITIES

Decrease corresponding two-directional volumes in this table by 40% to obtain the equivalent one directional volume for one-way facilities.

*This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Values shown are two-way annual average daily volumes (based on K_{100} factors) for levels of service and are for the automobile/truck modes unless specifically stated. Level of service letter grade thresholds are probably not comparable across modes and, therefore, cross modal comparisons should be made with caution. Furthermore, combining levels of service of different modes into one overall roadway level of service is not recommended. The table's input value defaults and level of service criteria appear on the following page. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, and Pedestrian LOS Model, respectively for the automobile/truck, bicycle and pedestrian modes.

**Cannot be achieved using table input value defaults.

***Not applicable for the level of service letter grade. For automobile/truck modes, volumes greater than level of service D become F because intersection capacities have been reached. For bicycle and pedestrian modes, the level of service letter grade (including F) is not achievable, because there is no maximum vehicle volume threshold using table input value defaults.

TABLE 4 - 2 (continued)

GENERALIZED ANNUAL AVERAGE DAILY VOLUMES FOR FLORIDA'S AREAS TRANSITIONING INTO URBANIZED AREAS OR AREAS OVER 5,000 NOT IN URBANIZED AREAS

INPUT VALUE ASSUMPTIONS

	UNINTERRUPTED FLOW FACILITIES		
	Freeways	Highways	
ROADWAY CHARACATERISTICS	Class II		
Number of through lanes	4 - 10	2	4 - 6
Posted speed (mph)	70	50	50
Free flow speed (mph)	75	55	55
Basic segment length (mi)	3		
Interchange spacing per mile	4		
Median (n,y)		n	y
Left turn lanes (n,y)		y	y
Terrain (r,l)	l	l	1
% no passing		60	
Passing lanes (n,y)		n	
TRAFFIC CHARACTERISTICS			
Planning analysis hour factor (K)	0.100	0.096	0.096
Directional distribution factor (D)	0.55	0.55	0.55
Peak hour factor (PHF)	0.95	0.910	0.910
Base capacity (pcphpl)		1700	2100
Heavy vehicle percent	9.0	4.0	4.0
Local adjustment factor	0.95	0.95	0.95

	INTERRUPTED FLOW FACILITIES										
	State Arterials						Non-State Roadways			Bicycle	Pedestrian
ROADWAY CHARACTERISTICS	Class I		Class II		Class III		Major City/County		Other Signalized	Class II	Class II
Number of through lanes	2	4 - 6	2	4 - 6	2	4 - 6	2	4 - 6	2 - 4	4	4
Posted speed (mph)	45	50	45	45	35	35	40	40		40	40
Free flow speed (mph)	50	55	50	50	40	40	45	45		45	45
Median type (n,nr,r)	n	r	n	r	n	r	n	r		r	r
Left turn lanes (n,y)	y	y	y	y	y	y	y	y	y	y	y
Paved shoulder/bicycle lane (n,y)										n,50%,y	n
Outside lane width (n,t,w)										t	t
Pavement condition (u,t,d)										t	
Sidewalk (n,y)											n,50%,y
Sidewalk/roadway separation (a,t,w)											t
Sidewalk/roadway protective barrier (n,y)											n
TRAFFIC CHARACTERISTICS											
Planning analysis hour factor (K)	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096
Directional distribution factor (D)	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
Peak hour factor (PHF)	0.910	0.910	0.910	0.910	0.910	0.910	0.910	0.910	0.910	0.910	0.910
Base saturation flow rate (pcphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Heavy vehicle percent	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Local adjustment factor	0.98	0.98	0.95	0.95	0.92	0.92	0.95	0.95	0.92	0.95	0.95
% turns from exclusive turn lanes	12	12	12	12	12	12	14	14	16	12	12
CONTROL CHARACTERISTICS											
Signalized intersections per mile	1.5	1.0	3.0	3.0	5.0	5.0	3.0	3.0		3.0	3.0
Arrival type (1-6)	3	3	4	4	4	4	4	4	3	4	4
Signal type (a,s,f)	a	a	s	s	s	s	s	s	s	s	s
Cycle length (C)	120	120	120	120	120	120	120	120	120	120	120
Effective green ratio (g/C)	0.44	0.44	0.44	0.44	0.44	0.44	0.41	0.41	0.31	0.44	0.44

LEVEL OF SERVICE THRESHOLDS

	Freeways		Highways			State Two-Way Arterials			Non-State Roadways		Bicycle	Pedestrian
Level of Service	Class II v/c	Density	Two-Lane % FFS	Multilane v/c	Density	Class I ATS	Class II ATS	Class III ATS	Major City/County ATS	Other Signalized Control Delay	Score	Score
A	≤ 0.34	≤ 11	> 0.917	≤ 0.29	≤ 11	> 42 mph	> 35 mph	> 30 mph	> 35 mph	≤ 10 sec	≤ 1.5	≤ 1.5
B	≤ 0.56	≤ 18	> 0.833	≤ 0.47	≤ 18	> 34 mph	> 28 mph	> 24 mph	> 28 mph	≤ 20 sec	≤2.5	≤ 2.5
C	≤ 0.76	≤ 26	> 0.750	≤ 0.68	≤ 26	> 27 mph	> 22 mph	> 18 mph	> 22 mph	≤ 35 sec	≤3.5	≤ 3.5
D	≤ 0.90	≤ 35	> 0.667	≤ 0.88	≤ 35	> 21 mph	> 17 mph	> 14 mph	> 17 mph	≤ 55 sec	≤ 4.5	≤ 4.5
E	≤ 1.00	≤ 45	> 0.583	≤1.00	≤ 41	> 16 mph	> 13 mph	> 10 mph	> 13 mph	≤ 80 sec	≤ 5.5	≤ 5.5
F	> 1.00	> 45	≤ 0.583	>1.00	> 41	≤ 16 mph	≤ 13 mph	≤ 10 mph	≤ 13 mph	> 80 sec	>5.5	> 5.5

v/c = Demand to Capacity Ratio % FFS = Percent Free Flow Speed ATS = Average Travel Speed

Appendix C:
Intersection Turning Movement Volumes

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
83	US 31	&	E Greyhound Pass	2007	AM	381	1377	431	26	1779	23	19	54	407	839	98	39
83	US 31	&	E Greyhound Pass	2007	PM	425	1700	793	53	1746	29	23	98	358	704	104	46
83	US 31	&	E Greyhound Pass	2017 No Freeway	AM	118	1868	465	50	2265	13	62	139	696	745	38	66
83	US 31	&	E Greyhound Pass	2017 No Freeway	PM	273	2066	834	76	1984	25	39	142	412	869	98	83
84	US 31	&	E 151st ST	2007	AM	91	1195	84	89	1626	97	130	83	167	242	129	188
84	US 31	&	E 151st ST	2007	PM	110	1442	276	268	1437	107	152	262	156	254	171	248
84	US 31	&	E 151st ST	2017 No Freeway	AM	61	1835	78	209	2222	162	164	63	74	57	37	125
84	US 31	&	E 151st ST	2017 No Freeway	PM	71	2023	76	183	1961	170	120	41	48	100	78	247
86	US 31	&	W 156th ST	2007	AM	20	1337	2	8	1931	67	86	1	36	2	1	4
86	US 31	&	W 156th ST	2007	PM	96	1711	6	4	1722	69	39	1	54	6	2	4
86	US 31	&	W 156th ST	2017 No Freeway	AM	27	1996	14	17	2333	31	33	2	33	13	2	13
86	US 31	&	W 156th ST	2017 No Freeway	PM	39	2242	11	11	2150	38	33	1	33	13	2	13
90	US 31	&	W 161st ST	2007	AM	100	1219	27	14	1587	54	76	15	184	115	35	48
90	US 31	&	W 161st ST	2007	PM	98	1589	80	40	1525	49	69	31	133	108	31	56
90	US 31	&	W 161st ST	2017 No Freeway	AM	57	1910	68	103	2280	87	105	34	83	44	15	56
90	US 31	&	W 161st ST	2017 No Freeway	PM	91	2134	62	56	1988	83	112	29	114	76	29	75
93	US 31	&	W 169th ST	2007	AM	48	1354	19	9	1836	24	34	4	93	40	5	15
93	US 31	&	W 169th ST	2007	PM	43	1648	15	49	1451	135	72	6	20	5	4	17
93	US 31	&	W 169th ST	2017 No Freeway	AM	79	1977	41	46	2352	89	56	11	59	30	10	28
93	US 31	&	W 169th ST	2017 No Freeway	PM	132	2130	48	30	1929	82	85	17	123	49	19	33
97	US 31	&	SR 32	2007	AM	249	777	127	106	1303	207	136	201	276	207	296	102
97	US 31	&	SR 32	2007	PM	330	1377	239	99	1084	137	176	275	335	228	258	120
97	US 31	&	SR 32	2017 No Freeway	AM	405	1451	177	205	1843	467	419	461	461	161	368	146
97	US 31	&	SR 32	2017 No Freeway	PM	480	1554	188	169	1387	430	478	522	477	181	505	181
98	US 31	&	181ST ST	2007	AM	51	948	65	74	1374	57	53	33	68	96	36	75
98	US 31	&	181ST ST	2007	PM	42	1518	84	101	1354	50	74	37	55	48	16	66
98	US 31	&	181ST ST	2017 No Freeway	AM	28	1899	65	88	2504	38	12	4	12	19	3	20
98	US 31	&	181ST ST	2017 No Freeway	PM	17	2133	62	57	1911	16	25	7	25	70	5	72
102	US 31	&	Tomlinson RD	2007	AM	1	1128	0	0	1836	45	29	0	1	0	0	0
102	US 31	&	Tomlinson RD	2007	PM	19	1486	0	0	1486	19	22	0	22	0	0	0
102	US 31	&	Tomlinson RD	2017 No Freeway	AM	5	1888	0	0	2510	6	20	0	20	0	0	0
102	US 31	&	Tomlinson RD	2017 No Freeway	PM	10	2155	0	0	1888	8	7	0	7	0	0	0
103	US 31	&	N Union St.	2007	AM	0	1127	2	89	2034	0	0	0	0	4	0	80
103	US 31	&	N Union St.	2007	PM	0	1503	2	59	1639	0	0	0	0	2	0	68
103	US 31	&	N Union St.	2017 No Freeway	AM	0	1838	31	156	2540	0	0	0	0	17	0	62
103	US 31	&	N Union St.	2017 No Freeway	PM	0	2117	23	80	1906	0	0	0	0	24	0	94
107	US 31	&	191st St.	2007	AM	13	1220	41	13	2152	4	11	3	58	166	3	31
107	US 31	&	191st St.	2007	PM	58	1478	162	1	1083	0	0	0	18	49	0	1
107	US 31	&	191st St.	2017 No Freeway	AM	59	1860	30	55	2609	108	83	12	63	52	19	68

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
107	US 31	&	191st St.	2017 No Freeway	PM	64	2141	55	81	1908	95	110	25	66	41	18	69
108	US 31	&	E 196th ST	2007	AM	3	1051	31	55	2111	5	8	2	9	20	0	18
108	US 31	&	E 196th ST	2007	PM	12	1770	26	16	1062	7	5	1	5	36	2	36
108	US 31	&	E 196th ST	2017 No Freeway	AM	0	2033	6	7	2752	0	0	0	0	10	0	10
108	US 31	&	E 196th ST	2017 No Freeway	PM	0	2340	9	8	2065	0	0	0	0	9	0	8
112	US 31	&	202nd ST	2007	AM	0	1083	2	4	2166	0	0	0	0	5	0	5
112	US 31	&	202nd ST	2007	PM	0	1802	6	4	1081	0	0	0	0	3	0	3
112	US 31	&	202nd ST	2017 No Freeway	AM	0	1686	345	154	2472	0	0	0	0	260	0	79
112	US 31	&	202nd ST	2017 No Freeway	PM	0	2101	237	90	1732	0	0	0	0	311	0	144
113	US 31	&	E 203rd ST	2007	AM	33	1052	0	0	1608	0	0	0	40	0	0	0
113	US 31	&	E 203rd ST	2007	PM	38	1770	0	0	908	0	0	0	36	0	0	0
113	US 31	&	E 203rd ST	2017 No Freeway	AM	34	1707	0	0	2549	29	28	0	48	0	0	0
113	US 31	&	E 203rd ST	2017 No Freeway	PM	63	2155	0	0	1744	33	31	0	48	0	0	0
115	US 31	&	SR 38	2007	AM	28	737	63	226	1538	99	135	104	79	57	33	98
115	US 31	&	SR 38	2007	PM	112	1336	82	64	779	88	81	45	60	94	95	126
115	US 31	&	SR 38	2017 No Freeway	AM	109	1466	130	143	2203	120	162	130	222	126	62	92
115	US 31	&	SR 38	2017 No Freeway	PM	208	1827	122	93	1512	159	109	65	118	123	117	114
117	US 31	&	E 216th ST	2007	AM	2	905	25	44	1815	4	2	0	2	63	1	55
117	US 31	&	E 216th ST	2007	PM	3	1479	72	43	887	2	3	1	3	42	1	42
117	US 31	&	E 216th ST	2017 No Freeway	AM	10	1650	35	76	2428	21	17	3	12	57	4	84
117	US 31	&	E 216th ST	2017 No Freeway	PM	11	1969	47	56	1742	13	15	3	11	40	3	53
117	US 31	&	E 216th ST	2017 With Freeway	AM	15	1560	139	100	2268	12	8	7	17	248	10	125
117	US 31	&	E 216th ST	2017 With Freeway	PM	17	1905	258	104	1589	7	7	9	15	145	5	72
133	S Union ST	&	SR 32	2007	AM	32	56	31	89	73	91	71	351	32	42	465	92
133	S Union ST	&	SR 32	2007	PM	80	75	116	81	75	56	37	515	53	65	430	45
133	S Union ST	&	SR 32	2017 No Freeway	AM	25	38	44	121	82	70	57	586	44	70	536	91
133	S Union ST	&	SR 32	2017 No Freeway	PM	32	38	41	88	41	69	67	655	34	44	662	87
133	S Union ST	&	SR 32	2017 With Freeway	AM	37	18	12	39	7	110	136	818	16	6	1034	51
133	S Union ST	&	SR 32	2017 With Freeway	PM	24	10	10	63	17	137	121	1071	33	12	1046	45
136	East ST	&	SR 32	2007	AM	0	0	0	39	0	35	38	443	0	0	548	52
136	East ST	&	SR 32	2007	PM	0	0	0	43	0	33	58	704	0	0	579	63
136	East ST	&	SR 32	2017 No Freeway	AM	0	0	0	43	0	46	53	680	0	0	651	49
136	East ST	&	SR 32	2017 No Freeway	PM	0	0	0	53	0	57	53	760	0	0	702	45
136	East ST	&	SR 32	2017 With Freeway	AM	0	0	0	49	0	49	43	692	0	0	963	53
136	East ST	&	SR 32	2017 With Freeway	PM	0	0	0	55	0	54	56	996	0	0	941	47
143	Carey RD	&	SR 32	2007	AM	69	53	58	28	100	44	20	425	62	226	496	11
143	Carey RD	&	SR 32	2007	PM	107	128	295	101	86	31	45	350	61	100	517	25
143	Carey RD	&	SR 32	2017 No Freeway	AM	67	53	33	72	167	148	89	501	128	60	479	42
143	Carey RD	&	SR 32	2017 No Freeway	PM	84	106	47	63	78	112	150	595	82	42	547	77

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
143	Carey RD	&	SR 32	2017 With Freeway	AM	33	16	8	68	25	229	118	540	24	7	717	34
143	Carey RD	&	SR 32	2017 With Freeway	PM	27	22	7	54	22	159	240	741	37	9	748	60
145	Shadynook RD	&	SR 32	2007	AM	0	0	0	5	0	16	13	498	0	0	755	6
145	Shadynook RD	&	SR 32	2007	PM	0	0	0	10	0	11	12	892	0	0	601	8
145	Shadynook RD	&	SR 32	2017 No Freeway	AM	0	0	0	0	0	0	0	503	0	0	544	0
145	Shadynook RD	&	SR 32	2017 No Freeway	PM	0	0	0	0	0	0	0	634	0	0	600	0
145	Shadynook RD	&	SR 32	2017 With Freeway	AM	0	0	0	0	0	0	0	503	0	0	718	0
145	Shadynook RD	&	SR 32	2017 With Freeway	PM	0	0	0	0	0	0	0	716	0	0	748	0
148	Gray RD	&	SR 32	2007	AM	34	17	27	44	91	55	24	351	81	113	614	34
148	Gray RD	&	SR 32	2007	PM	77	64	99	48	23	37	58	811	44	36	525	48
148	Gray RD	&	SR 32	2017 No Freeway	AM	37	52	28	93	145	122	74	365	64	49	371	57
148	Gray RD	&	SR 32	2017 No Freeway	PM	56	115	50	89	86	98	118	466	50	43	442	102
148	Gray RD	&	SR 32	2017 With Freeway	AM	26	25	10	82	40	161	98	383	22	10	498	47
148	Gray RD	&	SR 32	2017 With Freeway	PM	25	39	14	81	32	113	155	536	24	13	566	89
157	N Wheeler RD	&	SR 32	2007	AM	0	0	0	36	0	4	2	553	0	0	768	19
157	N Wheeler RD	&	SR 32	2007	PM	0	0	0	12	0	8	16	724	0	0	692	22
157	N Wheeler RD	&	SR 32	2017 No Freeway	AM	0	0	0	74	0	67	76	1224	0	0	977	66
157	N Wheeler RD	&	SR 32	2017 No Freeway	PM	0	0	0	82	0	69	65	1209	0	0	1301	83
157	N Wheeler RD	&	SR 32	2017 With Freeway	AM	0	0	0	86	0	71	81	1506	0	0	1079	64
157	N Wheeler RD	&	SR 32	2017 With Freeway	PM	0	0	0	87	0	72	77	1369	0	0	1341	84
159	Oakridge RD	&	SR 32	2007	AM	43	0	83	0	0	0	0	448	51	135	605	0
159	Oakridge RD	&	SR 32	2007	PM	38	0	127	0	0	0	0	584	40	138	602	0
159	Oakridge RD	&	SR 32	2017 No Freeway	AM	22	0	201	0	0	0	0	1071	28	202	818	0
159	Oakridge RD	&	SR 32	2017 No Freeway	PM	22	0	224	0	0	0	0	1021	26	274	1067	0
159	Oakridge RD	&	SR 32	2017 With Freeway	AM	40	0	291	0	0	0	0	1250	26	157	947	0
159	Oakridge RD	&	SR 32	2017 With Freeway	PM	39	0	224	0	0	0	0	1172	28	179	1184	0
162	Springmill RD	&	SR 32	2007	AM	83		151					485	104	119	444	
162	Springmill RD	&	SR 32	2007	PM	145		121					549	102	136	499	
162	Springmill RD	&	SR 32	2017 No Freeway	AM	306	27	287	126	55	30	14	709	305	227	551	48
162	Springmill RD	&	SR 32	2017 No Freeway	PM	271	30	278	92	43	22	19	678	320	325	679	25
162	Springmill RD	&	SR 32	2017 With Freeway	AM	225	13	214	90	15	39	23	984	166	157	897	50
162	Springmill RD	&	SR 32	2017 With Freeway	PM	193	20	211	75	20	18	22	916	242	253	904	91
163	Springmill RD	&	SR 32	2007	AM				97		34	21	492			477	50
163	Springmill RD	&	SR 32	2007	PM				38		17	63	511			436	37
165	Ditch RD	&	SR 32	2007	AM	30	0	35	0	0	0	0	367	40	54	428	0
165	Ditch RD	&	SR 32	2007	PM	33	0	54	0	0	0	0	470	17	26	422	0
165	Ditch RD	&	SR 32	2017 No Freeway	AM	22	129	100	330	91	72	53	369	11	49	350	232
165	Ditch RD	&	SR 32	2017 No Freeway	PM	17	122	70	287	150	72	74	381	22	88	382	296
165	Ditch RD	&	SR 32	2017 With Freeway	AM	26	131	88	335	89	79	64	462	11	45	444	234

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
165	Ditch RD	&	SR 32	2017 With Freeway	PM	20	121	58	290	152	80	90	464	23	80	470	292
166	Eagletown RD. (S)	&	SR 32	2007	AM	5	0	0	0	0	0	0	508	11	0	450	0
166	Eagletown RD. (S)	&	SR 32	2007	PM	2	0	2	0	0	0	0	516	3	2	430	0
166	Eagletown RD. (S)	&	SR 32	2017 No Freeway	AM	19	0	13	0	0	0	0	442	12	8	425	0
166	Eagletown RD. (S)	&	SR 32	2017 No Freeway	PM	16	0	11	0	0	0	0	488	20	12	441	0
166	Eagletown RD. (S)	&	SR 32	2017 With Freeway	AM	16	0	14	0	0	0	0	547	9	8	519	0
166	Eagletown RD. (S)	&	SR 32	2017 With Freeway	PM	13	0	11	0	0	0	0	590	16	12	526	0
167	Eagletown RD (N)	&	SR 32	2007	AM	0	0	0	60	0	1	0	390	0	0	494	25
167	Eagletown RD (N)	&	SR 32	2007	PM	0	0	0	18	0	8	23	474	0	0	374	41
167	Eagletown RD (N)	&	SR 32	2017 No Freeway	AM	0	0	0	20	0	19	10	428	0	0	454	11
167	Eagletown RD (N)	&	SR 32	2017 No Freeway	PM	0	0	0	12	0	11	20	495	0	0	462	19
167	Eagletown RD (N)	&	SR 32	2017 With Freeway	AM	0	0	0	11	0	10	11	551	0	0	547	11
167	Eagletown RD (N)	&	SR 32	2017 With Freeway	PM	0	0	0	10	0	11	12	605	0	0	552	10
169	Eagle Creek Ave.	&	SR 32	2007	AM	43	0	5	0	0	0	0	372	147	22	449	0
169	Eagle Creek Ave.	&	SR 32	2007	PM	88	0	71	0	0	0	0	486	33	21	376	0
169	Eagle Creek Ave.	&	SR 32	2017 No Freeway	AM	11	0	107	0	0	0	0	311	9	97	370	0
169	Eagle Creek Ave.	&	SR 32	2017 No Freeway	PM	9	0	111	0	0	0	0	383	11	129	343	0
169	Eagle Creek Ave.	&	SR 32	2017 With Freeway	AM	24	0	75	0	0	0	0	441	21	81	481	0
169	Eagle Creek Ave.	&	SR 32	2017 With Freeway	PM	21	0	87	0	0	0	0	485	24	110	463	0
170	Centennial RD	&	SR 32	2007	AM	0	0	0	6	0	6	2	517	0	0	517	2
170	Centennial RD	&	SR 32	2007	PM	0	0	0	6	0	6	7	512	0	0	410	5
170	Centennial RD	&	SR 32	2017 No Freeway	AM	0	0	0	8	0	7	2	391	0	0	340	2
170	Centennial RD	&	SR 32	2017 No Freeway	PM	0	0	0	4	0	3	5	373	0	0	383	6
170	Centennial RD	&	SR 32	2017 With Freeway	AM	0	0	0	6	0	5	2	411	0	0	362	1
170	Centennial RD	&	SR 32	2017 With Freeway	PM	0	0	0	3	0	3	4	404	0	0	403	5
171	Mule Barn RD	&	SR 32	2007	AM	0	0	0	48	0	48	14	505	0	0	505	14
171	Mule Barn RD	&	SR 32	2007	PM	0	0	0	21	0	19	52	467	0	0	371	44
171	Mule Barn RD	&	SR 32	2017 No Freeway	AM	0	0	0	103	0	17	8	286	0	0	300	49
171	Mule Barn RD	&	SR 32	2017 No Freeway	PM	0	0	0	72	0	12	14	300	0	0	311	82
171	Mule Barn RD	&	SR 32	2017 With Freeway	AM	0	0	0	71	0	25	16	319	0	0	327	42
171	Mule Barn RD	&	SR 32	2017 With Freeway	PM	0	0	0	54	0	18	23	330	0	0	347	65
176	Joliet RD.	&	SR 32	2007	AM	0	0	5	11	0	0	0	330	0	18	489	12
176	Joliet RD.	&	SR 32	2007	PM	0	0	13	13	0	0	0	330	0	12	382	22
176	Joliet RD.	&	SR 32	2017 No Freeway	AM	7	0	8	3	0	3	1	277	4	4	297	1
176	Joliet RD.	&	SR 32	2017 No Freeway	PM	5	0	5	2	0	2	3	301	6	6	301	3
176	Joliet RD.	&	SR 32	2017 With Freeway	AM	10	0	11	3	0	3	1	312	5	5	315	1
176	Joliet RD.	&	SR 32	2017 With Freeway	PM	7	0	8	2	1	2	2	335	8	8	324	2
177	Hamilton Boone RD	&	SR 32	2007	AM	9	2	9	28	22	28	8	295	25	26	296	8
177	Hamilton Boone RD	&	SR 32	2007	PM	22	20	23	13	5	12	28	288	13	11	230	23

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
177	Hamilton Boone RD	&	SR 32	2017 No Freeway	AM	18	18	23	46	35	36	18	205	17	27	247	27
177	Hamilton Boone RD	&	SR 32	2017 No Freeway	PM	21	36	29	29	20	21	33	241	18	24	235	44
177	Hamilton Boone RD	&	SR 32	2017 With Freeway	AM	20	16	23	39	32	32	18	242	21	29	266	24
177	Hamilton Boone RD	&	SR 32	2017 With Freeway	PM	24	30	29	25	17	20	31	272	20	25	262	38
179	Anthony RD	&	SR 38	2007	AM	0	0	0	25	0	17	11	367	0	0	181	8
179	Anthony RD	&	SR 38	2007	PM	0	0	0	12	0	12	13	176	0	0	293	21
179	Anthony RD	&	SR 38	2017 No Freeway	AM	17	11	109	54	41	8	4	341	28	131	242	17
179	Anthony RD	&	SR 38	2017 No Freeway	PM	26	27	149	31	20	5	5	229	17	122	297	34
179	Anthony RD	&	SR 38	2017 With Freeway	AM	48	14	82	18	53	14	5	271	83	113	202	7
179	Anthony RD	&	SR 38	2017 With Freeway	PM	77	37	129	12	26	10	6	174	41	94	217	14
180	Grassy Branch Rd	&	SR 38	2007	AM	32	0	45	0	0	0	0	344	34	23	166	0
180	Grassy Branch Rd	&	SR 38	2007	PM	37	0	29	0	0	0	0	169	20	26	289	0
181	Moontown Rd	&	SR 38	2007	AM	20	5	23	9	8	8	7	337	33	19	166	4
181	Moontown Rd	&	SR 38	2007	PM	36	10	26	5	4	7	7	167	15	19	288	9
181	Moontown Rd	&	SR 38	2017 No Freeway	AM	26	4	20	17	23	22	9	442	67	37	323	5
181	Moontown Rd	&	SR 38	2017 No Freeway	PM	59	13	31	8	10	15	17	358	52	27	361	9
181	Moontown Rd	&	SR 38	2017 With Freeway	AM	14	2	13	10	5	11	5	359	20	15	291	4
181	Moontown Rd	&	SR 38	2017 With Freeway	PM	19	5	17	7	4	8	10	295	18	16	290	9
183	Dunbar RD	&	SR 38	2007	AM	0	0	0	7	0	7	6	318	0	0	151	2
183	Dunbar RD	&	SR 38	2007	PM	0	0	0	9	0	1	0	162	0	0	279	14
183	Dunbar RD	&	SR 38	2017 No Freeway	AM	0	0	0	13	0	25	25	517	0	0	284	7
183	Dunbar RD	&	SR 38	2017 No Freeway	PM	0	0	0	7	0	21	21	299	0	0	472	12
183	Dunbar RD	&	SR 38	2017 With Freeway	AM	0	0	0	19	0	21	23	599	0	0	278	9
183	Dunbar RD	&	SR 38	2017 With Freeway	PM	0	0	0	14	0	15	15	350	0	0	470	16
237	E Greyhound Pass	&	146th St.	2007	AM	123	326	126	163	102	159	130	453	31	83	1160	341
237	E Greyhound Pass	&	146th St.	2007	PM	146	455	318	467	166	215	163	1024	41	61	712	246
237	E Greyhound Pass	&	146th St.	2017 No Freeway	AM	66	178	145	226	36	103	107	787	14	40	1032	307
237	E Greyhound Pass	&	146th St.	2017 No Freeway	PM	131	304	307	511	34	218	91	824	6	20	1150	296
237	E Greyhound Pass	&	146th St.	2017 With Freeway	AM	46	166	118	275	42	88	89	653	10	38	844	329
237	E Greyhound Pass	&	146th St.	2017 With Freeway	PM	131	241	206	371	34	203	97	818	8	18	1086	217
242	Carey RD	&	146th St.	2007	AM	156	61	56	50	53	138	76	638	76	52	1206	52
242	Carey RD	&	146th St.	2007	PM	119	124	122	91	79	89	145	1285	124	83	843	97
242	Carey RD	&	146th St.	2017 No Freeway	AM	205	145	154	99	163	132	87	828	151	135	988	77
242	Carey RD	&	146th St.	2017 No Freeway	PM	180	150	162	102	170	113	123	1190	221	181	1087	101
242	Carey RD	&	146th St.	2017 With Freeway	AM	265	121	141	51	123	113	75	715	198	100	746	37
242	Carey RD	&	146th St.	2017 With Freeway	PM	211	120	149	65	172	109	93	957	284	173	882	56
247	Gray RD	&	146th St.	2007	AM	97	39	42	54	115	123	59	586	140	109	1044	46
247	Gray RD	&	146th St.	2007	PM	118	117	120	82	70	81	131	1206	114	80	835	92
247	Gray RD	&	146th St.	2017 No Freeway	AM	23	26	28	130	91	109	95	896	70	102	1098	138

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
247	Gray RD	&	146th St.	2017 No Freeway	PM	68	84	106	169	67	109	112	1268	56	83	1214	166
247	Gray RD	&	146th St.	2017 With Freeway	AM	16	22	22	117	46	75	79	769	32	51	830	124
247	Gray RD	&	146th St.	2017 With Freeway	PM	35	46	52	152	39	91	94	1014	28	44	1022	148
262	Rohrer RD	&	146th St.	2007	AM	39	0	122	0	0	0	0	842	46	219	1261	0
262	Rohrer RD	&	146th St.	2007	PM	147	0	175	0	0	0	0	1071	113	99	789	0
262	Rohrer RD	&	146th St.	2017 No Freeway	AM	2	0	14	0	0	0	0	1708	72	289	874	0
262	Rohrer RD	&	146th St.	2017 No Freeway	PM	37	0	38	0	0	0	0	1315	23	31	1785	0
262	Rohrer RD	&	146th St.	2017 With Freeway	AM	7	0	7	0	0	0	0	1320	26	10	577	0
262	Rohrer RD	&	146th St.	2017 With Freeway	PM	18	0	17	0	0	0	0	960	11	14	1310	0
265	Oakridge RD	&	146th St.	2007	AM	28	30	170	144	115	24	10	536	48	382	719	83
265	Oakridge RD	&	146th St.	2007	PM	105	126	168	81	77	51	77	924	97	114	683	91
265	Oakridge RD	&	146th St.	2017 No Freeway	AM	105	42	68	78	62	120	101	1476	129	42	730	33
265	Oakridge RD	&	146th St.	2017 No Freeway	PM	278	104	93	43	18	130	138	1103	50	23	1496	62
265	Oakridge RD	&	146th St.	2017 With Freeway	AM	19	9	17	21	14	23	64	1091	84	31	482	24
265	Oakridge RD	&	146th St.	2017 With Freeway	PM	67	30	44	23	10	35	63	824	39	32	1057	51
271	Springmill RD	&	146th St.	2007	AM	17	102	133	111	514	74	28	350	47	280	479	47
271	Springmill RD	&	146th St.	2007	PM	47	504	394	142	149	27	87	562	21	195	431	191
271	Springmill RD	&	146th St.	2017 No Freeway	AM	62	152	103	221	415	132	166	1015	212	209	600	164
271	Springmill RD	&	146th St.	2017 No Freeway	PM	122	246	124	161	308	159	190	857	182	243	1125	253
271	Springmill RD	&	146th St.	2017 With Freeway	AM	109	129	119	89	230	92	88	696	201	123	396	53
271	Springmill RD	&	146th St.	2017 With Freeway	PM	190	237	164	78	174	101	106	630	158	150	712	100
276	Ditch RD	&	146th St.	2007	AM	11	14	45	77	45	18	9	258	16	112	407	60
276	Ditch RD	&	146th St.	2007	PM	19	31	96	69	19	14	20	554	17	58	378	69
276	Ditch RD	&	146th St.	2017 No Freeway	AM	28	14	105	123	24	33	13	847	19	48	595	33
276	Ditch RD	&	146th St.	2017 No Freeway	PM	20	29	86	104	22	24	30	818	19	89	893	144
276	Ditch RD	&	146th St.	2017 With Freeway	AM	41	15	52	29	14	24	18	583	30	30	444	18
276	Ditch RD	&	146th St.	2017 With Freeway	PM	39	15	48	27	16	23	21	599	39	57	687	30
278	Towne RD	&	146th St.	2007	AM	24	92	63	5	154	112	21	215	44	125	357	4
278	Towne RD	&	146th St.	2007	PM	65	86	140	4	83	21	61	446	27	115	259	8
278	Towne RD	&	146th St.	2017 No Freeway	AM	9	68	195	245	108	12	11	276	13	207	201	164
278	Towne RD	&	146th St.	2017 No Freeway	PM	18	110	265	199	94	13	13	272	14	237	298	208
278	Towne RD	&	146th St.	2017 With Freeway	AM	16	83	118	125	139	17	13	198	21	158	152	102
278	Towne RD	&	146th St.	2017 With Freeway	PM	35	146	191	119	134	24	15	203	22	180	237	127
279	Shelborne RD	&	146th St.	2007	AM	22	4	34	9	61	6	2	199	158	258	211	4
279	Shelborne RD	&	146th St.	2007	PM	191	73	238	4	6	3	8	230	39	52	242	10
279	Shelborne RD	&	146th St.	2017 No Freeway	AM	39	15	49	10	18	8	8	222	45	40	161	7
279	Shelborne RD	&	146th St.	2017 No Freeway	PM	48	18	53	11	20	10	9	226	48	57	243	10
279	Shelborne RD	&	146th St.	2017 With Freeway	AM	34	10	42	7	13	7	5	167	37	36	131	5
279	Shelborne RD	&	146th St.	2017 With Freeway	PM	42	14	47	7	15	8	6	176	40	53	200	8

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
280	Little Eagle Creek RD	&	146th St.	2007	AM	2	1	18	49	16	5	1	233	8	58	153	10
280	Little Eagle Creek RD	&	146th St.	2007	PM	3	6	89	19	1	1	1	187	1	30	299	71
280	Little Eagle Creek RD	&	146th St.	2017 No Freeway	AM	50	44	54	21	59	20	18	199	62	47	141	13
280	Little Eagle Creek RD	&	146th St.	2017 No Freeway	PM	67	62	64	22	57	22	21	198	58	60	215	22
280	Little Eagle Creek RD	&	146th St.	2017 With Freeway	AM	49	38	56	14	56	16	11	137	59	53	105	10
280	Little Eagle Creek RD	&	146th St.	2017 With Freeway	PM	65	58	67	15	53	19	14	141	53	65	164	18
281	Hamilton Boone RD	&	146th St.	2007	AM	0	0	0	35	0	29	11	232	0	0	179	10
281	Hamilton Boone RD	&	146th St.	2007	PM	0	0	0	10	0	12	27	162	0	0	235	35
281	Hamilton Boone RD	&	146th St.	2017 No Freeway	AM	0	0	0	98	0	16	12	171	0	0	142	66
281	Hamilton Boone RD	&	146th St.	2017 No Freeway	PM	0	0	0	73	0	15	19	192	0	0	206	99
281	Hamilton Boone RD	&	146th St.	2017 With Freeway	AM	0	0	0	90	0	16	14	100	0	0	106	62
281	Hamilton Boone RD	&	146th St.	2017 With Freeway	PM	0	0	0	65	0	15	21	124	0	0	157	91
404	Hinkle Rd	&	E 216th ST	2007	AM	16	0	0	0	0	21	15	24	24	0	42	0
404	Hinkle Rd	&	E 216th ST	2007	PM	24	0	0	0	0	15	33	57	22	0	30	0
404	Hinkle Rd	&	E 216th ST	2017 No Freeway	AM	7	5	6	21	30	24	9	98	15	19	134	10
404	Hinkle Rd	&	E 216th ST	2017 No Freeway	PM	10	20	8	12	14	15	24	91	12	8	75	16
404	Hinkle Rd	&	E 216th ST	2017 With Freeway	AM	5	2	3	28	10	39	11	228	9	8	337	11
404	Hinkle Rd	&	E 216th ST	2017 With Freeway	PM	9	7	7	19	5	20	38	336	11	5	184	17
407	Anthony RD	&	E 216th ST	2007	AM	9	4	5	5	13	10	4	51	13	14	94	4
407	Anthony RD	&	E 216th ST	2007	PM	14	10	12	5	5	6	9	98	12	7	67	6
407	Anthony RD	&	E 216th ST	2017 No Freeway	AM	7	2	13	14	25	8	1	90	17	43	127	4
407	Anthony RD	&	E 216th ST	2017 No Freeway	PM	12	10	29	11	12	5	3	85	10	21	76	7
407	Anthony RD	&	E 216th ST	2017 With Freeway	AM	8	1	9	13	11	12	2	217	20	38	362	4
407	Anthony RD	&	E 216th ST	2017 With Freeway	PM	17	4	20	9	4	8	7	336	18	13	207	6
437	Moontown Rd	&	191st St.	2007	AM	7	33	3		31	13	2	24		9	139	1
437	Moontown Rd	&	191st St.	2007	PM	2	41	15	3	24	3	14	114	7	7	36	
437	Moontown Rd	&	191st St.	2017 No Freeway	AM	11	20	11	32	71	33	12	58	14	23	94	19
437	Moontown Rd	&	191st St.	2017 No Freeway	PM	13	53	22	30	45	17	24	90	15	20	68	31
437	Moontown Rd	&	191st St.	2017 With Freeway	AM	4	8	6	19	16	12	6	43	4	10	71	15
437	Moontown Rd	&	191st St.	2017 With Freeway	PM	4	14	9	21	13	8	12	78	5	9	57	22
438	Shadynook RD	&	191st St.	2007	AM	3	0	0	0	0	0	0	27	7	1	158	0
438	Shadynook RD	&	191st St.	2007	PM	4	0	3	0	0	0	0	150	5	1	40	0
438	Shadynook RD	&	191st St.	2017 No Freeway	AM	0	0	0	0	0	0	0	83	0	0	149	0
438	Shadynook RD	&	191st St.	2017 No Freeway	PM	0	0	0	0	0	0	0	134	0	0	97	0
438	Shadynook RD	&	191st St.	2017 With Freeway	AM	0	0	0	0	0	0	0	53	0	0	95	0
438	Shadynook RD	&	191st St.	2017 With Freeway	PM	0	0	0	0	0	0	0	100	0	0	66	0
439	Grassy Branch Rd	&	191st St.	2007	AM	9	26	5		49	7	3	29	15	37	131	5
439	Grassy Branch Rd	&	191st St.	2007	PM	14	64	31	4	42	3	10	120	15	14	29	2
439	Grassy Branch Rd	&	191st St.	2017 No Freeway	AM	25	72	20	17	72	20	20	50	24	34	86	28

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
439	Grassy Branch Rd	&	191st St.	2017 No Freeway	PM	30	47	23	20	69	25	21	93	36	20	65	12
439	Grassy Branch Rd	&	191st St.	2017 With Freeway	AM	24	53	11	9	36	20	19	35	15	13	66	16
439	Grassy Branch Rd	&	191st St.	2017 With Freeway	PM	22	33	15	14	48	22	21	76	31	11	47	8
442	East ST	&	191st St.	2007	AM	21	0	7	0	0	0	0	24	26	36	111	0
442	East ST	&	191st St.	2007	PM	40	0	56	0	0	0	0	147	53	16	30	0
442	East ST	&	191st St.	2017 No Freeway	AM	1	0	1	0	0	0	0	94	3	4	143	0
442	East ST	&	191st St.	2017 No Freeway	PM	2	0	3	0	0	0	0	160	1	1	130	0
442	East ST	&	191st St.	2017 With Freeway	AM	12	20	0	12	39	194	348	70	34	1	118	14
442	East ST	&	191st St.	2017 With Freeway	PM	32	21	1	21	28	262	195	137	26	0	104	5
444	Moontown Rd	&	E 196th ST	2007	AM	8	28	0	0	38	22	32	0	16	0	0	0
444	Moontown Rd	&	E 196th ST	2007	PM	13	42	0	0	19	17	18	0	6	0	0	0
444	Moontown Rd	&	E 196th ST	2017 No Freeway	AM	1	46	0	0	123	4	5	0	6	0	0	0
444	Moontown Rd	&	E 196th ST	2017 No Freeway	PM	6	98	0	0	83	5	5	0	5	0	0	0
444	Moontown Rd	&	E 196th ST	2017 With Freeway	AM	2	25	0	0	36	3	5	0	5	0	0	0
444	Moontown Rd	&	E 196th ST	2017 With Freeway	PM	5	37	0	0	33	5	4	0	5	0	0	0
445	Grassy Branch Rd	&	E 196th ST	2007	AM	12	17	5	6	34	15	18	44	27	4	17	3
445	Grassy Branch Rd	&	E 196th ST	2007	PM	28	43	5	3	26	15	14	14	15	5	26	5
445	Grassy Branch Rd	&	E 196th ST	2017 No Freeway	AM	3	107	6	2	82	1	2	1	5	17	2	7
445	Grassy Branch Rd	&	E 196th ST	2017 No Freeway	PM	4	59	15	5	93	1	1	2	5	12	2	3
445	Grassy Branch Rd	&	E 196th ST	2017 With Freeway	AM	1	81	6	2	41	1	1	1	2	15	1	10
445	Grassy Branch Rd	&	E 196th ST	2017 With Freeway	PM	2	41	15	6	67	1	1	2	2	12	1	3
451	Grassy Branch Rd	&	202nd St	2007	AM	0	33	0	0	47	8	6	0	0	0	0	0
451	Grassy Branch Rd	&	202nd St	2007	PM	5	61	0	0	43	1	2	0	8	0	0	0
457	Moontown Rd	&	186th St.	2007	AM	7	74	0	0	40	0	0	0	10	0	0	0
457	Moontown Rd	&	186th St.	2007	PM	24	138	0	0	38	0	0	0	4	0	0	0
457	Moontown Rd	&	186th St.	2017 No Freeway	AM	42	35	0	0	94	13	9	0	79	0	0	0
457	Moontown Rd	&	186th St.	2017 No Freeway	PM	90	76	0	0	62	16	15	0	71	0	0	0
457	Moontown Rd	&	186th St.	2017 With Freeway	AM	43	12	0	0	19	9	7	0	73	0	0	0
457	Moontown Rd	&	186th St.	2017 With Freeway	PM	82	19	0	0	16	10	8	0	70	0	0	0
461	Grassy Branch Rd	&	E 186th ST	2007	AM	19	65	0	0	101	0	0	0	27	0	0	0
461	Grassy Branch Rd	&	E 186th ST	2007	PM	39	155	0	0	71	0	0	0	15	0	0	0
461	Grassy Branch Rd	&	E 186th ST	2017 No Freeway	AM	1	56	0	0	107	2	1	0	0	0	0	0
461	Grassy Branch Rd	&	E 186th ST	2017 No Freeway	PM	0	55	0	0	62	1	1	0	1	0	0	0
461	Grassy Branch Rd	&	E 186th ST	2017 With Freeway	AM	1	29	0	0	31	2	1	0	0	0	0	0
461	Grassy Branch Rd	&	E 186th ST	2017 With Freeway	PM	0	25	0	0	31	1	1	0	1	0	0	0
469	East ST	&	E 181st ST	2007	AM	73	21	0	0	21	78	62	0	58	0	0	0
469	East ST	&	E 181st ST	2007	PM	59	48	0	0	37	44	59	0	61	0	0	0
469	East ST	&	E 181st ST	2017 No Freeway	AM	37	1	0	0	2	1	0	0	38	0	0	0
469	East ST	&	E 181st ST	2017 No Freeway	PM	42	2	0	0	1	0	0	0	42	0	0	0

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
469	East ST	&	E 181st ST	2017 With Freeway	AM	23	13	0	0	23	2	1	0	17	0	0	0
469	East ST	&	E 181st ST	2017 With Freeway	PM	21	19	0	0	18	2	2	0	22	0	0	0
472	East ST	&	E 186th ST	2007	AM	0	39	38	0	94	0	0	0	0	12	0	0
472	East ST	&	E 186th ST	2007	PM	0	72	10	2	47	0	0	0	0	20	0	7
472	East ST	&	E 186th ST	2017 No Freeway	AM	0	2	1	0	7	0	0	0	0	3	0	0
472	East ST	&	E 186th ST	2017 No Freeway	PM	0	6	2	0	2	0	0	0	0	1	0	0
472	East ST	&	E 186th ST	2017 With Freeway	AM	0	25	0	1	44	0	0	0	0	2	0	1
472	East ST	&	E 186th ST	2017 With Freeway	PM	0	38	1	1	32	0	0	0	0	1	0	0
475	N Union ST	&	181ST ST	2007	AM	112	66	49	4	70	10	9	61	111	60	75	5
475	N Union ST	&	181ST ST	2007	PM	81	46	40	4	57	9	10	76	116	33	44	3
475	N Union ST	&	181ST ST	2017 No Freeway	AM	6	50	26	20	139	5	7	34	26	44	14	12
475	N Union ST	&	181ST ST	2017 No Freeway	PM	18	70	20	15	58	14	15	40	17	20	43	18
475	N Union ST	&	181ST ST	2017 With Freeway	AM	31	7	61	3	24	2	0	12	11	45	21	1
475	N Union ST	&	181ST ST	2017 With Freeway	PM	24	17	49	1	18	1	1	21	30	54	17	2
486	Shadynook RD	&	186th St.	2007	AM	0	4	14	0	8	0	0	0	0	4	0	0
486	Shadynook RD	&	186th St.	2007	PM	0	13	8	0	6	0	0	0	0	10	0	0
486	Shadynook RD	&	186th St.	2017 No Freeway	AM	0	0	0	0	0	0	0	0	0	0	0	0
486	Shadynook RD	&	186th St.	2017 No Freeway	PM	0	0	0	0	0	0	0	0	0	0	0	0
486	Shadynook RD	&	186th St.	2017 With Freeway	AM	0	0	0	0	0	0	0	0	0	0	0	0
486	Shadynook RD	&	186th St.	2017 With Freeway	PM	0	0	0	0	0	0	0	0	0	0	0	0
489	S Union ST	&	W 169th ST	2007	AM	14	115	4	8	255	28	17	1	9	39	17	15
489	S Union ST	&	W 169th ST	2007	PM	5	241	28	16	126	9	16	6	12	18	8	7
489	S Union ST	&	W 169th ST	2017 No Freeway	AM	2	65	0	0	172	50	35	0	3	0	0	0
489	S Union ST	&	W 169th ST	2017 No Freeway	PM	3	72	0	0	75	50	53	0	3	0	0	0
489	S Union ST	&	W 169th ST	2017 With Freeway	AM	0	0	0	0	0	16	13	0	0	0	0	0
489	S Union ST	&	W 169th ST	2017 With Freeway	PM	0	0	0	0	0	17	19	0	0	0	0	0
491	S Union ST	&	W 161st ST	2007	AM	1	57	15	50	8	273	15	43	1	3	130	37
491	S Union ST	&	W 161st ST	2007	PM	63	203	1	134	7	58	2	87	63	39	74	
491	S Union ST	&	W 161st ST	2017 No Freeway	AM	13	87	23	69	176	39	50	120	34	33	66	49
491	S Union ST	&	W 161st ST	2017 No Freeway	PM	19	105	20	65	98	62	48	81	14	18	100	62
491	S Union ST	&	W 161st ST	2017 With Freeway	AM	5	3	5	21	9	22	17	290	15	15	320	17
491	S Union ST	&	W 161st ST	2017 With Freeway	PM	12	5	11	28	4	27	20	404	7	5	287	14
493	Oak RD	&	W 161st ST	2007	AM	17	17	13	26	41	33	34	241	42	27	198	22
493	Oak RD	&	W 161st ST	2007	PM	6	44	68	69	25	6	14	200	8	47	95	83
493	Oak RD	&	W 161st ST	2017 No Freeway	AM	13	28	18	53	90	38	27	158	30	26	101	24
493	Oak RD	&	W 161st ST	2017 No Freeway	PM	22	85	27	42	59	33	38	109	17	25	128	56
493	Oak RD	&	W 161st ST	2017 With Freeway	AM	4	4	2	67	13	105	60	241	5	2	216	22
493	Oak RD	&	W 161st ST	2017 With Freeway	PM	3	8	2	53	9	76	143	293	6	2	207	45
495	Carey RD	&	W 161st ST	2007	AM	32	143	34	22	371	43	29	136	27	56	172	31

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
495	Carey RD	&	W 161st ST	2007	PM	39	369	64	27	281	25	81	158	119	56	160	46
495	Carey RD	&	W 161st ST	2017 No Freeway	AM	34	152	71	48	348	23	27	115	93	162	96	47
495	Carey RD	&	W 161st ST	2017 No Freeway	PM	63	241	146	56	189	24	21	116	43	112	128	55
495	Carey RD	&	W 161st ST	2017 With Freeway	AM	17	37	19	30	67	26	41	196	49	57	201	49
495	Carey RD	&	W 161st ST	2017 With Freeway	PM	35	57	43	41	64	33	37	252	43	43	198	37
498	Gray RD	&	E 161st ST	2007	AM	24	50	8	8	314	26	8	52	37	32	79	
498	Gray RD	&	E 161st ST	2007	PM	45	192	56	2	90	8	19	75	23	12	42	5
498	Gray RD	&	E 161st ST	2017 No Freeway	AM	25	61	74	29	173	10	7	78	53	117	60	16
498	Gray RD	&	E 161st ST	2017 No Freeway	PM	51	139	123	24	96	10	10	77	35	106	96	29
498	Gray RD	&	E 161st ST	2017 With Freeway	AM	25	19	45	6	33	5	4	87	53	68	58	6
498	Gray RD	&	E 161st ST	2017 With Freeway	PM	43	29	77	6	22	5	4	99	35	59	83	8
501	Gray RD	&	E 169th ST	2007	AM	9	67	3		303	6	7	1	9	22	12	3
501	Gray RD	&	E 169th ST	2007	PM	10	220	21	4	92	2	9	12	4	8	15	10
501	Gray RD	&	E 169th ST	2017 No Freeway	AM	5	83	10	30	211	15	9	9	7	19	12	23
501	Gray RD	&	E 169th ST	2017 No Freeway	PM	9	170	20	28	136	13	15	15	8	15	13	28
501	Gray RD	&	E 169th ST	2017 With Freeway	AM	3	29	6	18	46	8	7	15	4	12	22	21
501	Gray RD	&	E 169th ST	2017 With Freeway	PM	4	42	10	22	38	8	9	23	4	10	22	24
505	Carey RD	&	E 169th ST	2007	AM		157	7	15	399					45		64
505	Carey RD	&	E 169th ST	2007	PM		397	42	26	258					22		42
505	Carey RD	&	E 169th ST	2017 No Freeway	AM	0	135	81	12	331	0	0	0	0	77	0	5
505	Carey RD	&	E 169th ST	2017 No Freeway	PM	0	218	87	9	170	0	0	0	0	86	0	11
505	Carey RD	&	E 169th ST	2017 With Freeway	AM	0	34	90	9	38	0	0	0	0	74	0	8
505	Carey RD	&	E 169th ST	2017 With Freeway	PM	0	35	93	8	38	0	0	0	0	89	0	9
510	S Union ST	&	E 171st ST	2007	AM		94	13	24	125					41		25
510	S Union ST	&	E 171st ST	2007	PM		212	51	24	183					41		29
510	S Union ST	&	E 171st ST	2017 No Freeway	AM	0	82	5	38	203	0	0	0	0	22	0	65
510	S Union ST	&	E 171st ST	2017 No Freeway	PM	0	104	20	71	100	0	0	0	0	13	0	48
510	S Union ST	&	E 171st ST	2017 With Freeway	AM	0	7	7	28	5	0	0	0	0	12	0	72
510	S Union ST	&	E 171st ST	2017 With Freeway	PM	0	6	14	64	6	0	0	0	0	11	0	47
518	Oak RD	&	E 171st ST	2007	AM	5	0	45	0	0	0	0	31	6	99	64	0
518	Oak RD	&	E 171st ST	2007	PM	43	0	107	0	0	0	0	39	36	65	28	0
518	Oak RD	&	E 171st ST	2017 No Freeway	AM	15	0	10	0	0	0	0	17	9	4	12	0
518	Oak RD	&	E 171st ST	2017 No Freeway	PM	12	0	7	0	0	0	0	18	15	10	20	0
518	Oak RD	&	E 171st ST	2017 With Freeway	AM	14	0	10	0	0	0	0	14	8	3	11	0
518	Oak RD	&	E 171st ST	2017 With Freeway	PM	11	0	7	0	0	0	0	15	12	8	19	0
520	Carey RD	&	E 171st ST	2007	AM	79	142	0	0	320	68	21	0	54	0	0	0
520	Carey RD	&	E 171st ST	2007	PM	42	397	0	0	215	44	92	0	48	0	0	0
520	Carey RD	&	E 171st ST	2017 No Freeway	AM	3	130	0	0	340	13	16	0	10	0	0	0
520	Carey RD	&	E 171st ST	2017 No Freeway	PM	9	211	0	0	181	21	17	0	7	0	0	0

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
520	Carey RD	&	E 171st ST	2017 With Freeway	AM	4	35	0	0	44	11	17	0	7	0	0	0
520	Carey RD	&	E 171st ST	2017 With Freeway	PM	6	36	0	0	45	22	17	0	5	0	0	0
533	Gray RD	&	156th ST	2007	AM	6	118	8	0	383	0	0	0	8	5	0	0
533	Gray RD	&	156th ST	2007	PM	11	314	5	0	125	0	0	0	6	6	0	0
533	Gray RD	&	156th ST	2017 No Freeway	AM	15	139	17	21	312	18	20	23	38	14	8	8
533	Gray RD	&	156th ST	2017 No Freeway	PM	50	290	15	7	212	22	23	11	37	18	17	11
535	Gray RD	&	E 151st ST	2007	AM	58	91	0	0	253	143	47	0	53	0	0	0
535	Gray RD	&	E 151st ST	2007	PM	74	257	0	0	184	80	115	0	77	0	0	0
535	Gray RD	&	E 151st ST	2017 No Freeway	AM	109	150	0	0	240	194	98	0	88	0	0	0
535	Gray RD	&	E 151st ST	2017 No Freeway	PM	122	239	0	0	211	139	179	0	139	0	0	0
535	Gray RD	&	E 151st ST	2017 With Freeway	AM	100	124	0	0	155	80	49	0	79	0	0	0
535	Gray RD	&	E 151st ST	2017 With Freeway	PM	110	176	0	0	156	65	76	0	122	0	0	0
539	Carey RD	&	E 151st ST	2007	AM	60	125	14	9	210	211	91	77	26	5	163	24
539	Carey RD	&	E 151st ST	2007	PM	53	295	7	22	179	116	221	163	71	8	101	28
539	Carey RD	&	E 151st ST	2017 No Freeway	AM	36	119	20	120	280	217	70	106	27	24	169	62
539	Carey RD	&	E 151st ST	2017 No Freeway	PM	49	202	25	66	161	130	164	181	49	23	171	78
539	Carey RD	&	E 151st ST	2017 With Freeway	AM	14	36	20	43	100	30	21	109	27	26	72	20
539	Carey RD	&	E 151st ST	2017 With Freeway	PM	24	77	26	31	89	29	24	75	23	34	99	35
541	Oak RD	&	E 151st ST	2007	AM	17	7	8	15	8	52	29	189	11	6	491	10
541	Oak RD	&	E 151st ST	2007	PM	18	27	15	11	14	60	80	525	28	6	299	10
541	Oak RD	&	E 151st ST	2017 No Freeway	AM	12	4	2	23	9	128	41	186	8	3	404	16
541	Oak RD	&	E 151st ST	2017 No Freeway	PM	21	18	7	26	2	77	103	376	3	1	320	30
541	Oak RD	&	E 151st ST	2017 With Freeway	AM	0	0	0	15	2	18	7	150	2	1	106	3
541	Oak RD	&	E 151st ST	2017 With Freeway	PM	2	1	1	10	1	12	14	118	1	1	138	12
554	S Union ST	&	W 156th ST	2007	AM	14	115	4	8	255	28	17	1	9	39	17	15
554	S Union ST	&	W 156th ST	2007	PM	0	322	0	0	41	26	11	0	0	0	0	0
554	S Union ST	&	W 156th ST	2017 No Freeway	AM	13	116	0	0	224	14	12	0	21	0	0	0
554	S Union ST	&	W 156th ST	2017 No Freeway	PM	17	139	0	0	114	12	10	0	13	0	0	0
554	S Union ST	&	W 156th ST	2017 With Freeway	AM	0	13	0	0	37	0	0	0	0	0	0	0
554	S Union ST	&	W 156th ST	2017 With Freeway	PM	0	28	0	0	15	0	0	0	0	0	0	0
557	US 31	&	S Union ST	2007	AM	0	1312	47	62	1750	0	0	0	0	0	0	7
557	US 31	&	S Union ST	2007	PM	0	1663	149	149	1663	0	0	0	0	0	0	10
557	US 31	&	S Union ST	2017 No Freeway	AM	0	2056	94	22	2362	0	0	0	0	0	0	34
557	US 31	&	S Union ST	2017 No Freeway	PM	0	2318	99	25	2174	0	0	0	0	0	0	25
801	Western Way	&	E Greyhound Pass	2007	AM	33		272					102	11	30	105	
801	Western Way	&	E Greyhound Pass	2007	PM	31		300					110	41	108	286	
801	Western Way	&	E Greyhound Pass	2017 No Freeway	AM	2	0	627	0	0	0	0	404	9	216	33	0
801	Western Way	&	E Greyhound Pass	2017 No Freeway	PM	17	0	455	0	0	0	0	127	7	320	228	0
801	Western Way	&	E Greyhound Pass	2017 With Freeway	AM	3	0	91	0	0	0	0	54	17	368	21	0

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
801	Western Way	&	E Greyhound Pass	2017 With Freeway	PM	4	0	41	0	0	0	0	41	14	380	63	0
806	E Greyhound Pass	&	151st. ST	2007	AM	45	0	9	0	0	0	0	165	60	9	126	0
806	E Greyhound Pass	&	151st. ST	2007	PM	77	0	58	0	0	0	0	80	55	75	141	0
806	E Greyhound Pass	&	151st. ST	2017 No Freeway	AM	33	0	1	0	0	0	0	143	413	2	30	0
806	E Greyhound Pass	&	151st. ST	2017 No Freeway	PM	230	0	5	0	0	0	0	62	137	4	98	0
806	E Greyhound Pass	&	151st. ST	2017 With Freeway	AM	13	0	10	0	0	0	0	198	54	15	75	0
806	E Greyhound Pass	&	151st. ST	2017 With Freeway	PM	35	0	31	0	0	0	0	136	28	27	148	0
817	Oakridge RD	&	Greyhound Pass	2007	AM	7	85	37	73	166	14	19	76	19	49	37	49
817	Oakridge RD	&	Greyhound Pass	2007	PM	25	207	60	46	143	19	15	40	14	69	81	76
817	Oakridge RD	&	Greyhound Pass	2017 No Freeway	AM	2	174	16	465	277	47	62	53	3	2	4	44
817	Oakridge RD	&	Greyhound Pass	2017 No Freeway	PM	5	303	12	151	201	68	54	19	3	13	41	254
817	Oakridge RD	&	Greyhound Pass	2017 With Freeway	AM	8	75	21	93	60	27	31	91	6	5	30	27
817	Oakridge RD	&	Greyhound Pass	2017 With Freeway	PM	14	123	18	67	67	39	33	50	5	10	69	61
825	Springmill RD	&	Greyhound Pass	2007	AM	0	161	16	55	401	0	0	0	0	29	0	40
825	Springmill RD	&	Greyhound Pass	2007	PM	0	695	87	10	348	0	0	0	0	93	0	22
825	Springmill RD	&	Greyhound Pass	2017 No Freeway	AM	0	468	12	48	779	0	0	0	0	13	0	32
825	Springmill RD	&	Greyhound Pass	2017 No Freeway	PM	0	673	14	48	641	0	0	0	0	14	0	50
825	Springmill RD	&	Greyhound Pass	2017 With Freeway	AM	0	235	12	50	421	0	0	0	0	16	0	34
825	Springmill RD	&	Greyhound Pass	2017 With Freeway	PM	0	404	18	47	368	0	0	0	0	16	0	46
831	Oakridge RD	&	W 156th ST	2007	AM	17	161	6	8	158	25	78	105	92	3	39	5
831	Oakridge RD	&	W 156th ST	2007	PM	102	175		9	141	52	32	75	58	8	127	8
831	Oakridge RD	&	W 156th ST	2017 No Freeway	AM	79	198	15	6	384	28	51	35	273	25	17	5
831	Oakridge RD	&	W 156th ST	2017 No Freeway	PM	270	335	22	3	203	41	46	27	184	19	34	5
831	Oakridge RD	&	W 156th ST	2017 With Freeway	AM	53	79	9	1	41	13	50	38	124	7	19	2
831	Oakridge RD	&	W 156th ST	2017 With Freeway	PM	145	66	13	2	67	40	22	28	97	9	42	2
838	Springmill RD	&	W 156th ST	2007	AM	4	205	119	39	226	1	5	25	17	60	3	18
838	Springmill RD	&	W 156th ST	2007	PM	21	306	180	18	208	2	2	10	13	228	20	33
838	Springmill RD	&	W 156th ST	2017 No Freeway	AM	4	592	57	202	822	14	17	15	7	25	4	64
838	Springmill RD	&	W 156th ST	2017 No Freeway	PM	6	756	49	119	764	15	16	9	7	42	8	100
838	Springmill RD	&	W 156th ST	2017 With Freeway	AM	7	381	23	30	442	8	10	6	9	37	6	42
838	Springmill RD	&	W 156th ST	2017 With Freeway	PM	9	474	35	44	487	10	9	7	8	39	8	46
843	Ditch RD	&	W 151st ST	2007	AM	9	61			184	19	5		9			
843	Ditch RD	&	W 151st ST	2007	PM	2	144			85	3	27		2			
843	Ditch RD	&	W 151st ST	2017 No Freeway	AM	5	55	0	0	157	6	10	0	21	0	0	0
843	Ditch RD	&	W 151st ST	2017 No Freeway	PM	17	185	0	0	134	10	10	0	11	0	0	0
843	Ditch RD	&	W 151st ST	2017 With Freeway	AM	6	43	0	0	44	4	12	0	19	0	0	0
843	Ditch RD	&	W 151st ST	2017 With Freeway	PM	16	48	0	0	51	10	7	0	13	0	0	0
846	Ditch RD	&	W 156th ST	2007	AM	7	111	1		62	9	32	46	14	2	11	
846	Ditch RD	&	W 156th ST	2007	PM	6	52	2	1	98	14	8	22	11	4	30	

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
846	Ditch RD	&	W 156th ST	2017 No Freeway	AM	7	44	11	28	125	17	13	31	15	21	26	19
846	Ditch RD	&	W 156th ST	2017 No Freeway	PM	16	147	26	28	117	17	19	30	14	19	24	25
846	Ditch RD	&	W 156th ST	2017 With Freeway	AM	8	33	10	11	28	8	12	33	9	13	36	18
846	Ditch RD	&	W 156th ST	2017 With Freeway	PM	9	31	12	20	41	13	11	41	9	13	37	15
851	Oakridge RD	&	E 161st ST	2007	AM	6	118	126	61	153	18	15	87	11	29	150	21
851	Oakridge RD	&	E 161st ST	2007	PM	26	177	39	32	147	17	12	130	5	33	109	36
851	Oakridge RD	&	E 161st ST	2017 No Freeway	AM	69	125	78	24	229	21	19	107	115	81	66	13
851	Oakridge RD	&	E 161st ST	2017 No Freeway	PM	132	166	99	23	131	31	24	131	81	55	118	17
851	Oakridge RD	&	E 161st ST	2017 With Freeway	AM	17	64	93	95	24	17	40	574	15	44	269	116
851	Oakridge RD	&	E 161st ST	2017 With Freeway	PM	17	53	58	102	44	27	33	375	16	105	589	213
855	Oakridge RD	&	W 169th ST	2007	AM	20	71	20	46	121	16	34	65	77	12	30	21
855	Oakridge RD	&	W 169th ST	2007	PM	70	95	13	27	15	34	25	56	30	30	125	45
855	Oakridge RD	&	W 169th ST	2017 No Freeway	AM	50	76	8	8	101	50	98	94	131	19	83	14
855	Oakridge RD	&	W 169th ST	2017 No Freeway	PM	75	84	19	26	100	104	63	128	54	18	166	21
855	Oakridge RD	&	W 169th ST	2017 With Freeway	AM	82	74	7	3	39	37	73	49	89	3	28	2
855	Oakridge RD	&	W 169th ST	2017 With Freeway	PM	203	48	7	2	44	85	38	39	95	3	50	1
862	Springmill RD	&	W 161st ST	2007	AM	79	234	30	28	204	25	19	42	41	21	84	41
862	Springmill RD	&	W 161st ST	2007	PM	63	158	30	9	139	16	10	58	67	22	50	11
862	Springmill RD	&	W 161st ST	2017 No Freeway	AM	38	630	32	28	857	34	53	24	81	74	27	49
862	Springmill RD	&	W 161st ST	2017 No Freeway	PM	75	748	79	58	747	55	44	42	60	67	45	50
862	Springmill RD	&	W 161st ST	2017 With Freeway	AM	21	313	116	210	403	35	31	115	22	64	51	88
862	Springmill RD	&	W 161st ST	2017 With Freeway	PM	29	451	78	136	431	45	45	79	25	109	110	192
865	Springmill RD	&	W 169th ST	2007	AM	18	230	44	28	170	12	4	7	4	28	18	24
865	Springmill RD	&	W 169th ST	2007	PM	2	136	24	10	179	3	3	15	4	18	20	8
865	Springmill RD	&	W 169th ST	2017 No Freeway	AM	50	530	16	21	628	64	93	26	86	20	18	22
865	Springmill RD	&	W 169th ST	2017 No Freeway	PM	48	547	18	33	665	88	76	22	50	18	22	27
865	Springmill RD	&	W 169th ST	2017 With Freeway	AM	61	248	12	8	223	43	116	44	155	17	31	12
865	Springmill RD	&	W 169th ST	2017 With Freeway	PM	133	301	19	14	289	104	82	41	103	13	44	10
867	Ditch RD	&	W 161st ST	2007	AM	2	64	10	6	116	21	3	24	1	22	86	7
867	Ditch RD	&	W 161st ST	2007	PM	5	68	21	9	43	4	10	74	2	4	39	9
867	Ditch RD	&	W 161st ST	2017 No Freeway	AM	5	63	7	19	154	14	9	9	8	12	10	13
867	Ditch RD	&	W 161st ST	2017 No Freeway	PM	9	172	15	20	148	13	15	12	9	12	10	19
867	Ditch RD	&	W 161st ST	2017 With Freeway	AM	6	50	9	20	40	12	10	18	4	6	20	17
867	Ditch RD	&	W 161st ST	2017 With Freeway	PM	6	44	8	23	65	13	13	23	7	10	22	18
868	Ditch RD	&	W 166th ST.	2007	AM	4	66			149	10	11		9			
868	Ditch RD	&	W 166th ST.	2007	PM	13	103			68	7	14		15			
868	Ditch RD	&	W 166th ST.	2017 No Freeway	AM	0	88	0	0	177	0	0	0	0	0	0	0
868	Ditch RD	&	W 166th ST.	2017 No Freeway	PM	0	207	0	0	177	0	0	0	0	0	0	0
868	Ditch RD	&	W 166th ST.	2017 With Freeway	AM	0	82	0	0	63	0	0	0	0	0	0	0

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
868	Ditch RD	&	W 166th ST.	2017 With Freeway	PM	0	77	0	0	96	0	0	0	0	0	0	0
869	Ditch RD	&	W 169th ST	2007	AM		57	12		94					49		8
869	Ditch RD	&	W 169th ST	2007	PM		80	24	1	63					12		5
869	Ditch RD	&	W 169th ST	2017 No Freeway	AM	23	59	7	17	77	58	158	165	82	18	124	36
869	Ditch RD	&	W 169th ST	2017 No Freeway	PM	94	97	17	25	98	137	101	158	70	10	129	15
869	Ditch RD	&	W 169th ST	2017 With Freeway	AM	15	57	10	51	38	57	138	239	21	6	129	46
869	Ditch RD	&	W 169th ST	2017 With Freeway	PM	20	48	10	75	68	109	99	200	21	11	222	52
884	Towne RD	&	Eagle Creek Ave.	2007	AM	11	0	42	0	0	0	0	8	4	114	61	0
884	Towne RD	&	Eagle Creek Ave.	2007	PM	4	0	86	0	0	0	0	65	12	39	9	0
884	Towne RD	&	Eagle Creek Ave.	2017 No Freeway	AM	21	197	54	31	220	12	14	34	26	50	25	26
884	Towne RD	&	Eagle Creek Ave.	2017 No Freeway	PM	28	202	57	30	205	15	13	33	25	62	40	33
884	Towne RD	&	Eagle Creek Ave.	2017 With Freeway	AM	16	152	55	19	123	7	8	26	17	52	20	24
884	Towne RD	&	Eagle Creek Ave.	2017 With Freeway	PM	20	144	61	24	155	10	7	26	17	69	30	28
885	Eagle Creek Ave.	&	W 166th ST.	2007	AM	1	8	2	7	58	5	3	7	6	4	3	2
885	Eagle Creek Ave.	&	W 166th ST.	2007	PM	9	62	6	2	9	3	6	5	3	3	9	7
885	Eagle Creek Ave.	&	W 166th ST.	2017 No Freeway	AM	2	75	11	5	60	1	4	5	7	13	2	8
885	Eagle Creek Ave.	&	W 166th ST.	2017 No Freeway	PM	6	75	13	7	82	3	2	4	5	14	5	7
885	Eagle Creek Ave.	&	W 166th ST.	2017 With Freeway	AM	3	49	9	5	43	2	4	7	6	9	3	7
885	Eagle Creek Ave.	&	W 166th ST.	2017 With Freeway	PM	5	52	12	7	57	3	2	5	4	13	6	7
886	Eagle Creek Ave.	&	W 159th ST	2007	AM	0	0	0	6	0	64	10	8	0	0	29	3
886	Eagle Creek Ave.	&	W 159th ST	2007	PM	0	0	0	3	0	11	69	21	0	0	8	8
886	Eagle Creek Ave.	&	W 159th ST	2017 No Freeway	AM	0	0	0	1	0	85	89	2	0	0	2	1
886	Eagle Creek Ave.	&	W 159th ST	2017 No Freeway	PM	0	0	0	1	0	105	97	3	0	0	3	1
886	Eagle Creek Ave.	&	W 159th ST	2017 With Freeway	AM	0	0	0	1	0	64	63	2	0	0	3	0
886	Eagle Creek Ave.	&	W 159th ST	2017 With Freeway	PM	0	0	0	1	0	80	74	2	0	0	3	0
887	Shelborne RD	&	Little Eagle Creek RD	2007	AM	8	0	2	0	0	0	0	8	16	27	51	0
887	Shelborne RD	&	Little Eagle Creek RD	2007	PM	36	0	49	0	0	0	0	92	20	4	14	0
887	Shelborne RD	&	Little Eagle Creek RD	2017 No Freeway	AM	3	0	24	0	0	0	0	63	3	26	63	0
887	Shelborne RD	&	Little Eagle Creek RD	2017 No Freeway	PM	3	0	26	0	0	0	0	70	3	31	78	0
887	Shelborne RD	&	Little Eagle Creek RD	2017 With Freeway	AM	4	0	13	0	0	0	0	46	4	17	51	0
887	Shelborne RD	&	Little Eagle Creek RD	2017 With Freeway	PM	5	0	16	0	0	0	0	53	4	21	64	0
889	Little Eagle Creek RD	&	W. 156th ST	2007	AM	2	13	0	0	77	27	16	0	8	0	0	0
889	Little Eagle Creek RD	&	W. 156th ST	2007	PM	0	70	0	0	18	14	24	0	0	0	0	0
889	Little Eagle Creek RD	&	W. 156th ST	2017 No Freeway	AM	2	64	0	0	61	2	2	0	1	0	0	0
889	Little Eagle Creek RD	&	W. 156th ST	2017 No Freeway	PM	1	71	0	0	76	2	2	0	2	0	0	0
889	Little Eagle Creek RD	&	W. 156th ST	2017 With Freeway	AM	2	47	0	0	48	2	2	0	1	0	0	0
889	Little Eagle Creek RD	&	W. 156th ST	2017 With Freeway	PM	1	55	0	0	61	2	2	0	2	0	0	0
890	Joliet RD.	&	W. 156th ST	2007	AM	0	0	0	7	0	1	0	18	0	0	19	5
890	Joliet RD.	&	W. 156th ST	2007	PM	0	0	0	8	0	2	3	15	0	0	10	6

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
890	Joliet RD.	&	W. 156th ST	2017 No Freeway	AM	0	0	0	1	0	0	0	1	0	0	3	1
890	Joliet RD.	&	W. 156th ST	2017 No Freeway	PM	0	0	0	1	0	0	0	2	0	0	2	1
890	Joliet RD.	&	W. 156th ST	2017 With Freeway	AM	0	0	0	1	0	0	0	1	0	0	3	1
890	Joliet RD.	&	W. 156th ST	2017 With Freeway	PM	0	0	0	1	0	0	0	2	0	0	2	1
891	Hamilton Boone RD	&	W. 156th ST	2007	AM	4	11	4	7	52	7	3	8	7	7	8	3
891	Hamilton Boone RD	&	W. 156th ST	2007	PM	5	55	7	4	17	3	7	8	4	3	4	5
891	Hamilton Boone RD	&	W. 156th ST	2017 No Freeway	AM	6	65	1	0	95	2	1	0	3	2	0	1
891	Hamilton Boone RD	&	W. 156th ST	2017 No Freeway	PM	3	101	1	1	71	1	3	0	4	1	0	1
891	Hamilton Boone RD	&	W. 156th ST	2017 With Freeway	AM	2	63	0	1	87	2	0	0	1	1	0	1
891	Hamilton Boone RD	&	W. 156th ST	2017 With Freeway	PM	1	94	1	1	67	0	1	0	1	1	0	1
894	Joliet RD.	&	W 166th ST.	2007	AM	1	2	2	5	6	1	1	12	2	2	5	2
894	Joliet RD.	&	W 166th ST.	2007	PM	1	4	4	4	3	1	0	4	0	5	10	6
894	Joliet RD.	&	W 166th ST.	2017 No Freeway	AM	0	1	0	0	0	0	0	0	0	0	0	0
894	Joliet RD.	&	W 166th ST.	2017 No Freeway	PM	0	1	0	1	1	0	0	0	0	0	0	0
894	Joliet RD.	&	W 166th ST.	2017 With Freeway	AM	0	1	0	0	0	0	0	0	0	0	0	0
894	Joliet RD.	&	W 166th ST.	2017 With Freeway	PM	0	0	0	1	1	0	0	0	0	0	0	0
895	Hamilton Boone RD	&	W 166th ST.	2007	AM	0	14	2	12	58	0	0	0	0	2	0	4
895	Hamilton Boone RD	&	W 166th ST.	2007	PM	0	63	2	4	24	0	0	0	0	2	0	11
895	Hamilton Boone RD	&	W 166th ST.	2017 No Freeway	AM	0	63	0	0	97	0	0	0	0	0	0	0
895	Hamilton Boone RD	&	W 166th ST.	2017 No Freeway	PM	0	100	0	0	73	0	0	0	0	0	0	0
895	Hamilton Boone RD	&	W 166th ST.	2017 With Freeway	AM	0	61	0	0	90	0	0	0	0	0	0	0
895	Hamilton Boone RD	&	W 166th ST.	2017 With Freeway	PM	0	94	0	0	68	0	0	0	0	0	0	0
896	Eagletown RD.	&	W 166th ST.	2007	AM	0	0	0	9	0	0	0	8	0	0	9	5
896	Eagletown RD.	&	W 166th ST.	2007	PM	0	0	0	5	0	0	0	11	0	0	11	9
896	Eagletown RD.	&	W 166th ST.	2017 No Freeway	AM	0	0	0	0	0	0	0	0	0	0	0	0
896	Eagletown RD.	&	W 166th ST.	2017 No Freeway	PM	0	0	0	0	0	0	0	0	0	0	0	0
896	Eagletown RD.	&	W 166th ST.	2017 With Freeway	AM	0	0	0	0	0	0	0	0	0	0	0	0
896	Eagletown RD.	&	W 166th ST.	2017 With Freeway	PM	0	0	0	0	0	0	0	0	0	0	0	0
897	Towne RD	&	W 166th ST.	2007	AM	3	48	2	4	107	5	6	2	8	4	2	3
897	Towne RD	&	W 166th ST.	2007	PM	13	79	6	2	47	4	4	3	7	2	2	1
897	Towne RD	&	W 166th ST.	2017 No Freeway	AM	10	270	1	2	329	13	11	0	10	2	1	2
897	Towne RD	&	W 166th ST.	2017 No Freeway	PM	11	298	2	2	318	13	12	1	11	2	1	2
897	Towne RD	&	W 166th ST.	2017 With Freeway	AM	9	228	1	1	233	9	11	1	10	2	1	2
897	Towne RD	&	W 166th ST.	2017 With Freeway	PM	11	245	2	2	279	13	12	1	11	2	1	2
898	Towne RD	&	W 161st ST	2007	AM	0	56	29	1	111	0	0	0	0	108	0	1
898	Towne RD	&	W 161st ST	2007	PM	0	90	77	8	51	0	0	0	0	41	0	7
898	Towne RD	&	W 161st ST	2017 No Freeway	AM	0	271	12	14	339	0	0	0	0	14	0	14
898	Towne RD	&	W 161st ST	2017 No Freeway	PM	0	317	19	17	312	0	0	0	0	17	0	15
898	Towne RD	&	W 161st ST	2017 With Freeway	AM	0	226	16	15	244	0	0	0	0	20	0	17

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
898	Towne RD	&	W 161st ST	2017 With Freeway	PM	0	265	23	20	271	0	0	0	0	21	0	18
902	Towne RD	&	W 156th ST	2007	AM	0	90	60	17	225	0	0	0	0	24	0	3
902	Towne RD	&	W 156th ST	2007	PM	0	201	39	3	107	0	0	0	0	43	0	7
902	Towne RD	&	W 156th ST	2017 No Freeway	AM	0	232	6	24	354	0	0	0	0	12	0	30
902	Towne RD	&	W 156th ST	2017 No Freeway	PM	0	304	13	33	306	0	0	0	0	10	0	24
902	Towne RD	&	W 156th ST	2017 With Freeway	AM	0	187	8	17	271	0	0	0	0	19	0	25
902	Towne RD	&	W 156th ST	2017 With Freeway	PM	0	254	17	26	281	0	0	0	0	15	0	19
903	Towne RD	&	W 159th ST	2007	AM	26	84	0	0	219	6	1	0	11	0	0	0
903	Towne RD	&	W 159th ST	2007	PM	16	182	0	0	96	1	3	0	21	0	0	0
903	Towne RD	&	W 159th ST	2017 No Freeway	AM	6	270	0	0	353	8	18	0	20	0	0	0
903	Towne RD	&	W 159th ST	2017 No Freeway	PM	17	328	0	0	322	16	13	0	13	0	0	0
903	Towne RD	&	W 159th ST	2017 With Freeway	AM	6	227	0	0	266	7	19	0	19	0	0	0
903	Towne RD	&	W 159th ST	2017 With Freeway	PM	17	280	0	0	289	17	13	0	14	0	0	0
905	Shelborne RD	&	W 151st ST	2007	AM	0	8	1	2	73	0	0	0	0	5	0	2
905	Shelborne RD	&	W 151st ST	2007	PM	0	79	5	2	13	0	0	0	0	0	0	1
905	Shelborne RD	&	W 151st ST	2017 No Freeway	AM	0	28	1	0	31	0	0	0	0	3	0	1
905	Shelborne RD	&	W 151st ST	2017 No Freeway	PM	0	34	3	1	36	0	0	0	0	3	0	1
905	Shelborne RD	&	W 151st ST	2017 With Freeway	AM	0	18	1	0	23	0	0	0	0	3	0	1
905	Shelborne RD	&	W 151st ST	2017 With Freeway	PM	0	25	3	1	26	0	0	0	0	2	0	1
906	Towne RD	&	W 151st ST	2007	AM	0	116	1	14	280	6	3	0	0	3	1	24
906	Towne RD	&	W 151st ST	2007	PM	0	155	0	32	117	1	7	0	0	0	0	5
906	Towne RD	&	W 151st ST	2017 No Freeway	AM	0	233	1	1	351	0	1	0	1	2	0	3
906	Towne RD	&	W 151st ST	2017 No Freeway	PM	1	313	3	2	298	1	0	0	0	2	0	2
906	Towne RD	&	W 151st ST	2017 With Freeway	AM	0	191	1	1	266	1	1	0	1	3	0	3
906	Towne RD	&	W 151st ST	2017 With Freeway	PM	1	268	3	3	266	1	0	0	0	2	0	2
907	Hamilton Boone RD	&	W 186th ST.	2007	AM	4	13	1	2	64	10	4	2	7	2	3	1
907	Hamilton Boone RD	&	W 186th ST.	2007	PM	9	59	3	2	25	7	12	6	7	1	3	2
907	Hamilton Boone RD	&	W 186th ST.	2017 No Freeway	AM	1	62	0	1	118	2	3	0	2	0	0	0
907	Hamilton Boone RD	&	W 186th ST.	2017 No Freeway	PM	2	110	0	0	72	2	2	0	2	0	0	1
907	Hamilton Boone RD	&	W 186th ST.	2017 With Freeway	AM	0	55	0	1	103	1	1	0	1	0	0	0
907	Hamilton Boone RD	&	W 186th ST.	2017 With Freeway	PM	1	97	1	0	63	0	1	0	0	0	0	1
908	Hamilton Boone RD	&	W 196th ST.	2007	AM	0	14	3	10	57	0	0	0	0	11	0	9
908	Hamilton Boone RD	&	W 196th ST.	2007	PM	0	59	8	4	30	0	0	0	0	6	0	6
908	Hamilton Boone RD	&	W 196th ST.	2017 No Freeway	AM	0	68	0	0	121	0	0	0	0	0	0	0
908	Hamilton Boone RD	&	W 196th ST.	2017 No Freeway	PM	0	116	0	0	74	0	0	0	0	0	0	0
908	Hamilton Boone RD	&	W 196th ST.	2017 With Freeway	AM	0	57	0	0	104	0	0	0	0	0	0	0
908	Hamilton Boone RD	&	W 196th ST.	2017 With Freeway	PM	0	99	0	0	63	0	0	0	0	0	0	0
909	Joliet RD.	&	W 196th ST.	2007	AM	3	0	0	0	0	5	5	0	9	0	0	0
909	Joliet RD.	&	W 196th ST.	2007	PM	6	0	0	0	0	6	6	0	6	0	0	0

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
909	Joliet RD.	&	W 196th ST.	2017 No Freeway	AM	0	3	0	0	3	0	0	0	0	0	0	0
909	Joliet RD.	&	W 196th ST.	2017 No Freeway	PM	0	3	0	0	3	0	0	0	0	0	0	0
909	Joliet RD.	&	W 196th ST.	2017 With Freeway	AM	0	3	0	0	4	0	0	0	0	0	0	0
909	Joliet RD.	&	W 196th ST.	2017 With Freeway	PM	0	3	0	0	4	0	0	0	0	0	0	0
910	Joliet RD.	&	W 193rd ST	2007	AM	0	1	5	1	4	0	0	0	0	1	0	0
910	Joliet RD.	&	W 193rd ST	2007	PM	0	6	6	0	6	0	0	0	0	4	0	0
910	Joliet RD.	&	W 193rd ST	2017 No Freeway	AM	0	0	0	3	0	0	0	0	0	0	0	3
910	Joliet RD.	&	W 193rd ST	2017 No Freeway	PM	0	0	0	3	0	0	0	0	0	0	0	3
910	Joliet RD.	&	W 193rd ST	2017 With Freeway	AM	0	0	0	3	0	0	0	0	0	0	0	3
910	Joliet RD.	&	W 193rd ST	2017 With Freeway	PM	0	0	0	3	0	0	0	0	0	0	0	3
911	Joliet RD.	&	W 186th ST.	2007	AM	2	4	2	1	7	1	1	2	2	2	4	1
911	Joliet RD.	&	W 186th ST.	2007	PM	2	9	3	2	9	1	2	5	3	2	3	1
911	Joliet RD.	&	W 186th ST.	2017 No Freeway	AM	0	0	1	0	0	0	0	0	1	1	1	0
911	Joliet RD.	&	W 186th ST.	2017 No Freeway	PM	0	0	2	0	0	0	0	1	0	1	1	0
911	Joliet RD.	&	W 186th ST.	2017 With Freeway	AM	0	0	1	0	0	0	0	0	1	1	1	0
911	Joliet RD.	&	W 186th ST.	2017 With Freeway	PM	0	0	2	0	0	0	0	1	0	1	1	0
914	Mule Barn RD	&	W 193rd ST	2007	AM		23		1	83			9	2	1	1	
914	Mule Barn RD	&	W 193rd ST	2007	PM	1	80	4	2	35		1	6		2	3	5
914	Mule Barn RD	&	W 193rd ST	2017 No Freeway	AM	2	33	1	1	70	2	2	1	4	2	1	1
914	Mule Barn RD	&	W 193rd ST	2017 No Freeway	PM	2	53	2	2	47	2	2	1	2	2	1	2
914	Mule Barn RD	&	W 193rd ST	2017 With Freeway	AM	2	28	2	2	39	2	2	1	2	2	1	1
914	Mule Barn RD	&	W 193rd ST	2017 With Freeway	PM	2	39	2	1	30	2	2	1	2	2	1	2
915	Mule Barn RD	&	W 186th ST.	2007	AM	1	18	7	15	72	2	1	3	1	20	4	10
915	Mule Barn RD	&	W 186th ST.	2007	PM	2	73	27	13	24	1	2	7	1	12	4	19
915	Mule Barn RD	&	W 186th ST.	2017 No Freeway	AM	2	32	4	4	70	2	4	4	8	3	1	2
915	Mule Barn RD	&	W 186th ST.	2017 No Freeway	PM	5	52	3	2	46	4	3	2	4	4	3	4
915	Mule Barn RD	&	W 186th ST.	2017 With Freeway	AM	3	29	3	2	42	2	4	4	9	2	1	1
915	Mule Barn RD	&	W 186th ST.	2017 With Freeway	PM	7	42	3	1	33	3	3	1	5	3	2	2
916	Centennial RD	&	W 186th ST.	2007	AM	4	0	0	0	0	6	2	12	12	0	12	0
916	Centennial RD	&	W 186th ST.	2007	PM	12	0	0	0	0	6	8	26	16	0	14	0
916	Centennial RD	&	W 186th ST.	2017 No Freeway	AM	1	1	1	2	7	2	1	12	6	2	4	0
916	Centennial RD	&	W 186th ST.	2017 No Freeway	PM	5	5	2	1	3	2	2	6	3	2	10	1
916	Centennial RD	&	W 186th ST.	2017 With Freeway	AM	1	1	1	1	4	1	1	9	6	1	3	0
916	Centennial RD	&	W 186th ST.	2017 With Freeway	PM	4	3	1	0	2	2	1	4	3	1	7	1
917	Centennial RD	&	W 193rd ST	2007	AM	0	0	2	6	0	0	0	10	0	12	4	4
917	Centennial RD	&	W 193rd ST	2007	PM	2	3	1	1	3	2	2	8	2	1	7	2
917	Centennial RD	&	W 193rd ST	2017 No Freeway	AM	0	2	1	7	9	2	1	2	0	1	2	3
917	Centennial RD	&	W 193rd ST	2017 No Freeway	PM	0	6	1	5	4	1	2	2	0	1	2	7
917	Centennial RD	&	W 193rd ST	2017 With Freeway	AM	0	1	0	13	5	1	1	3	0	1	3	5

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
917	Centennial RD	&	W 193rd ST	2017 With Freeway	PM	0	4	1	8	3	1	1	3	0	1	4	9
918	Lamong RD.	&	W 193rd ST	2007	AM	0	0	0	37	0	3	1	14	0	0	22	18
918	Lamong RD.	&	W 193rd ST	2007	PM	0	0	0	20	0	0	0	10	0	0	8	32
918	Lamong RD.	&	W 193rd ST	2017 No Freeway	AM	0	0	0	41	0	1	1	9	0	0	5	24
918	Lamong RD.	&	W 193rd ST	2017 No Freeway	PM	0	0	0	31	0	1	1	7	0	0	9	43
918	Lamong RD.	&	W 193rd ST	2017 With Freeway	AM	0	0	0	27	0	1	2	15	0	0	8	13
918	Lamong RD.	&	W 193rd ST	2017 With Freeway	PM	0	0	0	18	0	1	2	9	0	0	14	25
919	Eagletown RD	&	W 193rd ST	2007	AM	18	0	3	0	0	0	0	9	31	5	11	0
919	Eagletown RD	&	W 193rd ST	2007	PM	42	0	7	0	0	0	0	15	25	3	13	0
919	Eagletown RD	&	W 193rd ST	2017 No Freeway	AM	34	0	6	0	0	0	0	6	71	10	5	0
919	Eagletown RD	&	W 193rd ST	2017 No Freeway	PM	66	0	11	0	0	0	0	14	41	4	9	0
919	Eagletown RD	&	W 193rd ST	2017 With Freeway	AM	23	0	9	0	0	0	0	26	44	5	10	0
919	Eagletown RD	&	W 193rd ST	2017 With Freeway	PM	35	0	11	0	0	0	0	18	27	8	24	0
920	Eagletown RD	&	W 186th ST.	2007	AM	3	15	6	5	41	3	2	5	5	10	5	3
920	Eagletown RD	&	W 186th ST.	2007	PM	6	44	17	4	15	2	3	12	5	8	7	6
920	Eagletown RD	&	W 186th ST.	2017 No Freeway	AM	2	16	4	35	33	15	5	12	1	5	22	21
920	Eagletown RD	&	W 186th ST.	2017 No Freeway	PM	2	31	6	25	18	7	13	22	2	4	16	33
920	Eagletown RD	&	W 186th ST.	2017 With Freeway	AM	1	17	3	26	20	7	3	7	1	2	10	12
920	Eagletown RD	&	W 186th ST.	2017 With Freeway	PM	1	19	2	17	19	4	8	9	1	3	7	20
923	Casey RD	&	W 186th ST.	2007	AM	1	16	3	8	5	4	6	11	1	1	10	12
923	Casey RD	&	W 186th ST.	2007	PM	1	9	4	12	6	4	6	23	1	3	15	12
924	Casey RD	&	W 193rd ST	2007	AM	13	0	27	0	0	0	0	32	8	15	28	0
924	Casey RD	&	W 193rd ST	2007	PM	10	0	18	0	0	0	0	37	8	12	31	0
924	Casey RD	&	W 193rd ST	2017 No Freeway	AM	1	0	2	0	0	0	0	17	2	4	12	0
924	Casey RD	&	W 193rd ST	2017 No Freeway	PM	1	0	4	0	0	0	0	25	1	3	16	0
924	Casey RD	&	W 193rd ST	2017 With Freeway	AM	0	0	2	0	0	0	0	42	2	3	13	0
924	Casey RD	&	W 193rd ST	2017 With Freeway	PM	2	0	3	0	0	0	0	27	1	2	36	0
925	Freemont Moore RD.	&	W 193rd ST	2007	AM	0	0	0	11	0	0	0	16	0	0	24	9
925	Freemont Moore RD.	&	W 193rd ST	2007	PM	0	0	0	7	0	0	0	16	0	0	32	14
925	Freemont Moore RD.	&	W 193rd ST	2017 No Freeway	AM	0	0	0	10	0	6	2	10	0	0	9	3
925	Freemont Moore RD.	&	W 193rd ST	2017 No Freeway	PM	0	0	0	6	0	3	6	20	0	0	10	7
925	Freemont Moore RD.	&	W 193rd ST	2017 With Freeway	AM	0	0	0	11	0	6	4	32	0	0	10	2
925	Freemont Moore RD.	&	W 193rd ST	2017 With Freeway	PM	0	0	0	6	0	4	6	22	0	0	28	8
926	Six Points RD.	&	W 193rd ST	2007	AM				54		34	7	39			18	9
926	Six Points RD.	&	W 193rd ST	2007	PM				28		9	30	30			34	62
926	Six Points RD.	&	W 193rd ST	2017 No Freeway	AM	4	23	0	0	98	12	8	0	12	0	0	0
926	Six Points RD.	&	W 193rd ST	2017 No Freeway	PM	9	39	0	0	58	10	13	0	17	0	0	0
926	Six Points RD.	&	W 193rd ST	2017 With Freeway	AM	10	10	0	0	24	7	9	0	36	0	0	0
926	Six Points RD.	&	W 193rd ST	2017 With Freeway	PM	30	22	0	0	15	8	8	0	23	0	0	0

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
928	Springmill RD	&	W 191st ST.	2007	AM	0	44	96	0	91	0	0	0	0	32	0	0
928	Springmill RD	&	W 191st ST.	2007	PM	0	119	42	1	51	0	0	0	0	54	0	2
929	Springmill RD	&	W 186th ST.	2007	AM	4	37	2	1	30	6	1	16	9	3	4	2
929	Springmill RD	&	W 186th ST.	2007	PM	11	138	6	3	71	10	14	17	11	1	8	9
929	Springmill RD	&	W 186th ST.	2017 No Freeway	AM	1	61	0	4	210	63	35	0	3	0	0	1
929	Springmill RD	&	W 186th ST.	2017 No Freeway	PM	2	115	0	1	142	44	58	0	4	0	0	2
929	Springmill RD	&	W 186th ST.	2017 With Freeway	AM	2	54	1	6	147	11	5	1	2	0	0	1
929	Springmill RD	&	W 186th ST.	2017 With Freeway	PM	3	117	1	1	98	5	8	0	3	1	1	2
933	Dartown RD	&	Kinsey Ave.	2007	AM	0	0	42	0	0	0	0	24	0	74	43	0
933	Dartown RD	&	Kinsey Ave.	2007	PM	0	0	56	0	0	0	0	20	0	47	31	0
933	Dartown RD	&	Kinsey Ave.	2017 No Freeway	AM	0	0	28	0	0	0	0	3	1	50	1	0
933	Dartown RD	&	Kinsey Ave.	2017 No Freeway	PM	1	0	50	0	0	0	0	1	0	38	2	0
933	Dartown RD	&	Kinsey Ave.	2017 With Freeway	AM	0	0	20	0	0	0	0	6	1	30	1	0
933	Dartown RD	&	Kinsey Ave.	2017 With Freeway	PM	1	0	35	0	0	0	0	2	0	27	3	0
935	N Wheeler RD	&	E 181st ST	2007	AM	1	0	19	0	0	0	0	116	1	38	113	0
935	N Wheeler RD	&	E 181st ST	2007	PM	1	0	39	0	0	0	0	116	1	20	78	0
935	N Wheeler RD	&	E 181st ST	2017 No Freeway	AM	58	0	1	0	0	0	0	23	124	2	15	0
935	N Wheeler RD	&	E 181st ST	2017 No Freeway	PM	117	0	3	0	0	0	0	18	92	2	21	0
935	N Wheeler RD	&	E 181st ST	2017 With Freeway	AM	71	0	8	0	0	0	0	26	134	2	8	0
935	N Wheeler RD	&	E 181st ST	2017 With Freeway	PM	132	0	8	0	0	0	0	11	100	7	21	0
937	Horton RD.	&	191st St.	2007	AM	0	0	0	27	0	13	13	43	0	0	22	14
937	Horton RD.	&	191st St.	2007	PM	0	0	0	16	0	16	13	19	0	0	38	25
937	Horton RD.	&	191st St.	2017 No Freeway	AM	0	0	0	25	0	57	23	136	0	0	152	12
937	Horton RD.	&	191st St.	2017 No Freeway	PM	0	0	0	11	0	37	39	176	0	0	141	9
937	Horton RD.	&	191st St.	2017 With Freeway	AM	0	0	0	51	0	36	25	102	0	0	94	22
937	Horton RD.	&	191st St.	2017 With Freeway	PM	0	0	0	38	0	26	40	111	0	0	106	37
938	Tomlinson RD	&	191st St.	2007	AM	4	3	2	4	3	9	9	50	4	1	16	1
938	Tomlinson RD	&	191st St.	2007	PM	5	6	1	3	7	14	12	19	5	3	61	8
938	Tomlinson RD	&	191st St.	2017 No Freeway	AM	7	2	4	6	8	10	8	138	21	14	145	6
938	Tomlinson RD	&	191st St.	2017 No Freeway	PM	9	4	8	7	3	8	10	167	8	6	143	8
938	Tomlinson RD	&	191st St.	2017 With Freeway	AM	10	15	93	28	17	4	2	151	9	85	118	23
938	Tomlinson RD	&	191st St.	2017 With Freeway	PM	14	17	95	22	20	4	2	139	12	117	153	26
943	Tomlinson RD	&	E 196th ST	2007	AM	0	8	8	8	8	0	0	0	0	4	0	4
943	Tomlinson RD	&	E 196th ST	2007	PM	0	14	6	7	17	0	0	0	0	11	0	9
943	Tomlinson RD	&	E 196th ST	2017 No Freeway	AM	0	12	0	0	23	0	0	0	0	0	0	0
943	Tomlinson RD	&	E 196th ST	2017 No Freeway	PM	0	20	0	0	16	0	0	0	0	0	0	0
943	Tomlinson RD	&	E 196th ST	2017 With Freeway	AM	0	37	0	0	48	0	0	0	0	0	0	0
943	Tomlinson RD	&	E 196th ST	2017 With Freeway	PM	0	43	0	0	45	0	0	0	0	0	0	0
944	Tomlinson RD	&	199th ST	2007	AM	13	3	0	0	6	0	0	0	9	0	0	0

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION N/S ROAD		E/W ROAD	SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
944	Tomlinson RD	&	199th ST	2007	PM	10	10	0	0	12	0	0	0	5	0	0	0
944	Tomlinson RD	&	199th ST	2017 No Freeway	AM	7	6	0	0	5	4	10	0	18	0	0	0
944	Tomlinson RD	&	199th ST	2017 No Freeway	PM	15	5	0	0	5	9	6	0	12	0	0	0
944	Tomlinson RD	&	199th ST	2017 With Freeway	AM	10	27	0	0	19	2	5	0	26	0	0	0
944	Tomlinson RD	&	199th ST	2017 With Freeway	PM	22	21	0	0	25	3	2	0	17	0	0	0
946	Tomlinson RD	&	E 206th ST	2007	AM	3		1					39	4	6	20	
946	Tomlinson RD	&	E 206th ST	2007	PM	3		6					30	7	5	28	
946	Tomlinson RD	&	E 206th ST	2007	PM	4	0	5	0	0	0	0	31	6	6	27	0
946	Tomlinson RD	&	E 206th ST	2017 No Freeway	AM	2	0	8	0	0	0	0	66	4	10	53	0
946	Tomlinson RD	&	E 206th ST	2017 No Freeway	PM	4	0	9	0	0	0	0	66	3	9	86	0
946	Tomlinson RD	&	E 206th ST	2017 With Freeway	AM	16	0	0	0	0	0	0	0	18	0	0	0
946	Tomlinson RD	&	E 206th ST	2017 With Freeway	PM	17	0	0	0	0	0	0	0	18	0	0	0
953	Horton RD.	&	W 206th ST	2007	AM	2	5	3	5	10	2	1	16	4	4	21	1
953	Horton RD.	&	W 206th ST	2007	PM	5	11	6	7	8	1	3	16	4	5	18	6
953	Horton RD.	&	W 206th ST	2017 No Freeway	AM	5	9	9	10	27	5	3	29	8	10	17	4
953	Horton RD.	&	W 206th ST	2017 No Freeway	PM	5	16	8	7	13	4	5	22	5	12	32	12
953	Horton RD.	&	W 206th ST	2017 With Freeway	AM	12	13	4	0	17	2	2	5	23	3	2	0
953	Horton RD.	&	W 206th ST	2017 With Freeway	PM	19	20	3	0	14	3	2	3	16	4	5	1
954	Six Points RD.	&	W 206th ST.	2007	AM	4	17	7	9	69	5	2	7	6	13	9	4
954	Six Points RD.	&	W 206th ST.	2007	PM	9	67	16	4	29	3	4	8	6	10	8	6
954	Six Points RD.	&	W 206th ST.	2017 No Freeway	AM	5	19	7	9	83	6	4	15	16	11	7	3
954	Six Points RD.	&	W 206th ST.	2017 No Freeway	PM	9	33	9	7	47	7	5	11	8	11	15	6
954	Six Points RD.	&	W 206th ST.	2017 With Freeway	AM	3	11	5	4	19	2	3	13	7	4	4	2
954	Six Points RD.	&	W 206th ST.	2017 With Freeway	PM	6	18	5	3	14	3	3	7	4	5	10	4
956	Horton RD.	&	199th ST	2007	AM	0	14	10	0	20	0	0	0	0	5	0	0
956	Horton RD.	&	199th ST	2007	PM	0	33	7	0	17	0	0	0	0	9	0	0
956	Horton RD.	&	199th ST	2017 No Freeway	AM	0	27	7	2	68	0	0	0	0	12	0	1
956	Horton RD.	&	199th ST	2017 No Freeway	PM	0	38	8	2	37	0	0	0	0	9	0	2
956	Horton RD.	&	199th ST	2017 With Freeway	AM	0	42	5	3	76	0	0	0	0	7	0	2
956	Horton RD.	&	199th ST	2017 With Freeway	PM	0	72	6	3	54	0	0	0	0	5	0	3
957	Oakridge Rd.	&	214th ST	2007	AM	3	3	0	0	7	5	2	0	4	0	0	0
957	Oakridge Rd.	&	214th ST	2007	PM	4	8	0	0	3	3	6	0	4	0	0	0
957	Oakridge Rd.	&	214th ST	2017 No Freeway	AM	0	5	0	0	12	6	9	0	0	0	0	0
957	Oakridge Rd.	&	214th ST	2017 No Freeway	PM	0	11	0	0	8	8	8	0	0	0	0	0
957	Oakridge Rd.	&	214th ST	2017 With Freeway	AM	1	14	0	0	19	10	25	0	3	0	0	0
957	Oakridge Rd.	&	214th ST	2017 With Freeway	PM	2	20	0	0	18	22	16	0	1	0	0	0
958	Horton RD.	&	214th ST	2007	AM	0	7	1	6	18	0	0	0	0	3	0	7
958	Horton RD.	&	214th ST	2007	PM	0	19	1	7	13	0	0	0	0	1	0	5
958	Horton RD.	&	214th ST	2017 No Freeway	AM	0	7	0	1	14	0	0	0	0	3	0	1

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
958	Horton RD.	&	214th ST	2017 No Freeway	PM	0	12	1	1	11	0	0	0	0	1	0	1
958	Horton RD.	&	214th ST	2017 With Freeway	AM	0	8	3	1	10	0	0	0	0	2	0	1
958	Horton RD.	&	214th ST	2017 With Freeway	PM	0	12	3	1	8	0	0	0	0	3	0	1
960	Horton RD.	&	W 216th ST	2007	AM	5	7	0	0	16	2	1	0	3	0	0	0
960	Horton RD.	&	W 216th ST	2007	PM	3	25	0	0	15	0	0	0	6	0	0	0
960	Horton RD.	&	W 216th ST	2017 No Freeway	AM	0	8	0	0	15	0	0	0	1	0	0	0
960	Horton RD.	&	W 216th ST	2017 No Freeway	PM	1	12	0	0	12	0	0	0	0	0	0	0
960	Horton RD.	&	W 216th ST	2017 With Freeway	AM	0	8	0	0	10	1	2	0	1	0	0	0
960	Horton RD.	&	W 216th ST	2017 With Freeway	PM	1	12	0	0	9	2	1	0	1	0	0	0
961	Six Points RD	&	W 216th ST	2007	AM	1	20	1	1	77	4		1	4	2	6	1
961	Six Points RD	&	W 216th ST	2007	PM		63	1	2	36	2	6	3			2	1
961	Six Points RD	&	W 216th ST	2017 No Freeway	AM	1	24	0	1	94	2	1	0	1	0	0	0
961	Six Points RD	&	W 216th ST	2017 No Freeway	PM	1	40	0	1	60	2	1	0	1	0	0	0
961	Six Points RD	&	W 216th ST	2017 With Freeway	AM	1	13	1	1	23	2	3	1	3	0	0	0
961	Six Points RD	&	W 216th ST	2017 With Freeway	PM	2	21	1	1	19	3	3	1	2	1	1	1
962	Freemont Moore RD.	&	W 216th ST	2007	AM	4	0	2	0	0	0	0	2	4	6	5	0
962	Freemont Moore RD.	&	W 216th ST	2007	PM	4	0	7	0	0	0	0	4	3	3	1	0
962	Freemont Moore RD.	&	W 216th ST	2017 No Freeway	AM	0	0	1	0	0	0	0	2	0	1	2	0
962	Freemont Moore RD.	&	W 216th ST	2017 No Freeway	PM	0	0	1	0	0	0	0	2	0	1	2	0
962	Freemont Moore RD.	&	W 216th ST	2017 With Freeway	AM	0	0	3	0	0	0	0	4	0	1	3	0
962	Freemont Moore RD.	&	W 216th ST	2017 With Freeway	PM	0	0	2	0	0	0	0	4	0	2	4	0
963	Freemont Moore RD.	&	W 211th ST	2007	AM	3	3	0	0	7	5	2	0	3	0	0	0
963	Freemont Moore RD.	&	W 211th ST	2007	PM	4	7	0	0	3	2	5	0	3	0	0	0
963	Freemont Moore RD.	&	W 211th ST	2017 No Freeway	AM	6	0	0	0	0	1	1	0	19	0	0	0
963	Freemont Moore RD.	&	W 211th ST	2017 No Freeway	PM	14	0	0	0	0	1	1	0	11	0	0	0
963	Freemont Moore RD.	&	W 211th ST	2017 With Freeway	AM	5	0	0	0	0	1	3	0	17	0	0	0
963	Freemont Moore RD.	&	W 211th ST	2017 With Freeway	PM	13	0	0	0	0	2	2	0	10	0	0	0
964	Freemont Moore RD.	&	W 206th ST.	2007	AM	1	4	1	1	10	1	1	12		1	16	1
964	Freemont Moore RD.	&	W 206th ST.	2007	PM		7		4	1		2	13	3	3	11	2
964	Freemont Moore RD.	&	W 206th ST.	2017 No Freeway	AM	0	1	2	14	2	2	1	17	0	2	11	5
964	Freemont Moore RD.	&	W 206th ST.	2017 No Freeway	PM	0	2	2	8	1	1	1	13	0	2	16	11
964	Freemont Moore RD.	&	W 206th ST.	2017 With Freeway	AM	0	1	1	13	3	1	1	8	0	1	4	4
964	Freemont Moore RD.	&	W 206th ST.	2017 With Freeway	PM	0	3	1	7	2	1	1	5	0	1	8	10
965	Lamong RD.	&	W 206th ST.	2007	AM	3	9	4	3	20	2	1	4	4	8	7	3
965	Lamong RD.	&	W 206th ST.	2007	PM	5	26	9	2	12	1	2	8	5	5	4	2
965	Lamong RD.	&	W 206th ST.	2017 No Freeway	AM	3	17	3	6	32	6	5	9	5	3	5	3
965	Lamong RD.	&	W 206th ST.	2017 No Freeway	PM	6	33	4	4	24	5	5	6	4	4	8	5
965	Lamong RD.	&	W 206th ST.	2017 With Freeway	AM	2	11	1	3	23	3	3	4	3	1	2	2
965	Lamong RD.	&	W 206th ST.	2017 With Freeway	PM	3	20	2	2	16	3	4	3	3	2	4	2

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
966	Centennial RD	&	W 206th ST.	2007	AM	2	0	0	0	0	0	0	7	5	1	14	0
966	Centennial RD	&	W 206th ST.	2007	PM	5	0	2	0	0	0	0	15	5	1	8	0
966	Centennial RD	&	W 206th ST.	2017 No Freeway	AM	1	0	2	0	0	0	0	16	1	1	13	0
966	Centennial RD	&	W 206th ST.	2017 No Freeway	PM	1	0	2	0	0	0	0	14	1	2	17	0
966	Centennial RD	&	W 206th ST.	2017 With Freeway	AM	1	0	1	0	0	0	0	9	1	0	7	0
966	Centennial RD	&	W 206th ST.	2017 With Freeway	PM	1	0	1	0	0	0	0	7	1	1	10	0
967	Mule Barn RD	&	W 206th ST.	2007	AM	2	22	1	8	70	12	8	4	4	5	7	8
967	Mule Barn RD	&	W 206th ST.	2007	PM	6	80	9	5	27	4	8	8	4	3	4	5
967	Mule Barn RD	&	W 206th ST.	2017 No Freeway	AM	3	27	5	5	59	3	3	4	6	8	3	4
967	Mule Barn RD	&	W 206th ST.	2017 No Freeway	PM	5	43	6	5	38	4	3	4	4	6	5	5
967	Mule Barn RD	&	W 206th ST.	2017 With Freeway	AM	2	25	2	2	35	2	2	2	2	3	1	3
967	Mule Barn RD	&	W 206th ST.	2017 With Freeway	PM	3	34	3	2	27	2	2	1	2	3	2	3
968	Joliet RD.	&	W 206th ST.	2007	AM	3	0	0	0	0	0	0	15	5	0	20	0
968	Joliet RD.	&	W 206th ST.	2007	PM	5	0	1	0	0	0	0	20	5	1	11	0
968	Joliet RD.	&	W 206th ST.	2017 No Freeway	AM	0	0	1	0	0	0	0	12	0	1	8	0
968	Joliet RD.	&	W 206th ST.	2017 No Freeway	PM	0	0	1	0	0	0	0	10	0	1	12	0
968	Joliet RD.	&	W 206th ST.	2017 With Freeway	AM	0	0	0	0	0	0	0	5	0	1	4	0
968	Joliet RD.	&	W 206th ST.	2017 With Freeway	PM	0	0	1	0	0	0	0	5	0	0	6	0
969	Hamilton Boone RD	&	W 206th ST.	2007	AM	8	12	5	5	44	7	2	9	9	10	13	2
969	Hamilton Boone RD	&	W 206th ST.	2007	PM	9	46	13	3	21	2	5	11	9	6	5	3
969	Hamilton Boone RD	&	W 206th ST.	2017 No Freeway	AM	5	58	5	4	103	4	5	4	11	4	2	2
969	Hamilton Boone RD	&	W 206th ST.	2017 No Freeway	PM	10	101	5	2	60	5	6	3	7	5	3	4
969	Hamilton Boone RD	&	W 206th ST.	2017 With Freeway	AM	4	52	2	2	89	5	7	2	10	2	1	1
969	Hamilton Boone RD	&	W 206th ST.	2017 With Freeway	PM	9	87	3	1	53	5	5	1	6	2	2	2
970	Hamilton Boone RD	&	W 216th ST	2007	AM	0	15	2	2	46	0	0	0	0	3	0	1
970	Hamilton Boone RD	&	W 216th ST	2007	PM	0	46	4	1	23	0	0	0	0	2	0	1
970	Hamilton Boone RD	&	W 216th ST	2017 No Freeway	AM	0	51	10	4	81	0	0	0	0	18	0	5
970	Hamilton Boone RD	&	W 216th ST	2017 No Freeway	PM	0	83	18	4	45	0	0	0	0	15	0	5
970	Hamilton Boone RD	&	W 216th ST	2017 With Freeway	AM	0	43	10	5	65	0	0	0	0	16	0	6
970	Hamilton Boone RD	&	W 216th ST	2017 With Freeway	PM	0	69	17	4	37	0	0	0	0	13	0	7
971	Mule Barn RD	&	W 216th ST	2007	AM		33	2	3	87		1	2	1	3	4	2
971	Mule Barn RD	&	W 216th ST	2007	PM		84		1	36	1	1	3	1		2	1
971	Mule Barn RD	&	W 216th ST	2017 No Freeway	AM	1	29	1	16	66	18	9	4	2	2	4	9
971	Mule Barn RD	&	W 216th ST	2017 No Freeway	PM	2	47	1	10	46	15	16	4	2	1	4	12
971	Mule Barn RD	&	W 216th ST	2017 With Freeway	AM	2	25	1	16	39	15	8	5	1	1	6	7
971	Mule Barn RD	&	W 216th ST	2017 With Freeway	PM	2	35	1	11	31	12	15	5	2	1	7	11
972	Lamong RD	&	W 216th ST	2007	AM	0	16	0	6	27	9	6	0	0	0	1	9
972	Lamong RD	&	W 216th ST	2007	PM	0	28	0	8	17	3	4	0	0	0	0	4
972	Lamong RD	&	W 216th ST	2017 No Freeway	AM	10	14	1	0	23	3	3	1	16	1	1	0

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
972	Lamong RD	&	W 216th ST	2017 No Freeway	PM	14	29	1	0	22	3	3	1	10	1	1	0
972	Lamong RD	&	W 216th ST	2017 With Freeway	AM	10	5	1	0	10	3	2	3	17	1	2	0
972	Lamong RD	&	W 216th ST	2017 With Freeway	PM	15	11	2	0	8	3	3	2	11	1	2	0
974	Lamong RD	&	W 211th ST	2007	AM	0	13	3	3	21	0	0	0	0	6	0	4
974	Lamong RD	&	W 211th ST	2007	PM	0	23	5	3	13	0	0	0	0	3	0	3
974	Lamong RD	&	W 211th ST	2017 No Freeway	AM	0	25	0	1	41	0	0	0	0	1	0	1
974	Lamong RD	&	W 211th ST	2017 No Freeway	PM	0	44	1	1	33	0	0	0	0	1	0	1
974	Lamong RD	&	W 211th ST	2017 With Freeway	AM	0	16	0	1	28	0	0	0	0	1	0	1
974	Lamong RD	&	W 211th ST	2017 With Freeway	PM	0	27	1	1	19	0	0	0	0	1	0	1
1090	Thatcher LN	&	E 151st ST	2007	AM	104	39	17	26	20	101	191	85	106	34	499	30
1090	Thatcher LN	&	E 151st ST	2007	PM	375	73	97	52	39	77	180	377	240	43	263	24
1090	Thatcher LN	&	E 151st ST	2017 No Freeway	AM	96	23	15	1	17	3	12	74	263	63	112	3
1090	Thatcher LN	&	E 151st ST	2017 No Freeway	PM	236	17	50	2	22	10	5	137	156	41	168	1
1090	Thatcher LN	&	E 151st ST	2017 With Freeway	AM	137	14	46	2	9	11	26	628	264	13	117	1
1090	Thatcher LN	&	E 151st ST	2017 With Freeway	PM	326	12	77	3	10	24	13	570	170	8	153	1
1092	E Greyhound Pass	&	147th ST	2007	PM	0	543	80	118	581	0	0	0	0	60	0	125
1092	E Greyhound Pass	&	147th ST	2017 No Freeway	AM	0	431	9	41	335	0	0	0	0	10	0	60
1092	E Greyhound Pass	&	147th ST	2017 No Freeway	PM	0	591	15	63	665	0	0	0	0	19	0	68
1092	E Greyhound Pass	&	147th ST	2017 With Freeway	AM	0	471	26	59	376	0	0	0	0	13	0	37
1092	E Greyhound Pass	&	147th ST	2017 With Freeway	PM	0	485	22	45	474	0	0	0	0	25	0	52
1094	Greyhound Court	&	151st. ST	2007	AM	0	0	212	0	0	0	0	135	0	232	148	0
1094	Greyhound Court	&	151st. ST	2007	PM	0	0	212	0	0	0	0	135	0	188	192	0
1094	Greyhound Court	&	151st. ST	2017 No Freeway	AM	29	0	181	0	0	0	0	122	74	206	53	0
1094	Greyhound Court	&	151st. ST	2017 No Freeway	PM	62	0	147	0	0	0	0	69	59	214	103	0
1230	N Casey RD	&	SR 32	2017 No Freeway	AM	0	0	0	235	0	59	83	733	0	0	593	267
1230	N Casey RD	&	SR 32	2017 No Freeway	PM	0	0	0	293	0	84	68	697	0	0	704	241
1230	N Casey RD	&	SR 32	2017 With Freeway	AM	0	0	0	263	0	62	103	812	0	0	698	300
1230	N Casey RD	&	SR 32	2017 With Freeway	PM	0	0	0	338	0	88	84	773	0	0	791	266
1321	Greyhound CT.	&	E Greyhound Pass	2007	AM	33	31	136	122	51	77	142	218	23	273	81	129
1321	Greyhound CT.	&	E Greyhound Pass	2007	PM	46	21	140	40	43	75	64	228	23	290	107	55
1321	Greyhound CT.	&	E Greyhound Pass	2017 No Freeway	AM	6	12	5	95	40	114	210	794	37	5	133	29
1321	Greyhound CT.	&	E Greyhound Pass	2017 No Freeway	PM	23	32	16	113	24	167	110	485	12	5	337	52
1321	Greyhound CT.	&	E Greyhound Pass	2017 With Freeway	AM	9	11	2	3	10	10	42	80	34	39	362	48
1321	Greyhound CT.	&	E Greyhound Pass	2017 With Freeway	PM	39	14	17	17	16	39	7	76	8	16	354	14
1389	Towne RD	&	171st Street	2017 No Freeway	AM	0	272	17	8	300	0	0	0	0	30	0	13
1389	Towne RD	&	171st Street	2017 No Freeway	PM	0	289	30	12	291	0	0	0	0	28	0	12
1389	Towne RD	&	171st Street	2017 With Freeway	AM	0	224	20	10	194	0	0	0	0	30	0	18
1389	Towne RD	&	171st Street	2017 With Freeway	PM	0	229	35	16	240	0	0	0	0	33	0	15
1407	Oak Rd	&	146th St.	2017 No Freeway	AM	0	0	0	6	0	27	90	1089	0	0	1321	24

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
1407	Oak Rd	&	146th St.	2017 No Freeway	PM	0	0	0	13	0	54	106	1553	0	0	1376	22
1407	Oak Rd	&	146th St.	2017 With Freeway	AM	0	0	0	17	0	41	76	1017	0	0	1123	30
1407	Oak Rd	&	146th St.	2017 With Freeway	PM	0	0	0	23	0	61	85	1358	0	0	1213	25
1450	Union St. Ext.	&	East St.	2017 With Freeway	AM	1	23	0	0	46	29	6	0	1	0	0	0
1450	Union St. Ext.	&	East St.	2017 With Freeway	PM	2	34	0	0	34	20	16	0	2	0	0	0
1481	Dartown RD	&	SR 32	2007	AM	0	0	0	15	0	55	40	596	0	0	613	11
1481	Dartown RD	&	SR 32	2007	PM	0	0	0	21	0	21	28	602	0	0	596	28
1481	Dartown RD	&	SR 32	2017 No Freeway	AM	0	0	0	25	0	25	31	1085	0	0	796	22
1481	Dartown RD	&	SR 32	2017 No Freeway	PM	0	0	0	26	0	28	29	1040	0	0	1038	28
1481	Dartown RD	&	SR 32	2017 With Freeway	AM	0	0	0	22	0	20	33	1251	0	0	922	25
1481	Dartown RD	&	SR 32	2017 With Freeway	PM	0	0	0	28	0	28	28	1178	0	0	1152	27
1482	Oakridge Rd.	&	E 206th ST	2007	AM	0	0	0	9	0	3	1	25	0	0	20	3
1482	Oakridge Rd.	&	E 206th ST	2007	PM	0	0	0	5	0	1	2	27	0	0	23	8
1482	Oakridge Rd.	&	E 206th ST	2017 No Freeway	AM	0	0	0	16	0	8	12	53	0	0	36	17
1482	Oakridge Rd.	&	E 206th ST	2017 No Freeway	PM	0	0	0	18	0	13	8	48	0	0	70	16
1482	Oakridge Rd.	&	E 206th ST	2017 With Freeway	AM	0	0	0	18	0	7	16	1	0	0	2	14
1482	Oakridge Rd.	&	E 206th ST	2017 With Freeway	PM	0	0	0	19	0	14	10	1	0	0	3	14
1497	Western Way	&	146th St.	2007	AM	134	147	79	57	122	97	127	614	147	171	1216	148
1497	Western Way	&	146th St.	2007	PM	142	180	128	111	180	124	174	1107	199	114	707	100
1497	Western Way	&	146th St.	2017 No Freeway	AM	65	67	15	22	92	100	455	888	407	100	971	112
1497	Western Way	&	146th St.	2017 No Freeway	PM	231	115	39	34	74	204	286	866	208	54	1356	75
1497	Western Way	&	146th St.	2017 With Freeway	AM	98	40	135	87	214	75	35	1002	273	166	444	21
1497	Western Way	&	146th St.	2017 With Freeway	PM	287	26	277	106	146	134	9	813	123	130	898	10
1540	Marsh Dr.	&	E Greyhound Pass	2007	AM	63	6	10	47	12	25	14	118	33	26	505	50
1540	Marsh Dr.	&	E Greyhound Pass	2007	PM	138	45	63	176	47	54	59	402	60	84	326	169
1540	Marsh Dr.	&	E Greyhound Pass	2017 No Freeway	AM	20	17	11	26	28	45	81	508	61	52	761	70
1540	Marsh Dr.	&	E Greyhound Pass	2017 No Freeway	PM	69	33	46	67	20	100	73	941	32	19	852	45
1540	Marsh Dr.	&	E Greyhound Pass	2017 With Freeway	AM	9	23	1	1	23	10	80	35	74	113	414	122
1540	Marsh Dr.	&	E Greyhound Pass	2017 With Freeway	PM	35	58	11	10	31	30	40	67	24	52	483	87
1610	Greyhound Court	&	E Greyhound Pass	2017 With Freeway	AM	0	0	0	0	120	444	0	0	80	0	0	0
1610	Greyhound Court	&	E Greyhound Pass	2017 With Freeway	PM	0	0	0	0	166	381	0	0	101	0	0	0
1648	East Acces Rd.	&	E Greyhound Pass	2017 No Freeway	AM	0	0	0	24	0	366	155	369	0	0	493	14
1648	East Acces Rd.	&	E Greyhound Pass	2017 No Freeway	PM	0	0	0	19	0	221	296	731	0	0	666	23
1648	East Acces Rd.	&	E Greyhound Pass	2017 With Freeway	AM	0	0	0	401	0	125	1	35	0	0	524	20
1648	East Acces Rd.	&	E Greyhound Pass	2017 With Freeway	PM	0	0	0	397	0	109	1	80	0	0	555	26
1654	Oak Rd	&	147th ST	2017 No Freeway	AM	71	19	0	0	19	1	1	0	47	0	0	0
1654	Oak Rd	&	147th ST	2017 No Freeway	PM	89	45	0	0	6	0	3	0	73	0	0	0
1654	Oak Rd	&	147th ST	2017 With Freeway	AM	51	1	0	0	3	1	0	0	82	0	0	0
1654	Oak Rd	&	147th ST	2017 With Freeway	PM	78	3	0	0	1	1	1	0	64	0	0	0

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION			SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
	N/S ROAD		E/W ROAD														
1672	East Acces Rd.	&	E 151st ST	2017 No Freeway	AM	11	0	150	0	0	0	0	74	13	385	170	0
1672	East Acces Rd.	&	E 151st ST	2017 No Freeway	PM	20	0	291	0	0	0	0	171	14	238	199	0
1672	East Acces Rd.	&	E 151st ST	2017 With Freeway	AM	19	0	2	0	0	0	0	158	504	29	103	0
1672	East Acces Rd.	&	E 151st ST	2017 With Freeway	PM	24	0	3	0	0	0	0	133	482	34	125	0
1682	Union St. Ext.	&	E 196th ST	2017 No Freeway	AM	0	0	0	1	0	0	0	13	0	0	21	2
1682	Union St. Ext.	&	E 196th ST	2017 No Freeway	PM	0	0	0	2	0	0	0	17	0	0	18	1
1682	Union St. Ext.	&	E 196th ST	2017 With Freeway	AM	0	344	11	6	216	0	0	0	0	14	0	12
1682	Union St. Ext.	&	E 196th ST	2017 With Freeway	PM	0	194	11	12	280	0	0	0	0	12	0	10
1684	Union St. Ext.	&	202nd St	2017 No Freeway	AM	1	0	1	0	0	0	0	495	1	0	341	0
1684	Union St. Ext.	&	202nd St	2017 No Freeway	PM	0	0	1	0	0	0	0	324	1	1	457	0
1684	Union St. Ext.	&	202nd St	2017 With Freeway	AM	0	0	342	0	0	0	0	0	0	222	0	0
1684	Union St. Ext.	&	202nd St	2017 With Freeway	PM	0	0	186	0	0	0	0	0	0	292	0	0
1687	Grassy Branch Rd	&	202nd St	2017 No Freeway	AM	0	134	11	14	182	0	0	0	0	9	0	7
1687	Grassy Branch Rd	&	202nd St	2017 No Freeway	PM	0	196	13	8	146	0	0	0	0	10	0	9
1687	Grassy Branch Rd	&	202nd St	2017 With Freeway	AM	0	143	4	6	243	0	0	0	0	5	0	4
1687	Grassy Branch Rd	&	202nd St	2017 With Freeway	PM	0	242	7	5	157	0	0	0	0	5	0	5
1689	Eagle Pkwy.	&	W 186th ST.	2017 No Freeway	AM	20	87	0	0	128	32	21	0	20	0	0	0
1689	Eagle Pkwy.	&	W 186th ST.	2017 No Freeway	PM	24	127	0	0	110	25	32	0	27	0	0	0
1689	Eagle Pkwy.	&	W 186th ST.	2017 With Freeway	AM	16	95	0	0	121	17	14	0	19	0	0	0
1689	Eagle Pkwy.	&	W 186th ST.	2017 With Freeway	PM	22	131	0	0	109	15	19	0	22	0	0	0
1690	Eagle Pkwy.	&	N Casey RD	2017 No Freeway	AM	0	90	29	32	115	0	0	0	0	21	0	19
1690	Eagle Pkwy.	&	N Casey RD	2017 No Freeway	PM	0	121	30	25	107	0	0	0	0	32	0	31
1690	Eagle Pkwy.	&	N Casey RD	2017 With Freeway	AM	0	93	28	31	114	0	0	0	0	21	0	19
1690	Eagle Pkwy.	&	N Casey RD	2017 With Freeway	PM	0	122	29	26	108	0	0	0	0	31	0	31
1691	Casey RD	&	Eagle Pkwy.	2017 No Freeway	AM	0	0	0	3	0	3	1	108	0	0	151	2
1691	Casey RD	&	Eagle Pkwy.	2017 No Freeway	PM	0	0	0	2	0	2	3	160	0	0	129	2
1691	Casey RD	&	Eagle Pkwy.	2017 With Freeway	AM	0	0	0	2	0	3	1	104	0	0	132	1
1691	Casey RD	&	Eagle Pkwy.	2017 With Freeway	PM	0	0	0	1	0	2	3	144	0	0	119	2
1693	Springmill RD	&	Eagle Pkwy.	2017 No Freeway	AM	43	14	44	11	85	11	4	104	90	100	112	4
1693	Springmill RD	&	Eagle Pkwy.	2017 No Freeway	PM	70	33	80	11	52	10	6	124	65	68	113	6
1693	Springmill RD	&	Eagle Pkwy.	2017 With Freeway	AM	36	8	21	5	39	13	6	104	84	39	92	2
1693	Springmill RD	&	Eagle Pkwy.	2017 With Freeway	PM	66	32	39	5	21	11	12	112	56	27	101	5
1699	Eagletown RD.	&	171st St.	2017 No Freeway	AM	0	0	0	20	0	0	0	4	0	0	7	33
1699	Eagletown RD.	&	171st St.	2017 No Freeway	PM	0	0	0	30	0	1	1	5	0	0	5	28
1699	Eagletown RD.	&	171st St.	2017 With Freeway	AM	0	0	0	17	0	0	1	3	0	0	4	30
1699	Eagletown RD.	&	171st St.	2017 With Freeway	PM	0	0	0	28	0	0	1	5	0	0	5	25
1700	Towne RD	&	SR 32	2017 No Freeway	AM	73	99	58	15	59	19	47	252	107	83	244	37
1700	Towne RD	&	SR 32	2017 No Freeway	PM	90	68	80	38	94	43	27	281	77	62	253	21
1700	Towne RD	&	SR 32	2017 With Freeway	AM	51	93	72	31	48	24	45	323	53	79	316	69

Westfield Road Impact Fee Study
Estimated Intersection Peak Hour Turning Movement Volumes

ID	INTERSECTION N/S ROAD		E/W ROAD	SCENARIO	PEAK	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1700	Towne RD	&	SR 32	2017 With Freeway	PM	58	64	80	61	87	48	29	333	51	74	329	43
1764	Poplar St.	&	SR 32	2017 With Freeway	AM	44	0	42	0	0	0	0	959	55	61	1168	0
1764	Poplar St.	&	SR 32	2017 With Freeway	PM	65	0	62	0	0	0	0	1191	51	48	1203	0
1765	Poplar St.	&	169th St.	2017 With Freeway	AM	1	23	3	75	29	18	26	44	1	3	31	47
1765	Poplar St.	&	169th St.	2017 With Freeway	PM	1	27	3	74	26	19	29	41	1	4	45	76
1767	Poplar St.	&	Union St.	2017 With Freeway	AM	0	37	0	1	50	0	0	0	0	1	0	0
1767	Poplar St.	&	Union St.	2017 With Freeway	PM	0	39	0	1	58	0	0	0	0	1	0	0

NOTE: Some 2007 turning movement volumes estimated using the methods of NCHRP Report 255.
All 2017 turning movement volumes estimated using the methods of NCHRP Report 255.

Appendix D:
Travel Demand Modeling Procedures

WESTFIELD TRAVEL DEMAND MODEL

1 Introduction

This document outlines the process used in developing a travel demand model for the Town of Westfield, Indiana. A travel demand model is a set of data and mathematical equations that attempt to replicate the trip making behavior of people, specifically, vehicle-oriented trips. This is typically done through the four-step process of trip generation, trip distribution, mode choice and traffic assignment. Through this four-step process, information regarding the impacts resulting from changes to transportation infrastructure, land use or public policy can be obtained without implementation. The travel demand model developed for the Town of Westfield provides a tool for investigating the impacts caused by any future land use development in the region. Figure 1 shows the model area for the Westfield travel demand model in relation to the Indianapolis metropolitan area.

The Westfield travel demand model was developed as part of the long term planning needs felt by the Town of Westfield to quantify the total number of new trips in horizon year (2017) and assess the transportation improvements to the system in order to maintain an acceptable level of service. External data used by the model included data from the Indiana State Travel Demand Model (ISTDM) in order to estimate the number of external trips that would influence the subarea. The four outputs from the Westfield travel demand model include:

- Base year (2007) daily traffic volumes
- Base year (2007) peak hour traffic volumes
- Forecast year (2017) daily traffic volumes
- Forecast year (2017) peak hour traffic volumes

For the forecast year, outputs are based on committed projects, with the added functionality of incorporating any additional projects that need to be evaluated.

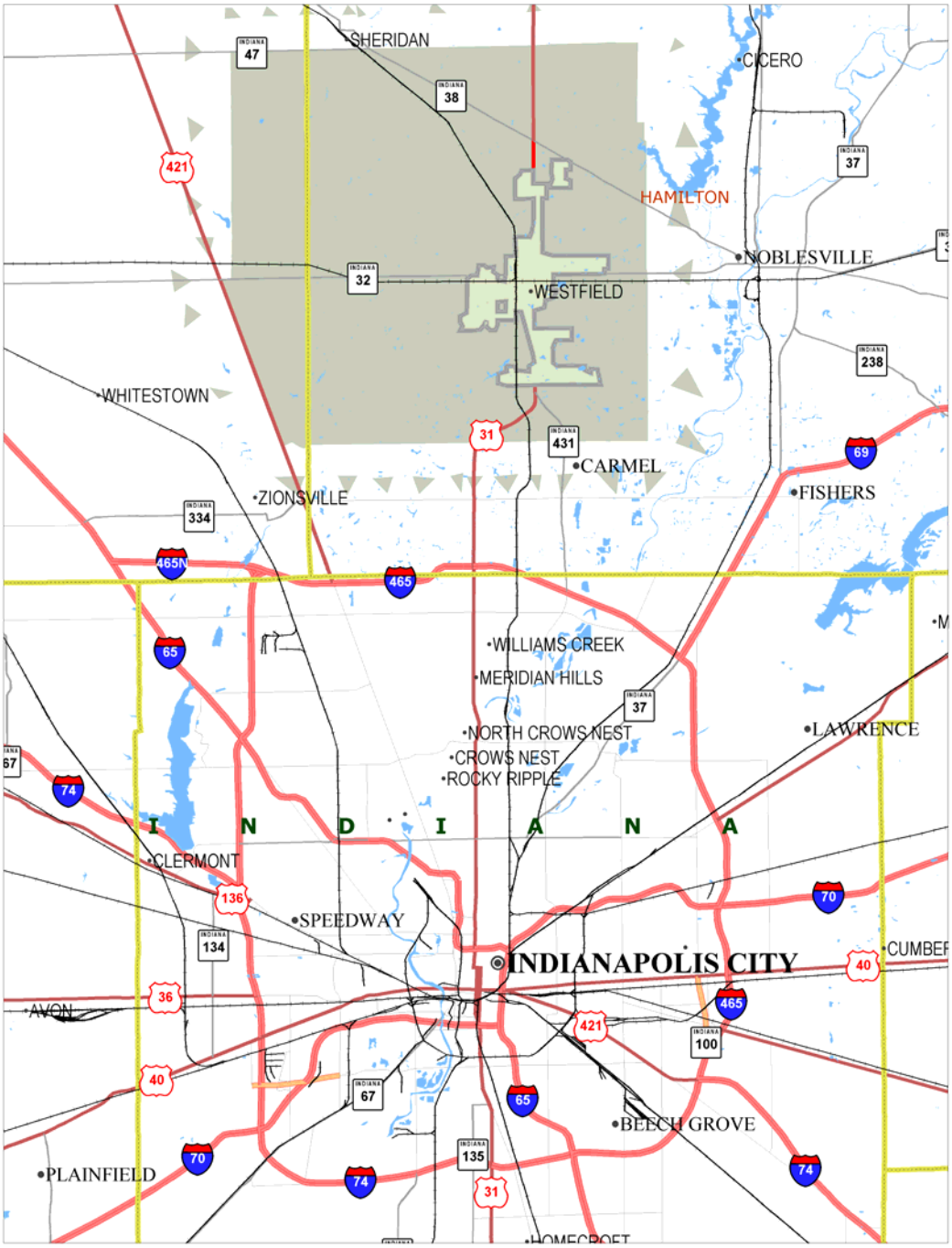


Figure 1 Westfield model area

2 Model Development

The travel demand modeling software used for the Westfield model was TransCAD version 4.8. The TransCAD package uses the traditional four-step modeling concept of trip generation, trip distribution, mode split and traffic assignment to produce traffic demand forecasts. The mode split functionality of TransCAD is not utilized by the Westfield model as the transit ridership within the study area is sufficiently low. Therefore, all forecasts produced by TransCAD are assumed to be vehicle trips only.

2.1 Model Network

One of the first steps in the model development was the selection of the roadways to be included in the network. Selection C, Roadway networks plays a vital role in travel forecasting, determining basic patterns of trip making, as well as traffic volumes on specific roads. All functionally classified roadways are in the Westfield model network.

Coding the roadway network involved assembling a basic description of each roadway segment, or network link. The roadway network links contain the necessary data to determine the travel impedance for each path, or route. The link attribute information includes:

- segment distance
- highway name
- facility type (functional classification)
- traffic counts for base year
- number of lanes
- surrounding area type
- highway capacity (from lookup table)
- travel time (from lookup table)
- posted speed limit
- cross section type
- signal density factor
- one-way indicator

2.1.1 Network Attributes

Linktype

The Westfield travel demand model requires each roadway link to be classified by four criteria, linkclass, area type, signal density and cross section. These four criteria jointly make up the linktype. The linktype is then used to assign various additional attributes to the link based on model-wide averages for all links with the linktype. This process ensures that vehicular traffic will react to new roadways added to the Westfield travel demand model in a similar manner as they react to similar facilities already in the roadway system.

The first Linktype attribute is the **Linkclass**, or functional classification. The Linkclass is assigned to each roadway in the Westfield travel demand model network based on the facility's functional classification. The coding nomenclature for Linkclass is as follows:
1=Interstate
2=Freeway
3=Ramp
4=Expressway
5=Principal Arterial
6=Minor Arterial
7=Major Collector
8=Minor Collector
9=Local
99= Centroid Connectors

The second Linktype attribute is **Area Type**. Area Type is input based on each zone's socio-economic data. The zonal data is then passed to each roadway link that is within the zone using a GIS function within the TransCAD model script.

The following Area Type values are assigned to both zones and the corresponding network based on the estimated activity:

1=Rural
2=Suburban
3=Urban
4=CBD
5= External Zones

Signal Density is the third Linktype attribute, and is input by the user. Signal density value was applied to each network link using the following values:

1=Unsignalized
2=Low Signal Density (1 to 2/sq. mile)
3=Medium Signal Density (2 to 3/sq. mile)
4=High Signal Density (>3/sq. mile)

The fourth Linktype attribute is **Cross Section**, which defines the median treatment. This value is input by the user for each roadway link using the following values:

1=Undivided
2=Divided
3=Two-way left turn

The four network attributes described above define the roadway Linktype. This definition is then used to assign each link with the respective attributes used during the travel demand modeling process.

Free flow speed

Free flow speed was derived by averaging the posted speed of all roadways within each Linktype bin. This speed was then adjusted as necessary during model validation to replicate travel characteristics identified through daily traffic counts. The free flow speeds were typically altered from the originally estimated speeds by less than five miles per hour.

Link capacity

Link capacity was developed initially as an hourly value consistent with a Level of Service E volume of traffic as calculated by the Highway Capacity Model.

The hourly capacities were then expanded using a daily factor. This factor, along with the number of lanes on the facility, inflates the hourly capacity to a representative daily capacity. Theoretically, the daily capacity of a lane is twenty-four times the hourly capacity, however, in practice; the demand for roadway capacity is focused during the peak periods.

Free flow speed and link capacity work in unison to define the relative impedance a vehicle would encounter by traveling along the model link. A very high free flow speed would attract trips from other lower speed facilities. A low capacity roadway would quickly encounter congestion and related reductions in travel speed, causing trips to seek alternative facilities. Care is taken to develop the speed and capacity table to weigh the relative attractiveness of one facility compared to all other facilities. It could be stated that the relative difference in values between Linktypes is as important as the absolute values of any Linktype.

Linktype, free flow speed, link capacity and the daily factor values are summarized in **Appendix D-1.**

Existing, Committed and Projects network

The links in the Westfield network were coded to represent three types of network scenario- Existing, Committed and the projects scenarios. It was therefore necessary to associate a code with each link so that it could be determined which network scenario it belonged to. Details of the link codes are discussed in Section 5.

2.1.2 Network development

As a starting point for developing the model network, all roads functionally classified as collectors or higher, either on INDOT functional classification maps or on the Westfield Thoroughfare Plan, were included in the network. Several additional roads in Westfield—including Greyhound Court, 147th Street, portions of Oak Road, and portions of Greyhound Pass—were added to the network as important links in the current roadway system. Several roads outside Westfield, such as those just across the Town limits in Carmel were also added to ensure a realistic approximation of existing conditions. Data about the existing characteristics of these roads was collected by examining aerial photographs, GIS data layers, municipal ordinances, and field observation.

Initially, the facility type for each roadway link was coded based on the functional classification of the road as shown on the INDOT functional classification maps. As part of the model calibration process, the facility types were reconsidered holistically and in some cases reclassified to better match the current use and function of a roadway. This was especially important given the fact that the INDOT functional classification maps used rural categories for roads in the Westfield area, but much of this area has now become urbanized—many roads that were previously minor farm access routes are now busy commuter thoroughfares.

The roadway network developed for the Westfield demand model is presented in Figure 2.

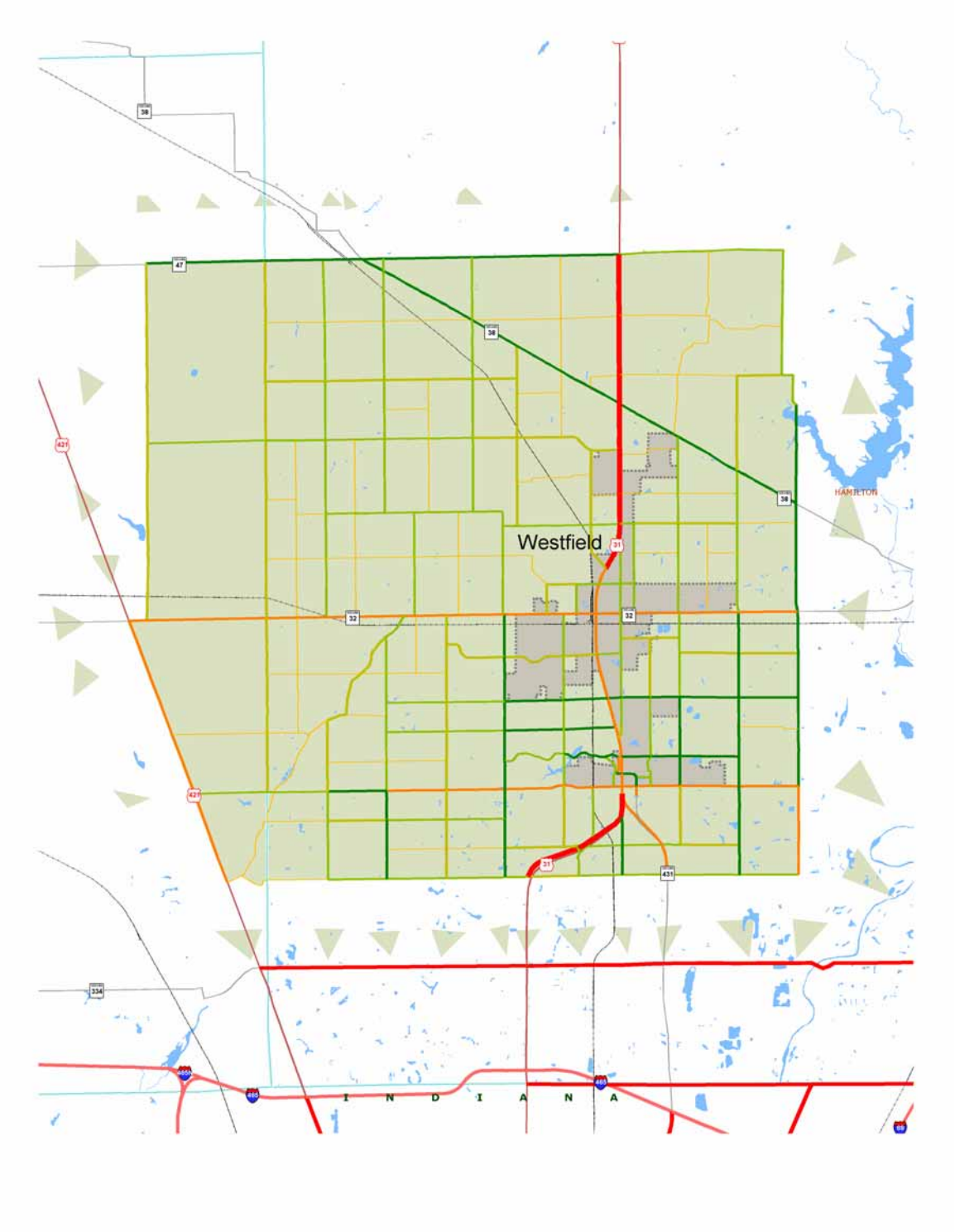


Figure 2: Westfield Network

2.2 Traffic Analysis Zones

Traffic analysis zones (TAZ) represent a geographic area within the travel demand model in which land uses are aggregated to produce the origin or destination of trips.

The TAZs in the Westfield model were designed to be relatively small to allow accurate traffic loading on the dense network of modeled roads. In most cases, the boundaries of TAZs in the Westfield model are the network roadways, with each TAZ representing one “block” in the model roadway network. The TAZs were made larger in some of the outlying areas of the model, since these areas are largely rural and have relatively few households and jobs. All TAZ boundaries are consistent with census block boundaries and with TAZ boundaries in the Indianapolis MPO Nine County Travel Demand Model—this will make future updates to this model easier to complete.

Centroids represent the point at which all trips going to or from a TAZ interact with the model network. To connect centroids to the network, centroid connectors are added. The centroid connectors typically represent the local streets within the TAZ and were constructed so as to connect with the model network similar to the actual local street intersections. TAZ structure developed for the Westfield model is shown in Figure 3.

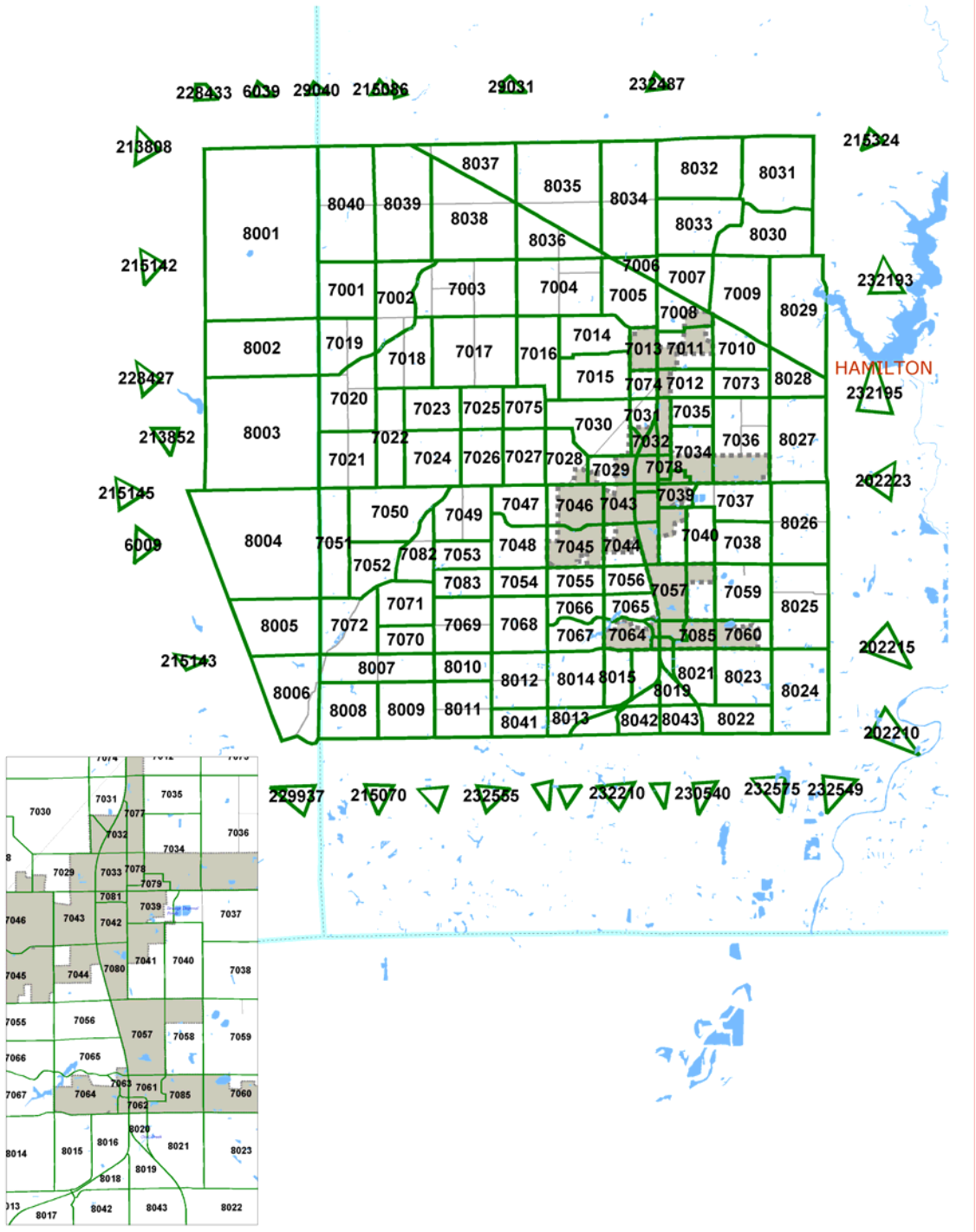


Figure 3 Westfield TAZ structure

2.3 Socio-economic Data

The Westfield TransCAD travel demand model requires accurate socio-economic data as an input into the traffic forecasting process. This socio-economic data is available in many forms and from many sources. Typically, the data must provide at least one source for estimating trip productions and one source for estimating trip attractions. The trip productions are traditionally a function of the number of persons or households within an area. Trip attractions are related to activities outside the house, such as employment, school, shopping or recreation within an area. Socio-economic data are summarized at the TAZ level for both the base year 2007 and the future year 2017. Housing, total employment and school enrollment data (2007, 2017) for each TAZ are summarized in **Appendix D-2**.

2.4 Terminal Times

The time required to travel from a trip's true origin, such as a house, to the trip's true destination, such as the office, includes time that is not spent on the transportation network. This is time required to access the vehicle or to park the vehicle. The sum of these additional times are called terminal times and they are assumed to be a function of the area type of the respective origin and destination zones. Table 1 shows the terminal times that are added to each end of the trip based on the area type of each end of the trip.

Table 1 Terminal Times by Area Type

Area Type	Terminal Time (In Minutes)
Rural	0.5
Suburban	1.0
Urban	1.5
CBD	2.0
External	3.0

2.4.1 Household Data

Household data was collected from the 2000 Census and aggregated for each TAZ. This information was updated to 2007 using parcel/land use GIS data provided by Hamilton County and aerial photographs.

2.4.2 Employment Data

2007 employment data, including business location, type, and number of employees, was purchased from Claritas. This information was checked for major errors, such as double-listings, incorrect business locations, and newly-opened or recently-closed businesses.

3 Model Process

3.1 Trip Generation

Trip generation is the estimation of the number of trips that occur based on known variables of a land development. The number of trips is typically estimated by developing trip rates for various household categories from household survey data for various trip purposes, and multiplying the trip rates with the corresponding number of households in that household category for a TAZ within the model. Trip rates for both productions and attractions developed for the ISTDM were used by the Westfield demand model, with the assumption that the Town of Westfield, being a subarea for the ISTDM, would be adequately represented by those trip rates. For the Westfield travel demand model, three types of trip purposes were used- Home based work, Home based other and Non home based.

The trip rates for the various trip purposes and sub-categories are summarized in **Appendix D-3**.

3.1.1 External-Internal, Internal-External and External-External Trips- Base year (2007)

The traffic analysis zones represent socio-economic activity, and therefore person trips, that reside within the model area. However, some trips have one or both trip ends to socio-economic activity outside the model study area. These trips, called external trips, must be accounted for in another manner beside socio-economic activity. The external trips enter the model network at special centroids, which represent the total observed traffic data at that location.

Any trip having an origin/destination at an external centroid, and a corresponding destination/origin at any internal centroid within the network can be defined as an External-Internal or Internal-External trip (EI/IE trip). A trip with both origin and destination at external centroids only is defined as an External/External trip (EE trip).

The Westfield region demand model requires separate trip tables for the EE and EI trips. The daily EE and EI trips were estimated from the ISTDM. A subarea that encompassed the study area for the Westfield model was extracted from the statewide model, and the EE and EI trips for this subarea were recorded for the statewide model assignment process. The statewide model had a base and forecast year of 2000 and 2030 respectively, whereas the base year for the Westfield demand model is 2007. Therefore the year 2007 subarea trip table was obtained by the interpolation of the year 2000 and year 2030 trip tables.

The interpolated year 2007 subarea trip table obtained from the statewide model was then post processed to combine or split zones as necessary, such that each of the Westfield external zones could be identified by one or more subarea zones obtained

from the statewide model. Although the overall regional trends displayed by the statewide demand model are expected to be accurate, the total trips for a specific roadway may or may not be accurate enough. These have to be further validated with any existing counts available for the roadways. ADT counts were estimated for each of the external stations from the latest traffic count data. In order to validate the accuracy of the EE+EI/IE trip table obtained from the statewide model, these were compared with ADT at each of the external centroids.

External-External trips

Since EE trips do not interact with the internal centroids, these do not need to be split into the various trip purposes and can be set aside as a fixed number of trips with known origin and destinations that would load the network. The EE trip table is therefore used directly as inputs to the model.

External-Internal/Internal- External trips

Those trips that are observed from the traffic counts and are not traveling through the study area, but instead interact with the internal socio-economic activity are called external-internal or internal-external trips (EI/IE trips). The difference is relatively minor, in that a trip coming into the study area is EI, while a trip leaving the study area is IE. EI/IE trips were estimated by the formula:
EI/IE= Counts-EE
where:
Counts: ADT counts
EE: Year 2007 EE trips from subarea analysis of the statewide model.
Some assumptions were made in order to estimate additional data required for modeling the EI trips. These are summarized below:

- The EI trips interact with internal zones by trip purposes. The percentage of the EI trips for each of the various trip categories was assumed to be equal to the overall percentage for the internal zones of the Town of Westfield.
- The external productions and attractions percentages were estimated based on the area types present in external locations in the vicinity of the external centroid and the location of the external zones in relation to the Indianapolis metropolitan area.

3.1.3 Trip Balancing

The last step in the trip generation process is balancing of the region's person trip productions and attractions. The balancing of trips is typically done by scaling the region's attractions to match the region's productions by trip purpose. This is done on a TAZ basis, with the revised number of attractions calculated as the original number of attractions times the ratio of the sum of the region's trip productions divided by the sum of the region's attractions.

The non-home based trip purpose is additionally modified by setting each TAZ's productions equal to the TAZ's balanced trip attractions. This is done to match the non-home based purpose's definition of trips that do not have the home as a trip end.

A point to note here is that since the EI/IE trips are estimates from the statewide model, the scaling of the attractions to match the productions was done such that the number of EI/IE trips remained unchanged.

3.2 Trip Distribution

Trip distribution is the second step in the traditional four step process. In general terms, trip generation provides the number of trips into and out of each respective TAZ. Trip distribution is the process of matching each trip production with a trip attraction to form a trip with one origin and one destination. The likelihood of any one production being matched with any other attraction to form a trip is a function of the relative impedance between the particular two trip ends in comparison to all other possible trip end combinations. This impedance is primarily a function of the roadway network connecting the two trip ends, but may also include socio-economic factors such as income stratification. Trip distribution is conducted for each resident trip purpose individually.

3.2.1 Gravity model

The resident trip distribution for the Westfield model is conducted using a gravity model. The formula for the gravity model used for trip distribution uses the same general terms as Newton's formula for calculating the force of attraction between two masses. The number of trip productions is used in place of the mass of the first body, while the number of trip attractions is used in place of the mass of the second body. An impedance value between the trip production zone and the trip attraction zone, derived from the network travel time and/or travel distance, is used in place of the square of the distance between the two bodies. Additionally, socio-economic and geophysical factors that influence human trip making decisions are implicitly included within the trip distribution gravity model formula.

The equation for the gravity model is given below:

$$Trips_{i,j} = P_i \times \left[\frac{A_j \times F_{i,j} \times K_{i,j}}{\sum_{j=1}^{n} \left(A_j \times F_{i,j} \times K_{i,j} \right)} \right]$$

where

$Trips_{i,j}$=Number of trips from zone i to zone j

P_i=Total trips produced in zone i
A_j=Total trips attracted by zone j
$F_{i,j}$= Friction factor from zone i to zone j (section 3.2.2)
$K_{i,j}$= Correction factor known as the K-factor (section 3.2.3)

3.2.2 Friction-factors

The friction factor gives a measure of the 'attractiveness' for traveling from zone I to zone j. In theory, the attractiveness of a zone has an inverse relation with travel time. However the relation is not linear. The Gamma function was used to model friction factor, i.e. the relationship of a measure of the attractiveness of a centroid based on travel time. The A, B and C parameters for the gamma function (Gamma function coefficients) [1] for the various trip purposes are summarized in Table 2.

Table 2 A, B and C Parameter values for Gamma Function

Purpose	A	B	C
HBW	28507	0.02	0.103
HBO	139173	0.96	0.062
NHB	219113	1.75	0.01

The equation for the friction factor is summarized below:

$$Friction\_Factor = A * (Time^{-B}) * e^{(-C*Time)}$$

3.2.3 K-factors

K-factors are used in the gravity model for two purposes. The primary application of the K-factors is to prevent the 'known' EI/IE trips (from the ISTDM subarea analysis) from having a trip end at another external zone. However the EI/IE trips were allowed to be distributed among internal zones based on the gravity model distribution. The secondary application of the K factors is to influence the trip ends to some of the locations where the travel pattern is known, in order to account for regional behavior factors beyond the extents of the Westfield demand model which the gravity model cannot replicate. For instance, there are an extensive number of attractions, in reality, south of the model region due to the commercial activities in Indianapolis located in the south. This would also have an effect on the travel behavior of the Westfield residents, which cannot be represented within the Westfield model without the introduction of the K factors.

[1] Gamma function coefficients were adapted from Chapter 4 of the NCHRP Report 365.

3.2.4 External Trips

EE and EI trip tables for base and forecast years are extracted from the subarea analysis and estimated as mentioned under section 3.1.1 and 3.1.2. EE trip tables have known origins and destination and are therefore not subjected to the gravity model. The EI productions and attractions are incorporated into the gravity model with the appropriate K factors applied to them as discussed under section 3.2.2. External trip tables are vehicle trips, whereas the internal trips described in section 3.2.5 are person trips. In order to combine the trip tables for further processing, it is necessary to have similar units for both trip tables. Therefore auto occupancy factors given in Table 3 are applied to external trip tables in order to convert them into person trips.

3.2.5 Passenger trips to vehicle trips conversion

The internal trip tables (I-I trips) produced at the end of the trip distribution process are person trip tables. These need to be converted into a vehicle trip table. A factor needs to be applied to the I-I person trips into passenger trips. Person trip tables were then divided by an auto occupancy factor based on the type of trip. The auto occupancy factors were consistent with those used by the ISTDM for the various trip purposes. Auto occupancy factors used by the Westfield demand model are summarized in Table 3.

Table 3 Auto Occupancy factors across different trip purposes

	Auto occupancy Factors
HBW	1.153
HBO	1.87
NHB	1.757

3.2.6 Peak hour and daily trip table

The results of the gravity model are productions to attractions tables for a 24 hour period. The productions to attractions tables do not convey directionality as all the production are at the households, whereas only half the trips start at the household and half end at the households. By transposing the production-attraction tables and averaging it with the original production-attraction table the origin-destination trip table is established.

In order to estimate the AM and PM peak hour trip tables, a proportion of the daily production-attraction trip table and a proportion of the daily production-attraction transposed trip table are combined. This is because the AM and PM would both contain a fraction the daily trips. Moreover, the AM and PM trip tables would be expected to have different directionalities. The factors applied for AM and PM trip tables are summarized in Table 4.

Table 4 Directional factors for AM and PM peak

	AM PA Factor	AM AP Factor	PM PA Factor	PM AP Factor
HBW	0.22	0.03	0.0073	0.12
HBO	0.08	0.03	0.08	0.09
NHB	0.45	0.45	0.1	0.1

Note: PA= Production to attraction direction
AP=Attraction to production direction

3.3 Traffic Assignment

Traffic volumes by link are calculated through the traffic assignment process. This process uses the trip table and the roadway network to estimate the number of trips that use each link in the network. Several traffic assignment methods within TransCAD were investigated, but the user equilibrium method was found to best replicate existing traffic counts through the calibration process.

The user equilibrium method is described in the Travel Demand Modeling with TransCAD 4.0 User's Manual[2] as "...an iterative process to achieve a convergent solution, in which no travelers can improve their travel times by shifting routes. For each iteration, network link flows are computed, which incorporate link capacity restraint effects and flow-dependent travel times." This simply states that each trip is assigned to the route with the shortest travel time when delay due to congestion is considered. The travel times are recalculated using the following formula:

$$T = T_f\left[1 + \alpha\left(v/c\right)^{\beta}\right]$$

where:

$T = Computed\ Travel\ Time$

$T_f = Uncongested\ Travel\ Time$

$\alpha = Alpha$

$v = Assigned\ Volume$

$c = Capacity$

$\beta = Beta$

Alpha and beta parameters were input into the network and were based on functional class. For the peak hour assignment, the hourly capacities estimated for each link were used. For the daily capacity, the hourly capacity for each link was multiplied by a

[2] Travel Demand Modeling with TransCAD 4.0 User's Manual, 2001 Caliper Corporation

corresponding daily factor in order to estimate a daily capacity as discussed in section 2.1.1. These are summarized in **Appendix D-1**.

In addition to the uncongested travel time, capacity, alpha and beta which are required as inputs for the user equilibrium method, two more input parameters need to be specified. The two parameters are iterations and convergence. Iterations refer to the maximum number of iterations to be performed if a convergent solution is not reached earlier. Convergence refers to the value based on which the algorithm determines if a convergent solution has been reached. If the maximum absolute change in all the link flows between consecutive iterations is less than this value, convergence is achieved and the assignment procedure stops. The convergence parameter was specified as 0.00001 and the maximum number of iterations was set to be 20.

The output of the traffic assignment process is a link by link forecast of traffic volume. Congested travel speeds by link are also output and are used to estimate the amount of delay experienced by vehicles. Volume to capacity ratios indicate the expected level of congestion on each link. The user equilibrium process was also utilized to create turning movements and select link and zone analyses.

3.4 Calibration and Validation

Calibration is the process of adjusting parameters to better replicate known daily volumes. K-factors were modified to best replicate movements from the regional destinations within the model area. Network inconsistencies were identified and readjusted as necessary during the calibration stage. The validation of the Westfield travel demand model was conducted by comparing the final assignment outputs after the calibration step, with known daily volumes. Several measures were used for model validation- Root Mean Squared Error (RMSE). R squared measures and volume to count ratios. Table 5 summarizes the Volume to Count Ratio, RMSE and R-squared measures for the Westfield daily and peak hour travel demand model, and the established acceptable ranges. The primary modeling effort was to ensure that the daily volumes for the travel demand model are well within all acceptable ranges for error. The peak hour component, in general, was found to be close to acceptable ranges, but the peak hour component may need to be further calibrated prior to application for any corridor analysis.

Table 5 Model Validation Thresholds and Results

Measure		**Westfield Model**	**Acceptable**	**Source**
Volume to Count Ratio	Total System	1.8%	+/- 5%	1
	Major Arterials	1.56%	+/- 10%	2
	Minor Arterials	5.30%	+/- 15%	2
	Collectors	1.85%	+/- 25%	2
Root Mean Square Error		27.95%	< 30%	2
R Squared		0.974	> 0.88	2

Sources:

1. Calibrating and adjustment of system planning models, Dane Ismart, Federal Highway Administration, December, 1990. http://ntl.bts.gov/DOCS/377CAS.html
2. Model validation and reasonableness checking manual, Travel Model Improvement Program and Federal Highway Administration, Barton-Aschmann Associates, Inc. and Cambridge Systematics, Inc., February 1997. http://tmip.fhwa.dot.gov/clearinghouse/docs/mvrcm/

Screenlines were also used to validate traffic assignment and trip distribution by verifying the total trips between two areas of the model are reasonable compared to traffic count information. Twelve screenlines have been generated for the Westfield travel demand model as shown in Figure 4. The results of the twelve screenlines are shown in
Table 6. The acceptable error threshold for screenlines is dependent on the amount of traffic crossing the screenline, as outlined in the Model validation and reasonableness checking manual.

Table 6 Screenline validation

Screenline	Volume	Count	Ratio	Threshold
1	124838	125604	0.99	0.8-1.2
2	116556	107966	1.08	0.8-1.2
3	92214	88950	1.04	0.8-1.2
4	71920	64218	1.12	0.75-1.25
5	58596	60356	0.97	0.75-1.25
6	48504	41905	1.16	0.7-1.3
7	20057	18469	1.09	0.65-1.35
8	41212	46735	0.88	0.7-1.3
9	58703	63596	0.92	0.75-1.25
10	100657	93669	1.07	0.8-1.2
11	95304	109176	0.87	0.8-1.2
12	79915	76573	1.04	0.75-1.25

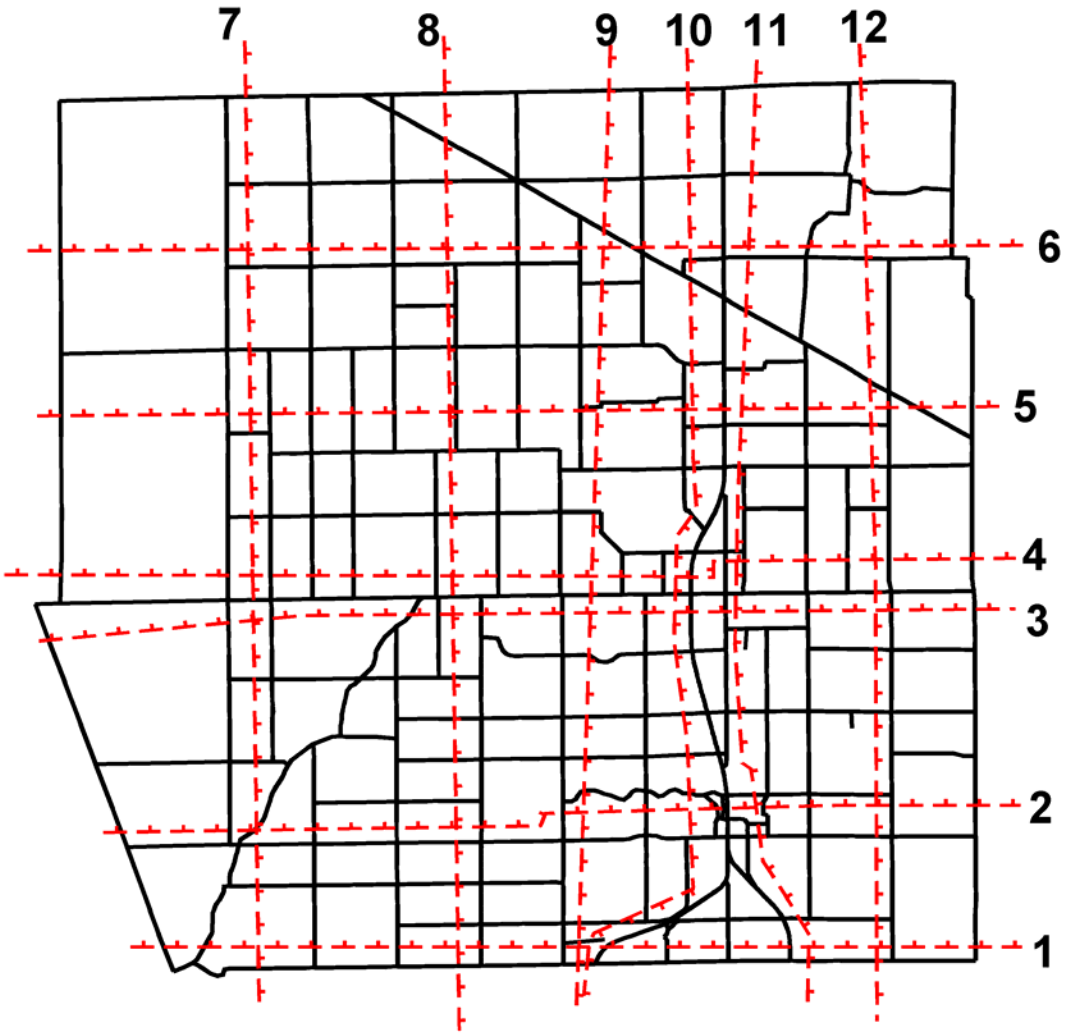


Figure 4 Screenlines in Westfield demand model

4 Future Inputs- Socioeconomics and externals

4.1.1 Socioeconomic Data

Socioeconomic information for the year 2017 was developed by two methods—one for Washington Township and one for the outlying portions of the model area. In areas outside Washington Township, the 2000-2030 annual household/employment growth rate for the corresponding zone in the ISTDM was used to grow 2007 data to 2017. For the TAZs in Washington Township, information about planned development was provided by the Town of Westfield—this was used to generate 2017 totals for household and employment growth. For simplification of the conversion from projected housing units (based on development plans) to projected households, 80% of the new housing units were assumed to be occupied in 2017. Employment projections were based on statistics from the US Department of Energy on the average number of building square feet per employee in different types of businesses. 90% of the growth projected in this area was allocated to the TAZs where the planned developments were located—the remaining 10% was allocated to other TAZs in locations that the Westfield Comprehensive Plan designated as likely growth areas.

4.1.2 External-Internal, Internal-External and External-External Trips- Forecast year (2017)

In order to estimate the forecast year EI/IE trips, first the year 2017 subarea trip table was estimated through interpolation of the year 2000 and year 2030 subarea trip table obtained from the ISTDM. Growth rate from 2007 to 2017 for each of the external stations was then estimated from the interpolated year 2007 subarea trip table (discussed in section 3.1.1) and the interpolated year 2017 subarea trip table. The estimated growth rate was then applied to the 2007 daily volume counts in order to obtain 2017 'estimated' daily volumes. EI/IE trips for the year 2017 were estimated by the formula:
EI/IE= Estimated volume-EE
Estimated volume: Estimated 2017 ADT
EE= Year 2017 EE trips from subarea analysis of the statewide model.

Some assumptions were made in order to estimate additional data required for modeling the year 2017 EI trips. These are summarized below:

- The percentage of the 2017 estimated EI trips for Home based work, Home based other and Non-home based categories was assumed to be equal to the percentages estimated for the base year.
- External productions and attractions percentages were also assumed to be equal to the percentages estimated for the base year.

Since EE trips do not interact with the internal centroids, these do not need to be split into the various trip purposes and were obtained directly from the interpolated year 2017 subarea trip table.

5 Model interface

The Westfield travel demand model interface has been programmed to evaluate the Existing, Committed and Projects scenarios. The Projects scenario can evaluate any combination of up to ten different projects.

Before running the interface, a map with the network and TAZ geographic file must be created and active within TransCAD. Details of the interface inputs and model fields are described below.

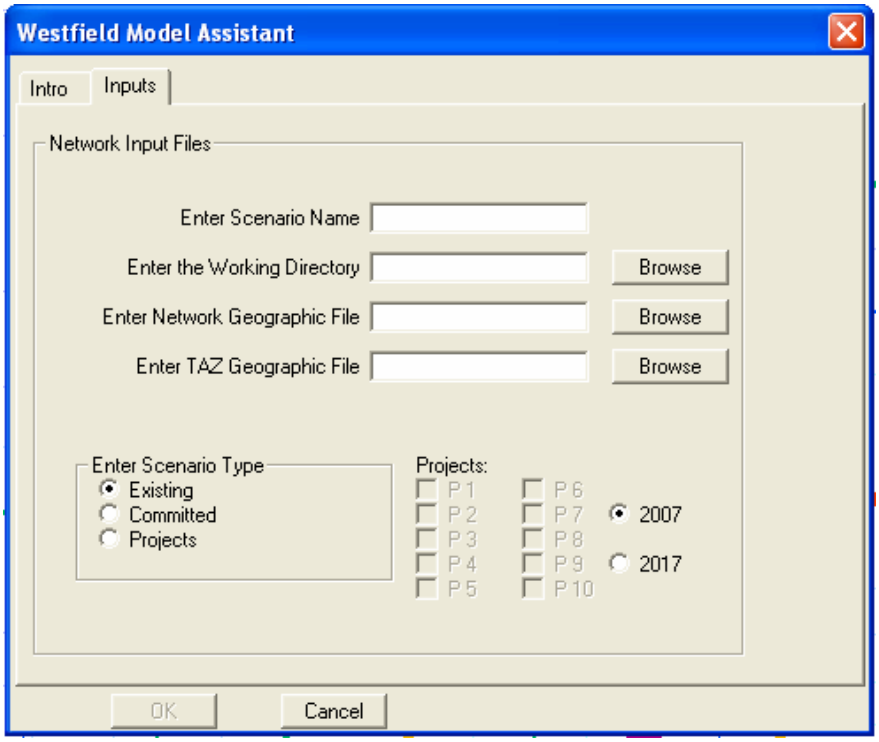


Figure 5 Input screen

Figure 5 shows the input screen for the Westfield demand model interface. The various inputs required are described below:

Enter scenario name: A name for the scenario to be evaluated needs to be specified. A folder with the scenario name is created within the working directory (described below), and all outputs of the scenario are contained within this folder.

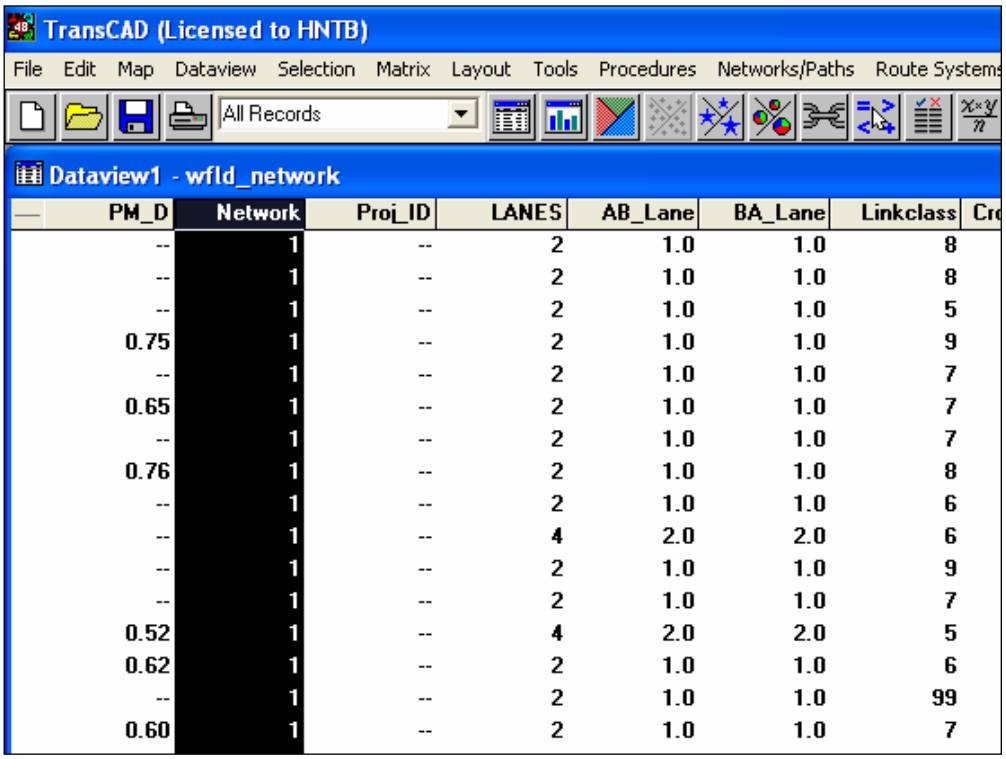
Enter the Working Directory: Working directory must be the parent directory for the Parameters folder. The model searches for the Parameters folder within the working directory.

Enter Network Geographic File: The path for the network geographic file needs to be specified. Network specified here must be the same as the one specified in the TransCAD map.

Enter TAZ Geographic File: The path for the TAZ geographic file needs to be specified. TAZ specified here must be the same as the one specified in the TransCAD map.

Scenario Type: Three types of network scenarios can be evaluated- Existing, Committed and Projects scenario. These scenarios can be evaluated for the base year (2007) as well as forecast year (2017) conditions. If the Projects network is selected, the 'Projects' check boxes become active. Up to 10 different projects can now be selected.

In order to run the model, the fields described below in the Dataview for the network need to be specified.



PM_D	Network	Proj_ID	LANES	AB_Lane	BA_Lane	Linkclass	Cr
--	1	--	2	1.0	1.0	8	
--	1	--	2	1.0	1.0	8	
--	1	--	2	1.0	1.0	5	
0.75	1	--	2	1.0	1.0	9	
--	1	--	2	1.0	1.0	7	
0.65	1	--	2	1.0	1.0	7	
--	1	--	2	1.0	1.0	7	
0.76	1	--	2	1.0	1.0	8	
--	1	--	2	1.0	1.0	6	
--	1	--	4	2.0	2.0	6	
--	1	--	2	1.0	1.0	9	
--	1	--	2	1.0	1.0	7	
0.52	1	--	4	2.0	2.0	5	
0.62	1	--	2	1.0	1.0	6	
--	1	--	2	1.0	1.0	99	
0.60	1	--	2	1.0	1.0	7	

Figure 6 Specifying the *Network* field

The *Network* field (

Figure 6) can accept the following values: 1, 2, 3, -2, -3.

- 'Base' scenario evaluates all links where ***Network*=1, -2 or -3**. As can be seen intuitively, -2 represents all links that are not present in the 'Committed' scenario, and -3 represents all links that are not present in the 'Projects' scenario.

- ‘Committed’ scenario evaluates all links where ***Network*=1, 2 or -3**.
- ‘Projects’ scenario evaluates the links where *Network*=**1, 2 and selected 3 links** (explained in detail under Projects scenario).

5.1 Base Scenario

The fields that need to be specified for the base scenario include:
Network: The following integer values are acceptable: **1, -2, -3**.
Base_AB_Lane: Number of lanes in the A-B node direction.
Base_BA_Lane: Number of lanes in the B-A node direction.
Base_Linkclass: The following integer values are acceptable.1=Interstate; 2=Freeway; 3=Ramp; 4=Expressway; 5=Principal Artery; 6=Minor Artery; 7=Major Collector; 8= Minor Collector; 9=Local; 99=Centroid Connector
Base_Area_type: The following integer values are acceptable. 1=Rural; 2=Suburban; 3=Urban; 4=Central Business District (CBD)
Base_Signal_Den: The following integer values are acceptable. 1=Unsignalized; 2= Low signal density; 3=Medium signal density; 4=High signal density.
Base_Cross_Sect: The following integer values are acceptable. 1=Undivided; 2=Divided; 3= Two way left turn lane (TWLTL)

5.2 Committed Scenario

The fields that need to be specified for the committed scenario include:
Network: ‘Committed’ scenario evaluates all links where ***Network*=1, 2 or -3**. Other fields which need to be specified include *COM_AB_Lane, COM_BA_Lane, COM_Linkclass*, *COM_Area_type, COM_Signal_Den*, *COM_Cross_Sect*. The integer codes accepted by these fields are consistent with the ones specified under base scenario.

5.3 Projects Scenario

The fields that need to be specified for the projects scenario include:
Network: ‘Projects’ scenario evaluates all links where *Network*=**1 or 2, and the links where *Network*=3 and the Proj_ID is equal to the projects selected in the input screen**.
Proj_ID: This field specifies the ID for a given project. A maximum of 10 projects is permissible, therefore this field can accept any integer value from 1 to 10.
Other fields that need to be specified include *PROJ_AB_Lane, PROJ_BA_Lane, PROJ_Linkclass*, *PROJ_Area_type, PROJ_Signal_Den*, *PROJ_Cross_Sect*. The integer codes accepted by these fields are consistent the ones specified under base scenario.

APPENDIX D-1

Notes:
CODE= Linktype
DFACTOR= Daily Factor
BPRALPHA, BPRBETA

LINKNAME	CODE	SPEED	CAPACITY	DFACTOR	BPRALPHA	BPRBETA
Inter_Rural_Unsig_Div	1112	70	2200	14.0	0.070	12.0
Inter_Sub_Unsig_Div	1212	68	2300	14.0	0.070	12.0
Inter_Urb_Unsig_Div	1312	65	2300	14.0	0.070	12.0
Inter_CBD_Unsig_Div	1412	60	2200	14.0	0.070	12.0
Frwy_Rural_Unsig_Div	2112	69	2200	14.0	0.070	12.0
Frwy_Sub_Unsig_Div	2212	67	2300	14.0	0.070	12.0
Frwy_Urb_Unsig_Div	2312	64	2300	14.0	0.070	12.0
Frwy_CBD_Unsig_Div	2412	58	2200	14.0	0.070	12.0
Ramp_Rural_Unsig_Div	3112	40	1400	12.0	0.150	5.5
Ramp_Rural_Low_Div	3122	35	1100	12.0	0.150	5.5
Ramp_Sub_Unsig_Div	3212	40	1400	12.0	0.150	5.5
Ramp_Sub_Low_Div	3222	35	1100	12.0	0.150	5.5
Ramp_Sub_Med_Div	3232	30	1000	12.0	0.150	5.5
Ramp_Sub_High_Div	3242	25	850	12.0	0.150	5.5
Ramp_Urb_Unsig_Div	3312	35	1400	12.0	0.150	5.5
Ramp_Urb_Low_Div	3322	35	1100	12.0	0.150	5.5
Ramp_Urb_Med_Div	3332	30	1000	12.0	0.150	5.5
Ramp_Urb_High_Div	3342	25	850	12.0	0.150	5.5
Ramp_CBD_Unsig_Div	3412	30	1200	12.0	0.150	5.5
Ramp_CBD_Low_Div	3422	30	1000	12.0	0.150	5.5
Ramp_CBD_Med_Div	3432	28	900	12.0	0.150	5.5
Ramp_CBD_High_Div	3442	25	800	12.0	0.150	5.5
Xprswy_Rural_Unsig_Div	4112	54	1900	12.0	0.085	9.0
Xprswy_Rural_Low_Div	4122	53	1250	12.0	0.100	8.0
Xprswy_Rural_Med_Div	4132	52	975	11.0	0.150	7.0
Xprswy_Sub_Unsig_Div	4212	52	1900	12.0	0.085	9.0
Xprswy_Sub_Low_Div	4222	51	1200	12.0	0.100	8.0
Xprswy_Sub_Med_Div	4232	50	930	11.0	0.150	7.0
Xprswy_Urb_Unsig_Div	4312	50	1800	12.0	0.085	9.0
Xprswy_Urb_Low_Div	4322	43	1200	12.0	0.100	8.0
Xprswy_Urb_Med_Div	4332	37	930	10.0	0.150	7.0
Xprswy_CBD_Unsig_Div	4412	40	1400	12.0	0.085	9.0
Xprswy_CBD_Low_Div	4422	40	1175	12.0	0.100	8.0
Xprswy_CBD_Med_Div	4432	35	900	11.0	0.150	7.0
PrinArt_Rur_Unsig_Undi	5111	56	1780	10.0	0.100	7.0
PrinArt_Rur_Unsig_Div	5112	56	1860	10.0	0.100	7.0
PrinArt_Rur_Unsig_TWLT	5113	55	2050	10.0	0.100	7.0
PrinArt_Rur_Low_Undiv	5121	50	1130	10.0	0.120	7.0
PrinArt_Rur_Low_Div	5122	48	1200	10.0	0.120	7.0
PrinArt_Rur_Low_TWLTL	5123	45	1300	10.0	0.120	7.0
PrinArt_Rur_Med_Undiv	5131	45	880	10.0	0.150	7.0
PrinArt_Rur_Med_Div	5132	45	900	10.0	0.150	7.0

PrinArt_Rur_Med_TWLTL	5133	45	1010	10.0	0.150	7.0
PrinArt_Rur_High_Undiv	5141	45	840	10.0	0.200	7.0
PrinArt_Rur_High_Div	5142	48	900	10.0	0.200	7.0
PrinArt_Rur_High_TWLTL	5143	48	970	10.0	0.200	7.0
PrinArt_Sub_Unsig_Undi	5211	45	1780	10.0	0.100	7.0
PrinArt_Sub_Unsig_Div	5212	45	1860	10.0	0.100	7.0
PrinArt_Sub_Unsig_TWLT	5213	45	2050	10.0	0.100	7.0
PrinArt_Sub_Low_Undiv	5221	46	1130	10.0	0.120	7.0
PrinArt_Sub_Low_Div	5222	46	1130	10.0	0.120	7.0
PrinArt_Sub_Low_TWLTL	5223	46	1300	10.0	0.120	7.0
PrinArt_Sub_Med_Undiv	5231	37	880	10.0	0.150	7.0
PrinArt_Sub_Med_Div	5232	38	880	10.0	0.150	7.0
PrinArt_Sub_Med_TWLTL	5233	37	1010	10.0	0.150	7.0
PrinArt_Sub_High_Undiv	5241	35	840	10.0	0.200	7.0
PrinArt_Sub_High_Div	5242	36	860	10.0	0.200	7.0
PrinArt_Sub_High_TWLTL	5243	35	970	10.0	0.200	7.0
PrinArt_Urb_Unsig_Undi	5311	37	1780	11.0	0.100	7.0
PrinArt_Urb_Unsig_Div	5312	39	1860	11.0	0.100	7.0
PrinArt_Urb_Unsig_TWLT	5313	38	2050	11.0	0.100	7.0
PrinArt_Urb_Low_Undiv	5321	41	1130	11.0	0.120	7.0
PrinArt_Urb_Low_Div	5322	41	1130	11.0	0.120	7.0
PrinArt_Urb_Low_TWLTL	5323	38	1300	11.0	0.120	7.0
PrinArt_Urb_Med_Undiv	5331	37	1000	12.0	0.150	7.0
PrinArt_Urb_Med_Div	5332	38	1100	12.0	0.150	7.0
PrinArt_Urb_Med_TWLTL	5333	37	1150	12.0	0.150	7.0
PrinArt_Urb_High_Undiv	5341	32	940	12.0	0.200	7.0
PrinArt_Urb_High_Div	5342	32	980	12.0	0.200	7.0
PrinArt_Urb_High_TWLTL	5343	32	1020	12.0	0.200	7.0
PrinArt_CBD_Low_Undiv	5421	32	880	10.0	0.120	7.0
PrinArt_CBD_Low_Div	5422	33	900	10.0	0.120	7.0
PrinArt_CBD_Low_TWLTL	5423	33	1010	10.0	0.120	7.0
PrinArt_CBD_Med_Undiv	5431	32	840	10.0	0.150	7.0
PrinArt_CBD_Med_Div	5432	33	860	10.0	0.150	7.0
PrinArt_CBD_Med_TWLTL	5433	33	970	10.0	0.150	7.0
PrinArt_CBD_High_Undiv	5441	28	800	10.0	0.200	7.0
PrinArt_CBD_High_Div	5442	28	800	10.0	0.200	7.0
PrinArt_CBD_High_TWLTL	5443	28	920	10.0	0.200	7.0
MinArt_Rur_Unsig_Undiv	6111	42	1410	10.0	0.150	5.5
MinArt_Rur_Unsig_Div	6112	43	1500	10.0	0.150	5.5
MinArt_Rur_Unsig_TWLTL	6113	43	1620	10.0	0.150	5.5
MinArt_Rur_Low_Undiv	6121	39	1130	10.0	0.170	5.5
MinArt_Rur_Low_Div	6122	40	1150	10.0	0.170	5.5
MinArt_Rur_Low_TWLTL	6123	40	1300	10.0	0.170	5.5
MinArt_Rur_Med_Undiv	6131	38	880	10.0	0.200	5.5
MinArt_Rur_Med_Div	6132	40	920	10.0	0.200	5.5
MinArt_Rur_Med_TWLTL	6133	40	1010	10.0	0.200	5.5
MinArt_Sub_Unsig_Undiv	6211	36	1390	10.0	0.150	5.5
MinArt_Sub_Unsig_Div	6212	37	1420	10.0	0.150	5.5
MinArt_Sub_Unsig_TWLTL	6213	37	1600	10.0	0.150	5.5
MinArt_Sub_Low_Undiv	6221	35	1130	10.0	0.170	5.5

MinArt_Sub_Low_Div	6222	37	1200	10.0	0.170	5.5
MinArt_Sub_Low_TWLTL	6223	36	1300	10.0	0.170	5.5
MinArt_Sub_Med_Undiv	6231	34	880	10.0	0.200	5.5
MinArt_Sub_Med_Div	6232	36	920	10.0	0.200	5.5
MinArt_Sub_Med_TWLTL	6233	35	1010	10.0	0.200	5.5
MinArt_Urb_Unsig_Undiv	6311	35	1210	10.0	0.150	5.5
MinArt_Urb_Unsig_Div	6312	36	1250	10.0	0.150	5.5
MinArt_Urb_Unsig_TWLTL	6313	35	1390	10.0	0.150	5.5
MinArt_Urb_Low_Undiv	6321	34	1130	10.0	0.170	5.5
MinArt_Urb_Low_Div	6322	35	1200	10.0	0.170	5.5
MinArt_Urb_Low_TWLTL	6323	34	1300	10.0	0.170	5.5
MinArt_Urb_Med_Undiv	6331	33	880	10.0	0.200	5.5
MinArt_Urb_Med_Div	6332	33	880	10.0	0.200	5.5
MinArt_Urb_Med_TWLTL	6333	33	1010	10.0	0.200	5.5
MinArt_Urb_High_Undiv	6341	32	840	10.0	0.250	5.5
MinArt_Urb_High_Div	6342	32	860	10.0	0.250	5.5
MinArt_Urb_High_TWLTL	6343	32	970	10.0	0.250	5.5
MinArt_CBD_Unsig_Undiv	6411	35	1130	10.0	0.150	5.5
MinArt_CBD_Unsig_Div	6412	35	1150	10.0	0.150	5.5
MinArt_CBD_Unsig_TWLTL	6413	35	1300	10.0	0.150	5.5
MinArt_CBD_Low_Undiv	6421	35	880	10.0	0.170	5.5
MinArt_CBD_Low_Div	6422	36	920	10.0	0.170	5.5
MinArt_CBD_Low_TWLTL	6423	35	1010	10.0	0.170	5.5
MinArt_CBD_Med_Undiv	6431	35	840	10.0	0.200	5.5
MinArt_CBD_Med_Div	6432	36	880	10.0	0.200	5.5
MinArt_CBD_Med_TWLTL	6433	36	970	10.0	0.200	5.5
MinArt_CBD_High_Undiv	6441	35	800	10.0	0.250	5.5
MinArt_CBD_High_Div	6442	36	840	10.0	0.250	5.5
MinArt_CBD_High_TWLTL	6443	35	920	10.0	0.250	5.5
MajCol_Rur_Unsig_Undiv	7111	40	1000	10.0	0.250	4.5
MajCol_Rur_Low_Undiv	7121	38	880	10.0	0.300	4.5
MajCol_Rur_Med_Undiv	7131	29	840	10.0	0.300	4.5
MajCol_Rur_High_Undiv	7141	28	800	10.0	0.300	4.5
MajCol_Sub_Unsig_Undiv	7211	35	1210	10.0	0.250	4.5
MajCol_Sub_Low_Undiv	7221	33	880	10.0	0.300	4.5
MajCol_Sub_Med_Undiv	7231	27	840	10.0	0.300	4.5
MajCol_Sub_High_Undiv	7241	26	800	10.0	0.300	4.5
MajCol_Urb_Unsig_Undiv	7311	32	1060	10.0	0.250	4.5
MajCol_Urb_Low_Undiv	7321	30	880	10.0	0.300	4.5
MajCol_Urb_Med_Undiv	7331	27	840	10.0	0.300	4.5
MajCol_Urb_High_Undiv	7341	26	800	10.0	0.300	4.5
MajCol_CBD_Unsig_Undiv	7411	25	1060	10.0	0.250	4.5
MajCol_CBD_Low_Undiv	7421	25	880	10.0	0.300	4.5
MajCol_CBD_Med_Undiv	7431	25	840	10.0	0.300	4.5
MajCol_CBD_High_Undiv	7441	25	800	10.0	0.300	4.5
MajCol_Rem_Unsig_Undiv	7511	30	925	10.0	0.250	4.5
MinCol_Rur_Unsig_Undiv	8111	43	1130	9.5	0.300	4.0
MinCol_Rur_Low_Undiv	8121	35	880	9.5	0.350	4.0
MinCol_Rur_Med_Undiv	8131	30	840	9.5	0.350	4.0
MinCol_Rur_High_Undiv	8141	28	800	9.5	0.350	4.0

MinCol_Sub_Unsig_Undiv	8211	33	1130	9.5	0.300	4.0
MinCol_Sub_Low_Undiv	8221	29	880	9.5	0.350	4.0
MinCol_Sub_Med_Undiv	8231	24	840	9.5	0.350	4.0
MinCol_Sub_High_Undiv	8241	22	800	9.5	0.350	4.0
MinCol_Urb_Unsig_Undiv	8311	29	1060	9.5	0.300	4.0
MinCol_Urb_Low_Undiv	8321	27	880	9.5	0.350	4.0
MinCol_Urb_Med_Undiv	8331	25	840	9.5	0.350	4.0
MinCol_Urb_High_Undiv	8341	22	800	9.5	0.350	4.0
MinCol_CBD_Unsig_Undiv	8411	24	1060	9.5	0.300	4.0
MinCol_CBD_Low_Undiv	8421	24	880	9.5	0.350	4.0
MinCol_CBD_Med_Undiv	8431	24	840	9.5	0.350	4.0
MinCol_CBD_High_Undiv	8441	22	800	9.5	0.350	4.0
MinCol_Rem_Unsig_Undiv	8511	24	925	9.5	0.300	4.0
Local_Rur_Unsig_Undiv	9111	35	700	9.0	0.250	2.5
Local_Sub_Unsig_Undiv	9211	25	700	9.0	0.250	2.5
Local_Sub_Low_Undiv	9221	25	650	9.0	0.300	2.5
Local_Sub_Med_Undiv	9231	24	650	9.0	0.300	2.5
Local_Urb_Unsig_Undiv	9311	24	700	9.0	0.250	2.5
Local_Urb_Low_Undiv	9321	19	650	9.0	0.300	2.5
Local_Urb_Med_Undiv	9331	19	650	9.0	0.300	2.5
Local_Urb_High_Undiv	9341	19	650	9.0	0.300	2.5
Local_CBD_Unsig_Undiv	9411	18	700	9.0	0.250	2.5
Local_CBD_Low_Undiv	9421	18	650	9.0	0.300	2.5
Local_CBD_Med_Undiv	9431	18	650	9.0	0.300	2.5
Local_CBD_High_Undiv	9441	18	650	9.0	0.300	2.5
Local_Rem_Unsig_Undiv	9511	15	500	9.0	0.250	2.5
CC_Rur	99111	15	9999	10.0	0.150	4.0
CC_Sub	99211	25	9999	10.0	0.150	4.0
CC_Urb	99311	20	9999	10.0	0.150	4.0
CC_CBD	99411	15	9999	10.0	0.150	4.0

APPENDIX D-2

TAZID	HH_2007	HH_2017	TOT_EMP	TOT_EMP17	SCHOOL_ENR	SCHL_ENR2017
7001	20	20	0	0	0	0
7002	14	14	0	0	0	0
7003	43	43	4	4	0	0
7004	61	61	3	3	0	0
7005	30	30	0	75	0	0
7006	9	9	0	0	0	0
7007	23	23	17	17	0	0
7008	17	276	3	203	0	0
7009	28	28	11	11	0	0
7010	22	62	1	1	0	0
7011	13	426	367	1907	0	0
7012	35	50	4	34	0	0
7013	10	10	8	43	0	0
7014	54	79	10	10	0	0
7015	38	68	11	11	0	0
7016	17	22	17	17	0	0
7017	28	28	2	2	0	0
7018	40	40	4	4	0	0
7019	7	7	10	10	0	0
7020	36	36	1	1	0	0
7021	82	82	37	47	0	0
7022	17	17	0	0	0	0
7023	15	55	13	13	0	0
7024	49	89	63	525	0	0
7025	24	24	3	3	0	500
7026	69	915	37	834	0	0
7027	8	452	225	915	0	0
7028	13	23	127	192	0	0
7029	6	6	608	658	0	0
7030	23	513	15	92	0	0
7031	8	8	15	49	0	0
7032	0	0	76	76	806	806
7033	94	94	374	374	2355	2355
7034	213	228	195	195	505	505
7035	57	72	2	2	0	0
7036	498	1060	76	134	0	0
7037	335	376	462	497	0	0
7038	171	257	107	107	553	553
7039	214	214	442	442	0	0
7040	116	196	32	32	0	0
7041	561	561	18	18	0	0
7042	100	100	189	189	0	0
7043	23	23	882	882	0	0
7044	131	131	359	359	0	0
7045	743	743	98	98	423	423

7046	817	947	380	562	0	0
7047	6	476	93	209	282	500
7048	73	694	11	21	0	0
7049	31	729	25	232	0	0
7050	53	190	196	281	0	0
7051	59	59	24	24	0	0
7052	28	28	4	4	0	0
7053	18	38	24	24	0	0
7054	70	353	102	102	504	504
7055	221	221	27	37	0	0
7056	51	171	19	19	0	0
7057	37	52	238	238	0	0
7058	50	65	0	0	0	0
7059	317	659	68	68	0	0
7060	248	528	35	859	0	0
7061	243	243	1096	1096	0	0
7062	0	0	750	750	0	0
7063	1	1	292	292	0	0
7064	312	332	98	98	0	0
7065	82	132	205	205	0	0
7066	512	512	16	16	0	0
7067	825	825	181	181	0	0
7068	1185	1280	223	223	0	0
7069	21	61	2	2	0	0
7070	9	29	0	0	0	0
7071	26	66	0	0	0	0
7072	79	79	9	9	0	0
7073	9	29	0	0	0	0
7074	38	38	21	46	0	0
7075	8	271	15	60	0	0
7076	243	243	132	132	0	0
7077	180	180	290	290	0	0
7078	187	187	291	291	0	0
7079	136	136	200	200	0	0
7080	338	338	111	373	0	0
7081	87	87	134	134	0	0
7082	19	63	0	0	0	0
7083	8	59	10	10	0	0
7084	0	0	226	226	0	0
7085	318	318	543	543	0	0
8001	64	77	32	41	0	0
8002	27	32	2	3	0	0
8003	76	99	22	22	0	0
8004	78	86	136	332	0	0
8005	67	73	26	64	0	0
8006	295	295	52	52	0	0
8007	45	45	23	23	0	0
8008	242	242	33	33	0	0

8009	401	401	89	89	0	0
8010	344	423	7	8	0	0
8011	287	353	43	53	0	0
8012	388	501	74	87	699	699
8013	263	270	1151	1388	0	0
8014	1033	1033	113	137	0	0
8015	596	795	126	150	0	0
8016	244	325	1566	1854	0	0
8017	48	59	890	1072	0	0
8018	41	50	63	75	0	0
8019	297	370	204	242	0	0
8020	0	0	200	200	0	0
8021	466	491	92	103	0	0
8022	586	590	110	131	0	0
8023	938	988	234	261	0	0
8024	1086	1086	502	502	634	634
8025	287	287	194	505	0	0
8026	248	295	86	143	762	762
8027	726	726	238	315	0	0
8028	14	14	8	10	0	0
8029	619	619	62	62	0	0
8030	48	153	3	3	0	0
8031	44	141	0	0	0	0
8032	39	125	22	22	0	0
8033	38	121	24	24	0	0
8034	62	63	18	19	0	0
8035	43	44	1	1	0	0
8036	24	67	0	0	0	0
8037	37	61	27	38	0	0
8038	60	167	4	6	0	0
8039	139	386	50	68	0	0
8040	116	116	112	112	0	0
8041	208	208	73	85	0	0
8042	687	868	624	776	0	0
8043	302	349	820	965	4001	4001

APPENDIX D-3

Trip rates across trip purposes and sub categories for different area types

Notes:

1. HBWAB Represents A workers B vehicles- Home Based Work households. Nomenclature is similar across other categories.
2. HBO= Home Based Other
3. NHB= Non Home Based
4. HBWARET= Home Based Work Attractions for Retail
5. HBWASER= Home Based Work Attraction for Service
6. HBWAOTH= Home based Work Attraction for Other
7. HBOARET= Home Based Other Attraction Retail
8. HBOASER= Home Based Other Attraction Service
9. HBOASCH= Home Based Other Attraction School
10. HBOAHH= Home Based Other Attraction Household
11. NHBARET= Non Home Based Attraction Retail
12. NHBASER= Non Home Based Attraction Service
13. NHBAOTH= Non Home Based Attraction Other
14. NHBAHH= Non Home Based Attraction Household

1=Rural (Density less than 200)
2=Suburban (Density between 200 and 999)
3=Urban (Density between 1000 and 8500)
4=CBD (Density greater than 8500)

AREA	1	2	3	4
HBW10	0.564	0.513	0.574	0.574
HBW11	1.127	1.015	1.149	1.149
HBW12	1.127	1.015	1.149	1.149
HBW13	1.127	1.015	1.149	1.149
HBW20	1.235	1.118	1.262	1.262
HBW21	1.678	1.518	1.703	1.703
HBW22	2.147	1.939	2.185	2.185
HBW23	2.147	1.939	2.185	2.185
HBW30	1.571	1.426	1.600	1.600
HBW31	1.786	1.621	1.826	1.826
HBW32	2.752	2.492	2.800	2.800
HBW33	3.396	3.077	3.457	3.457
HBW40	2.027	1.826	2.062	2.062
HBW41	2.120	1.918	2.154	2.154
HBW42	3.101	2.810	3.159	3.159
HBW43	3.785	3.426	3.857	3.857
HBO10	1.264	1.077	1.036	1.036
HBO11	2.404	2.051	1.969	1.969
HBO12	2.404	2.051	1.969	1.969
HBO13	2.404	2.051	1.969	1.969
HBO20	2.945	2.513	2.421	2.421
HBO21	4.863	4.154	3.980	3.980
HBO22	5.235	4.462	4.287	4.287
HBO23	5.235	4.462	4.287	4.287
HBO30	4.874	4.164	3.990	3.990
HBO31	6.838	5.836	5.600	5.600
HBO32	6.973	5.959	5.713	5.713

HBO33	7.424	6.339	6.082	6.082
HBO40	7.797	6.657	6.390	6.390
HBO41	9.297	7.939	7.621	7.621
HBO42	11.158	9.529	9.149	9.149
HBO43	12.377	10.565	10.134	10.134
NHB10	0.676	0.923	0.656	0.656
NHB11	1.625	2.226	1.600	1.600
NHB12	1.625	2.226	1.600	1.600
NHB13	1.625	2.226	1.600	1.600
NHB20	1.151	1.580	1.139	1.139
NHB21	2.335	3.190	2.287	2.287
NHB22	2.561	3.508	2.523	2.523
NHB23	2.561	3.508	2.523	2.523
NHB30	1.828	2.503	1.795	1.795
NHB31	2.730	3.744	2.687	2.687
NHB32	2.923	4.000	2.872	2.872
NHB33	3.633	4.964	3.569	3.569
NHB40	2.121	2.892	2.082	2.082
NHB41	3.803	5.200	3.734	3.734
NHB42	4.942	6.759	4.852	4.852
NHB43	5.033	6.893	4.944	4.944
HBWARET	1.400	1.400	1.400	1.400
HBWASER	1.400	1.400	1.400	1.400
HBWAOTH	1.120	1.120	1.120	1.120
HBOARET	7.050	7.050	7.050	7.050
HBOASER	3.200	3.200	3.200	3.200
HBOASCH	1.750	1.750	1.750	1.750
HBOAHH	1.650	1.650	1.650	1.650
NHBARET	4.490	4.490	4.490	4.490
NHBASER	1.130	1.130	1.130	1.130
NHBAOTH	0.750	0.750	0.750	0.750
NHBAHH	0.590	0.590	0.590	0.590

Appendix E:
Development Forecasts

Land Use Forecasts for Approved Westfield-Washington Township Developments

ACKERSON FARM (TAZ 7049)
BY 2017, R1 & R2 RESIDENTIAL DISTRICTS ARE BUILT = 215 SF HOMES
BY 2017, NEIGHBORHOOD CENTER IS BUILT = 10% OF OFFICE & RETAIL (55325 SQFT OFFICE/94175 SQFT RETAIL)
BY 2017, WORK HAS BEGUN ON PARTS OF LBH DISTRICT (ASSUME 5% OF REMAINING RESIDENTIAL) = 57 UNITS
2017 HU = 272
2017 EMP = 127 OFFICE & 76 RETAIL

ANDOVER & ANDOVER NORTH (TAZ 7036)
NO PHASING INFORMATION AVAILABLE - ASSUME BUILDOUT BY 2017
424 SF HOMES & 300 MF HOMES
2017 HU = 724

AURORA (TAZ 7008 & 7011)
BUILDOUT EXPECTED BY 2016
THE FOLLOWING HOUSING UNITS ARE PROJECTED:
134 SF HOMES (7011)
225 TOWNHOMES (7011)
360 APARTMENTS (7008)
90 QUAD UNITS (7011)
104 DUPLEX UNITS (7011)
17 ACRE NEIGHBORHOOD RETAIL AREA - ASSUMING FAR=0.3, THIS IS 222,156 SQFT (7008)
38 ACRE BUSINESS (OFFICE) PARK - ASSUMING FAR=0.3, THIS IS 496,584 SQFT (7011)
100 ACRE INDUSTRIAL PARK - ASSUMING FAR=0.3, THIS IS 1,306,800 SQFT (7011)
TAZ 7008 2017 HU = 360
TAZ 7008 2017 EMP = 178 RETAIL
TAZ 7011 2017 HU = 553
TAZ 7011 2017 EMP = 1144 OFFICE & 567 OTHER (BASIC)

BENT TREE (TAZ 7083)
NO PHASING INFORMATION AVAILABLE - ASSUME BUILDOUT BY 2017
43 SF HOMES
2017 HU = 43

BRIDGEWATER CLUB PHASE 1 & 2 (TAZ 7059 & 7060)
PARTIALLY-BUILT CURRENTLY (NUMBERS BELOW REFLECT REMAINING GROWTH FROM THIS POINT FORWARD)
279 SF HOMES (7059)
391 TOWNHOMES (ROUGHLY 50% 7060, 50% 7059)
TAZ 7059 2017 HU = 474
TAZ 7060 2017 HU = 196

BRIDGEWATER CLUB PHASE 3 (TAZ 7060)
73 SF HOMES
120 TOWNHOMES
170,000 SQFT RETAIL SPACE
2017 HU = 193
2017 EMP = 136 RETAIL

Land Use Forecasts for Approved Westfield-Washington Township Developments

BRIDGEWATER MARKETPLACE (TAZ 7060)

NUMBERS BELOW ARE FROM TRAFFIC STUDY (SOME SOURCES SHOW THIS AS PARTIALLY BUILT, BUT BUSINESSES WERE NOT INCLUDED IN BASE EMPLOYMENT DATA)
268,928 SQFT RETAIL SPACE
244,470 SQFT OFFICE SPACE
2017 EMP = 216 RETAIL & 563 OFFICE

BROOKSIDE (TAZ 7038)

TOTAL NUMBER OF HOMES IN PLAN = 195 SF HOMES
103 OF THESE HOMES ARE EXISTING, SO…
2017 HU = 92

EAGLE STATION (TAZ 7030, 7075, 7026 & 7027)

BUILDOUT EXPECTED BY 2018 (WITH COMMERCIAL/OFFICE BEING LAST PHASES) - ASSUME BUILDOUT OF ALL RESIDENTIAL & 90% OF COMMERCIAL BY 2017
1080 SF HOMES (248 IN TAZ 7030, 365 IN TAZ 7075, & 467 IN TAZ 7027)
600 APARTMENTS (450 IN TAZ 7026 & 150 IN TAZ 7027)
424 TOWNHOMES/DUPLEXES (7026)
300 ASSISTED LIVING UNITS (7026)
1.54 MILLION SQFT RETAIL (90% = 1.386 MILLION --> 558,000 IN TAZ 7027 & 828,000 IN TAZ 7026)
260,000 SQFT OFFICE (90% = 234,000 --> 95,510 IN TAZ 7026 & 138,490 IN TAZ 7027)
SCHOOL SITE (ASSUME 50 EMPLOYEES, 500 STUDENTS - SIMILAR TO OTHER SCHOOLS IN AREA) - TAZ 7075
TAZ 7026 2017 HU = 1174
TAZ 7026 2017 EMP = 665 RETAIL & 220 OFFICE
TAZ 7027 2017 HU = 617
TAZ 7027 2017 EMP = 448 RETAIL & 319 OFFICE
TAZ 7030 2017 HU = 248
TAZ 7075 2017 HU = 365
TAZ 7075 2017 EMP = 50 SERVICE
TAZ 7075 2017 SCHOOL ENROLLMENT = 500

CENTENNIAL NORTH (TAZ 7054)

NO PHASING INFORMATION AVAILABLE - ASSUME BUILDOUT BY 2017
393 SF HOMES
TAZ 7054 2017 HU = 393

FRAMPTON ESTATES (TAZ 7048)

NO PHASING INFORMATION AVAILABLE - ASSUME BUILDOUT BY 2017
73 SF HOMES
TAZ 7048 2017 HU = 73

Land Use Forecasts for Approved Westfield-Washington Township Developments

MAPLE KNOLL (TAZ 7046, 7047 & 7048)

VERY LITTLE HARD INFORMATION AVAILABLE - ASSUMING BUILDOUT BY 2017
SECTION F = 644 HOUSING UNITS (TAZ 7048)
SECTION D = 435 HOUSING UNITS (2/3 IN TAZ 7047, 1/3 IN TAZ 7048)
SECTION B (MIXED USE) = 732 EDU'S (EQUIVALENT DWELLING UNITS) - ASSUME 544 HOMES & 188 COMMERCIAL EDU'S
SECTION B IS 2/3 IN TAZ 7047 & 1/3 IN TAZ 7046
FOR COMMERCIAL EDU'S, USE CONVERSION FACTOR OF 1 EDU/1000 SQFT (STANDARD CONVERSION)
SECTION A = "EMPLOYMENT" (NO FURTHER DATA) - ASSUME REMAINING 189 COMMERCIAL EDU'S GO HERE (TAZ 7046)
TAZ 7046 2017 HU = 181
TAZ 7046 2017 EMP = 202 RETAIL
TAZ 7047 2017 HU = 653
TAZ 7047 2017 EMP = 101 RETAIL
TAZ 7048 2017 HU = 789

OAK MANOR NORTH (TAZ 7036)

80.2 COMMERCIAL EDU'S = 80,200 SQFT RETAIL
TAZ 7036 2017 EMP = 64 RETAIL

LANTERN COMMONS/PINE TREE (TAZ 7080)

362,000 SQFT RETAIL SPACE
2017 EMP = 291 RETAIL

SYCAMORE ON THE MONON (TAZ 7030)

NO PHASING INFORMATION AVAILABLE - ASSUME BUILDOUT BY 2017
378 SF HOMES
2017 HU = 378

WESTGATE (TAZ 7049 & 7082)

BUILDOUT EXPECTED BY 2010
ORIGINAL PLANS CALLED FOR 33 HOMES IN 7082 OR A SCHOOL, THIS ANALYSIS ASSUMES HOMES
491 SF HOMES (458 IN TAZ 7049 & 33 IN TAZ 7082)
239 TOWNHOMES (7049)
TAZ 7049 2017 HU = 697
TAZ 7082 2017 HU = 33

TOWNE ROAD CROSSING (TAZ 7024 & 7050)

AREAS SOUTH OF SR 32 BUILT OUT BY 2016, AIRPORT DISTRICT BUILT OUT BY 2018 (ASSUME 75% IN 2017), MULTI-FAMILY DISTRICT NOT COMPLETE UNTIL 2020 (EXCLUDE)
NUMBERS BASED ON PUD INFORMATION SUPPLIED BY WESTFIELD
AIRPORT AMENITY DIST = 420,000 SQFT RETAIL & OFFICE (ASSUME HALF/HALF)(ASSUME 75% BUILT)(TAZ 7024)
NEIGHBORHOOD COMMERCIAL = 83,000 SQFT RETAIL (TAZ 7050)
68 TOWNHOMES (7050)
60 SF ATTACHED HOMES (7050)
62 SF DETACHED HOMES (7050)
TAZ 7024 2017 EMP = 126 RETAIL & 363 OFFICE
TAZ 7050 2017 HU = 190
TAZ 7050 2017 EMP = 67 RETAIL

Land Use Forecasts for Approved Westfield-Washington Township Developments

CENTENNIAL SOUTH (TAZ 7068)
THIS SITE CURRENTLY BEING DEVELOPED
SITE IS PLATTED AND DEVELOPMENT HAS BEGUN: PARCEL DATA SHOWS 132 LOTS AVAILABLE
2017 HU = 132
VIKING MEADOWS (TAZ 7056 & 7065)
THIS SITE CURRENTLY BEING DEVELOPED
SITE IS PARTIALLY PLATTED - THERE ARE 72 LOTS IN THESE AREAS (ALTHOUGH THIS IS NOT THE WHOLE DEVELOPMENT)
TAZ 7056 2017 HU = 72
OAK MANOR (TAZ 7037 & 7040)
THIS SITE CURRENTLY BEING DEVELOPED
SITE IS PARTIALLY PLATTED AND PARTIALLY DEVELOPED: CURRENT PARCEL DATA SHOWS 133 VACANT LOTS
43 AVAILABLE LOTS IN 7037 & 90 AVAILABLE LOTS IN 7040
TAZ 7037 2017 HU = 43
TAZ 7040 2017 HU = 90

**Employees calculated using data from US Department of Energy 2003 Commercial Building Energy Consumption Survey*

Retail uses --> 1,246 square feet per worker

Office uses --> 434 square feet per worker

Warehouse and Storage Uses (proxy for industrial) --> 2,306 square feet per worker

Lodging --> Average building size is 35,800 square feet and there are 2,074 square feet per worker

Religious Worship --> Average building size is 10,100 square feet and there are 2,200 square feet per worker

EDU means Equivalent Dwelling Unit, and is a unit used to operationalize water and wastewater/stormwater system requirements - some PUD information was provided in these units

FAR means Floor Area Ratio, and is the ratio of building floor area to the area of the whole parcel a building sits on (0.3 is a reasonable estimate for a suburban area)

Appendix F:
Capacity Analysis Data

2007 Existing Conditions Intersection Lane Configuration and AM/PM Peak Hour Approach Levels of Service

N/S Street		E/W Street	Control Type	EB			WB			NB			SB		
				L	T	R	L	T	R	L	T	R	L	T	R
Hinkle RD	&	E 216th ST	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Anthony RD	&	E 216th ST	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Moontown RD	&	191st St.	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Shadynook RD	&	191st St.	1-way stop		1 NA			1 NA			1 A/A				
Grassy Branch RD	&	191st St.	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
East ST	&	191st St.	2-way stop		1 NA			1 NA			1 A/B				
Moontown RD	&	E 196th ST	2-way stop		1 A/A			1 NA			1 NA				
Grassy Branch RD	&	E 196th ST	2-way stop		1 A/A			1 A/B			1 NA			1 NA	
Grassy Branch RD	&	202nd ST	1-way stop		1 A/A						1 NA			1 NA	
Moontown RD	&	186th St.	1-way stop		1 A/A						1 NA			1 NA	
Grassy Branch RD	&	E 186th ST	1-way stop		1 A/A						1 NA			1 NA	
East ST	&	E 181st ST	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
East ST	&	E 186th ST	1-way stop					1 A/A			1 NA			1 NA	
N Union ST	&	181st ST	2-way stop		1 B/B			1 C/B			1 NA			1 NA	
Shadynook RD	&	186th St.	1-way stop					1 A/A			1 NA			1 NA	
S Union ST	&	W 169th ST	2-way stop		1 B/B			1 B/B			1 NA	1		1 NA	
S Union ST	&	W 161st ST	All-way stop		1 A/B			1 B/B			1 A/C			1 B/B	
Oak RD	&	W 161st ST	All-way stop		1 B/B			1 B/A			1 A/A			1 A/A	
Carey RD	&	W 161st ST	All-way stop		1 B/F			1 C/D			1 B/F			1 D/E	
Gray RD	&	E 161st ST	All-way stop		1 A/A			1 A/A			1 A/B			1 B/A	
Gray RD	&	E 169th ST	All-way stop		1 B/B			1 B/B			1 A/A			1 A/A	

2007 Existing Conditions Intersection Lane Configuration and AM/PM Peak Hour Approach Levels of Service

N/S Street		E/W Street	Control Type	EB	WB	NB	SB
				L T R	L T R	L T R	L T R
Carey RD	&	E 169th ST	1-way stop		1 B/B	1 NA	1 NA
S Union ST	&	E 171st ST	1-way stop		1 B/B	1 NA	1 NA
Oak RD	&	E 171st ST	All-way stop	1 A/A	1 A/A	1 A/A	
Carey RD	&	E 171st ST	1-way stop	1 B/C		1 A/A	1 A/A
Gray RD	&	156th ST	1-way stop		1 B/B	1 NA	1 NA
Gray RD	&	E 151st ST	1-way stop	1 B/C		1 NA	1 NA
Carey RD	&	E 151st ST	All-way stop	1 B/F	1 B/C	1 B/D	1 C/D
Oak RD	&	E 151st ST	2-way stop	1 1 NA	1 NA	1 C/D	1 C/C
S Union ST	&	W 156th ST	1-way stop	1 B/B		1 NA	1 NA
Western Way	&	E Greyhound Pass	1-way stop	1 NA	1 1 NA	1 1 B/C	
Oakridge RD	&	Greyhound Pass	All-way stop	1 A/A	1 A/B	1 A/B	1 B/B
Springmill RD	&	Greyhound Pass	1-way stop		1 B/E	1 NA	1 NA
Oakridge RD	&	W 156th ST	All-way stop	1 B/B	1 A/B	1 B/B	1 B/B
Springmill RD	&	W 156th ST	All-way stop	1 A/B	1 A/C	1 B/D	1 B/B
Ditch RD	&	W 151st ST	1-way stop	1 A/B		1 NA	1 NA
Ditch RD	&	W 156th ST	All-way stop	1 A/A	1 A/A	1 A/A	1 A/A
Oakridge RD	&	E 161st ST	All-way stop	1 B/B	1 B/B	1 B/B	1 B/B
Oakridge RD	&	W 169th ST	2-way stop	1 1 B/B	1 1 C/B	1 NA	1 1 NA
Springmill RD	&	W 161st ST	Signal	1 1 B/B	1 1 1 B/B	1 1 1 B/A	1 1 B/B
Springmill RD	&	W 169th ST	2-way stop	1 1 B/B	1 1 B/B	1 NA	1 NA
Ditch RD	&	W 161st ST	All-way stop	1 A/A	1 A/A	1 A/A	1 A/A

2007 Existing Conditions Intersection Lane Configuration and AM/PM Peak Hour Approach Levels of Service

N/S Street		E/W Street	Control Type	EB			WB			NB			SB		
				L	T	R	L	T	R	L	T	R	L	T	R
Ditch RD	&	W 166th ST.	1-way stop		1 A/A						1 NA			1 NA	
Ditch RD	&	W 169th ST	1-way stop				1	1 A/A			1 NA			1 NA	
Towne RD	&	Eagle Creek Ave.	1-way stop		1 NA			1 NA			1 A/A				
Eagle Creek Ave.	&	W 166th ST.	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Eagle Creek Ave.	&	Little Eagle Creek RD	All-way stop		1 A/A			1 A/A						1 A/A	
Shelborne RD	&	Little Eagle Creek RD	1-way stop		1 NA			1 NA			1 A/A				
Little Eagle Creek RD	&	W. 156th ST	1-way stop		1 A/A						1 NA			1 NA	
Joliet RD.	&	W. 156th ST	1-way stop		1 NA			1 NA						1 A/A	
Hamilton Boone RD	&	W. 156th ST	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Joliet RD.	&	W 166th ST.	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Hamilton Boone RD	&	W 166th ST.	1-way stop					1 A/A			1 NA			1 NA	
Eagletown RD.	&	W 166th ST.	1-way stop		1 NA			1 NA						1 A/A	
Towne RD	&	W 166th ST.	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Towne RD	&	W 161st ST	1-way stop					1 B/A			1 NA			1 NA	
Towne RD	&	W 156th ST	1-way stop					1 B/B			1 NA			1 NA	
Towne RD	&	W 159th ST	1-way stop		1 A/A						1 NA			1 NA	
Shelborne RD	&	W 151st ST	1-way stop					1 A/A			1 NA			1 NA	
Towne RD	&	W 151st ST	2-way stop		1 B/B			1 A/A			1 NA			1 NA	
Hamilton Boone RD	&	W 186th ST.	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Hamilton Boone RD	&	W 196th ST.	2-way stop					1 A/A			1 NA			1 NA	
Joliet RD.	&	W 196th ST.	1-way stop		1 A/A						1 NA			1 NA	

2007 Existing Conditions Intersection Lane Configuration and AM/PM Peak Hour Approach Levels of Service

N/S Street		E/W Street	Control Type	EB			WB			NB			SB		
				L	T	R	L	T	R	L	T	R	L	T	R
Joliet RD.	&	W 193rd ST	1-way stop					1 A/A			1 NA			1 NA	
Joliet RD.	&	W 186th ST.	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Mule Barn RD	&	W 193rd ST	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Mule Barn RD	&	W 186th ST.	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Centennial RD	&	W 186th ST.	2-way stop		1 NA			1 NA			1 A/A			1 A/A	
Centennial RD	&	W 193rd ST	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Lamong RD.	&	W 193rd ST	1-way stop		1 NA			1 NA						1 A/A	
Eagletown RD	&	W 193rd ST	1-way stop		1 NA			1 NA			1 A/A				
Eagletown RD	&	W 186th ST.	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Casey RD	&	W 186th ST.	2-way stop		1 NA			1 NA			1 A/A			1 A/A	
Casey RD	&	W 193rd ST	1-way stop		1 NA			1 NA			1 A/A				
Freemont Moore RD.	&	W 193rd ST	1-way stop		1 NA			1 NA						1 A/A	
Six Points RD.	&	W 193rd ST	1-way stop		1 NA			1 NA						1 A/A	
Springmill RD	&	191st St.	1-way stop					1 A/A			1 NA			1 NA	
Springmill RD	&	W 186th ST.	2-way stop		1 A/B			1 A/B			1 NA			1 NA	
Dartown RD	&	Kinsey Ave.	All-way stop		1 A/A			1 A/A			1 A/A				
N Wheeler RD	&	E 181st ST	1-way stop		1 NA			1 NA			1 A/A				
Horton RD.	&	191st St.	1-way stop		1 NA			1 NA						1 A/A	
Tomlinson RD	&	191st St.	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Tomlinson RD	&	E 196th ST	1-way stop					1 A/A			1 NA			1 NA	
Tomlinson RD	&	199th ST	1-way stop		1 A/A						1 NA			1 NA	

2007 Existing Conditions Intersection Lane Configuration and AM/PM Peak Hour Approach Levels of Service

N/S Street		E/W Street	Control Type	EB			WB			NB			SB		
				L	T	R	L	T	R	L	T	R	L	T	R
Tomlinson RD	&	E 206th ST	1-way stop		1 NA			1 NA			1 A/A				
Horton RD.	&	W 206th ST	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Six Points RD.	&	W 206th ST.	2-way stop		1 NA			1 NA			1 A/A			1 A/A	
Horton RD.	&	199th ST	1-way stop					1 A/A			1 NA			1 NA	
Oakridge Rd.	&	214th ST	1-way stop		1 A/A						1 NA			1 NA	
Horton RD.	&	214th ST	1-way stop					1 A/A			1 NA			1 NA	
Horton RD.	&	W 216th ST	1-way stop		1 A/A						1 NA			1 NA	
Six Points RD	&	W 216th ST	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Freemont Moore RD.	&	W 216th ST	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Freemont Moore RD.	&	W 211th ST	1-way stop		1 A/A						1 NA			1 NA	
Freemont Moore RD.	&	W 206th ST.	2-way stop		1 NA			1 NA			1 A/A			1 A/A	
Lamong RD.	&	W 206th ST.	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Centennial RD	&	W 206th ST.	1-way stop		1 NA			1 NA			1 A/A				
Mule Barn RD	&	W 206th ST.	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Joliet RD.	&	W 206th ST.	1-way stop		1 NA			1 NA			1 A/A				
Hamilton Boone RD	&	W 206th ST.	2-way stop		1 NA			1 NA			1 A/A			1 A/A	
Hamilton Boone RD	&	W 216th ST	1-way stop					1 A/A			1 NA			1 NA	
Mule Barn RD	&	W 216th ST	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Lamong RD	&	W 216th ST	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Lamong RD	&	W 211th ST	1-way stop					1 A/A			1 NA			1 NA	
Thatcher LN	&	E 151st ST	Signal	1	2 B/B		1	2 C/C		1	1 C/B		1	1 B/C	

2007 Existing Conditions Intersection Lane Configuration and AM/PM Peak Hour Approach Levels of Service

N/S Street		E/W Street	Control Type	EB			WB			NB			SB		
				L	T	R	L	T	R	L	T	R	L	T	R
E Greyhound Pass		147th ST	1-way stop				1		1		2		1	2	
								C/C			NA			NA	
Greyhound CT.	&	151st. ST	1-way stop		1			1			1				
					NA			NA			B/B				
Greyhound CT.	&	E Greyhound Pass	All-way stop		2			2			1			1	
					C/B			D/C			C/B			C/B	
Oakridge Rd.	&	E 206th ST	1-way stop		1			1						1	
					NA			NA						A/A	
Marsh Dr.	&	E Greyhound Pass	Signal	1	2		1	2			1		1	1	
					A/A			A/A			A/B			A/A	

Notes:

1. State route and 146th Street intersections will not become Westfield responsibility and are not shown.
2. Lanes that accommodate shared through and turning traffic are shown as through lanes.
3. A "+" indicates a shared lane in addition to an exclusive turn lane.
4. NA indicates movements that do not have to stop at an intersection. No LOS is defined.

2017 Intersection Lane Configuration and AM/PM Peak Hour Approach Levels of Service
(No US 31 Freeway)

N/S Street		E/W Street	Control Type	EB	WB	NB	SB
				L T R	L T R	L T R	L T R
Hinkle RD	&	E 216th ST	All-way stop	1 A/A	1 A/A	1 A/A	1 A/A
Anthony RD	&	E 216th ST	All-way stop	1 A/A	1 A/A	1 A/A	1 A/A
Moontown RD	&	191st St.	All-way stop	1 A/A	1 A/A	1 A/A	1 A/A
Shadynook RD	&	191st St.	1-way stop	1 NA	1 NA	1 A/A	
Grassy Branch	&	191st St.	All-way stop	1 A/A	1 A/A	1 A/A	1 A/A
East ST	&	191st St.	2-way stop	1 NA	1 NA	1 A/A	1 A/A
Moontown RD	&	E 196th ST	1-way stop	1 A/A		1 NA	1 NA
Grassy Branch	&	E 196th ST	2-way stop	1 A/A	1 A/A	1 NA	1 NA
Grassy Branch	&	202nd ST	1-way stop	1 A/A		1 NA	1 NA
Moontown RD	&	186th St.	1-way stop	1 A/A		1 NA	1 NA
Grassy Branch	&	E 186th ST	1-way stop	1 A/A		1 NA	1 NA
East ST	&	E 181st ST	All-way stop	1 A/A	1 A/A	1 A/A	1 A/A
East ST	&	E 186th ST	1-way stop		1 A/A	1 NA	1 NA
N Union ST	&	181ST ST	2-way stop	1 B/B	1 B/B	1 NA	1 NA
Shadynook RD	&	186th St.	1-way stop		1 A/A	1 NA	1 NA
S Union ST	&	W 169th ST	2-way stop	1 B/B	1 A/A	1 1 NA	1 NA
S Union ST	&	W 161st ST	All-way stop	1 B/A	1 A/A	1 1 A/A	1 1 B/A
Oak RD	&	W 161st ST	All-way stop	1 A/A	1 A/A	1 A/A	1 A/A
Carey RD	&	W 161st ST	Signal	1 1 B/B	1 1 B/B	1 1 A/A	1 1 A/A
Gray RD	&	E 161st ST	All-way stop	1 1 A/A	1 1 A/A	1 A/B	1 B/B
Gray RD	&	E 169th ST	2-way stop	1 B/B	1 B/B	1 NA	1 NA

2017 Intersection Lane Configuration and AM/PM Peak Hour Approach Levels of Service
(No US 31 Freeway)

N/S Street		E/W Street	Control Type	EB			WB			NB			SB		
				L	T	R	L	T	R	L	T	R	L	T	R
Carey RD	&	E 169th ST	1-way stop					1			1			1	
								B/B			NA			NA	
S Union ST	&	E 171st ST	1-way stop					1			1			1	
								A/A			NA			NA	
Oak RD	&	E 171st ST	All-way stop		1			1			1				
					A/A			A/A			A/A				
Carey RD	&	E 171st ST	1-way stop		1						1			1	
					B/B						NA			NA	
Gray RD	&	156th ST	1-way stop					1			1			1	
								B/B			NA			NA	
Gray RD	&	E 151st ST	All-way stop		1						1			1	
					B/C						B/C			B/C	
Carey RD	&	E 151st ST	Roundabout												
Oak RD	&	E 151st ST	2-way stop	1	2			2			1			1	
					NA			NA			C/D			B/B	
S Union ST	&	W 156th ST	1-way stop		1						1			1	
					B/A						NA			NA	
Western Way	&	E Greyhound Pass	Signal		1	1	1	1		1		2			
					A/A			A/A			B/B				
E Greyhound Pass	&	151st ST	1-way stop		1			1			1				
					NA			A/B			NA				
Oakridge RD	&	Greyhound Pass	All-way stop		1			1		1	1		1	1	
					B/B			A/C			B/C			C/B	
Springmill RD	&	Greyhound Pass	1-way stop				1		1		2	1	1	2	
								B/B			NA			NA	
Oakridge RD	&	W 156th ST	Signal	1	1	1	1	1		1	1		1	1	
					A/B			A/B			A/A			A/A	
Springmill RD	&	W 156th ST	Signal	1	1		1	1		1	2		1	2	
					C/B			C/B			A/A			A/A	
Ditch RD	&	W 151st ST	1-way stop		1						1			1	
					A/B						NA			NA	
Ditch RD	&	W 156th ST	All-way stop		1			1			1			1	
					A/A			A/A			A/A			A/A	
Oakridge RD	&	E 161st ST	All-way stop		1			1		1	1		1	1	
					B/B			B/B			B/B			B/B	
Oakridge RD	&	W 169th ST	All-way stop	1	1	1	1	1		1	1		1	1	
					A/A			A/B			A/A			A/B	
Springmill RD	&	W 161st ST	Signal	1	1		1	1	1	1	2		1	2	
					C/C			C/C			B/B			B/B	
Springmill RD	&	W 169th ST	Signal	1	1		1	1		1	2		1	2	
					B/B			B/B			A/A			A/A	

2017 Intersection Lane Configuration and AM/PM Peak Hour Approach Levels of Service
(No US 31 Freeway)

N/S Street		E/W Street	Control Type	EB			WB			NB			SB		
				L	T	R	L	T	R	L	T	R	L	T	R
Ditch RD	&	W 161st ST	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Ditch RD	&	W 166th ST.	1-way stop		1 A/A						1 NA			1 NA	
Ditch RD	&	W 169th ST	All-way stop	1	1 B/B		1	1 A/B		1	1 A/B		1	1 A/B	
Towne RD	&	Eagle Creek Ave.	2-way stop	1	1 NA		1	1 NA		1	1 B/B		1	1 B/B	
Eagle Creek Ave.	&	W 166th ST.	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Eagle Creek Ave.	&	Little Eagle Creek RD	All-way stop		1 A/A			1 A/A						1 A/A	
Shelborne RD	&	Little Eagle Creek RD	1-way stop		1 NA			1 NA			1 A/A				
Little Eagle Creek RD	&	W. 156th ST	1-way stop		1 A/A						1 NA			1 NA	
Joliet RD.	&	W. 156th ST	1-way stop		1 NA			1 NA						1 A/A	
Hamilton Boone RD	&	W. 156th ST	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Joliet RD.	&	W 166th ST.	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Hamilton Boone RD	&	W 166th ST.	1-way stop					1 A/A			1 NA			1 NA	
Eagletown RD.	&	W 166th ST.	1-way stop		1 NA			1 NA						1 A/A	
Towne RD	&	W 166th ST.	All-way stop		1 A/A			1 A/A		1	1 A/B		1	1 B/B	
Towne RD	&	W 161st ST	1-way stop					1 B/B			1 NA	1	1	1 NA	
Towne RD	&	W 156th ST	1-way stop					1 B/B			1 NA		1	1 NA	
Towne RD	&	W 159th ST	1-way stop		1 B/B					1	1 NA			1 NA	1
Shelborne RD	&	W 151st ST	1-way stop					1 A/A			1 NA			1 NA	
Towne RD	&	W 151st ST	2-way stop		1 B/A			1 B/B		1	1 NA		1	1 NA	
Hamilton Boone RD	&	W 186th ST.	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Hamilton Boone RD	&	W 196th ST.	2-way stop		1 A/A			1 A/A			1 NA			1 NA	

2017 Intersection Lane Configuration and AM/PM Peak Hour Approach Levels of Service
(No US 31 Freeway)

N/S Street		E/W Street	Control Type	EB			WB			NB			SB		
				L	T	R	L	T	R	L	T	R	L	T	R
Joliet RD.	&	W 196th ST.	1-way stop	1 A/A						1 NA			1 NA		
Joliet RD.	&	W 193rd ST	1-way stop				1 A/A			1 NA			1 NA		
Joliet RD.	&	W 186th ST.	2-way stop	1 A/A			1 A/A			1 NA			1 NA		
Mule Barn RD	&	W 193rd ST	2-way stop	1 A/A			1 A/A			1 NA			1 NA		
Mule Barn RD	&	W 186th ST.	2-way stop	1 A/A			1 A/A			1 NA			1 NA		
Centennial RD	&	W 186th ST.	2-way stop	1 NA			1 NA			1 A/A			1 A/A		
Centennial RD	&	W 193rd ST	2-way stop	1 A/A			1 A/A			1 NA			1 NA		
Lamong RD.	&	W 193rd ST	1-way stop	1 NA			1 NA						1 A/A		
Eagletown RD	&	W 193rd ST	1-way stop	1 NA			1 NA			1 A/A					
Eagletown RD	&	W 186th ST.	2-way stop	1 A/A			1 A/A			1 NA			1 NA		
Casey RD	&	W 193rd ST	1-way stop	1 NA			1 NA			1 A/A					
Freemont Moore RD.	&	W 193rd ST	1-way stop	1 NA			1 NA						1 A/A		
Six Points RD.	&	W 193rd ST	2-way stop	1 A/A			1 A/A			1 NA			1 NA		
Springmill RD	&	W 186th ST.	2-way stop	1 NA			1 NA			1 B/B			1 B/B		
Dartown RD	&	Kinsey Ave.	All-way stop	1 A/A			1 A/A			1 A/A					
N Wheeler RD	&	E 181st ST	1-way stop	1 NA			1 NA			1 A/A					
Horton RD.	&	191st St.	1-way stop	1 NA			1 NA						1 B/A		
Tomlinson RD	&	191st St.	All-way stop	1 A/A			1 A/A			1 A/A			1 A/A		
Tomlinson RD	&	E 196th ST	1-way stop				1 A/A			1 NA			1 NA		
Tomlinson RD	&	199th ST	1-way stop	1 A/A						1 NA			1 NA		
Tomlinson RD	&	E 206th ST	1-way stop	1 NA			1 NA			1 A/A					

2017 Intersection Lane Configuration and AM/PM Peak Hour Approach Levels of Service
(No US 31 Freeway)

N/S Street		E/W Street	Control Type	EB			WB			NB			SB		
				L	T	R	L	T	R	L	T	R	L	T	R
Horton RD.	&	W 206th ST	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Six Points RD.	&	W 206th ST.	2-way stop		1 NA			1 NA			1 A/A			1 B/A	
Horton RD.	&	199th ST	1-way stop					1 A/A			1 NA			1 NA	
Oakridge Rd.	&	214th ST	1-way stop		1 A/A						1 NA			1 NA	
Horton RD.	&	214th ST	1-way stop					1 A/A			1 NA			1 NA	
Horton RD.	&	W 216th ST	1-way stop		1 A/A						1 NA			1 NA	
Six Points RD	&	W 216th ST	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Freemont Moore RD.	&	W 216th ST	4-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Freemont Moore RD.	&	W 211th ST	1-way stop		1 A/A						1 NA			1 NA	
Freemont Moore RD.	&	W 206th ST.	2-way stop		1 NA			1 NA			1 A/A			1 A/A	
Lamong RD.	&	W 206th ST.	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Centennial RD	&	W 206th ST.	1-way stop		1 NA			1 NA			1 A/A				
Mule Barn RD	&	W 206th ST.	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Joliet RD.	&	W 206th ST.	1-way stop		1 NA			1 NA			1 A/A				
Hamilton Boone RD	&	W 206th ST.	2-way stop		1 NA			1 NA			1 A/A			1 A/A	
Hamilton Boone RD	&	W 216th ST	1-way stop					1 A/A			1 NA			1 NA	
Mule Barn RD	&	W 216th ST	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Lamong RD	&	W 216th ST	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Lamong RD	&	W 211th ST	1-way stop					1 A/A			1 NA			1 NA	
Thatcher LN	&	E 151st ST	Signal	1	2 B/B		1	2 B/B/		1	1 B/B		1	1 B/B	
E Greyhound Pass		147th ST	Signal				1	1 C/C			2 1 A/A		1	2 A/A	

2017 Intersection Lane Configuration and AM/PM Peak Hour Approach Levels of Service
(No US 31 Freeway)

N/S Street		E/W Street	Control Type	EB			WB			NB			SB		
				L	T	R	L	T	R	L	T	R	L	T	R
Greyhound CT.	&	151st. ST	1-way stop		1			1			1				
					NA			NA			B/B				
Greyhound CT.	&	E Greyhound Pass	Signal	1	2		1	2		1	1		1	1	
					B/B			B/C			B/B			C/B	
Towne RD	&	171st St.	1-way stop					1			1	1	1	1	
								B/B			NA			NA	
Oakridge Rd.	&	E 206th ST	1-way stop		1			1						1	
					NA			NA						A/A	
Marsh Dr.	&	E Greyhound Pass	Signal	1	2		1	2			1		1	1	
					B/B			B/B			A/A			A/A	
East Access Rd.	&	E Greyhound Pass	Signal	1	2			2	1		1		1		1
					A/A			A/B			B/B			B/B	
East Access Rd.	&	E 151st ST	Signal		2	1	1	2		1		1			
					A/A			A/A			A/A				
Union St. Ext.	&	E 196th ST	2-way stop		1			1			1			1	
					NA			NA			A/A			A/A	
Union St. Ext.	&	202nd St	1-way stop		1			1			1				
					NA			NA			B/B				
Grassy Branch Rd	&	202nd St	1-way stop					1			1			1	
								B/B			NA			NA	
Eagle Pkwy.	&	W 186th ST.	2-way stop		1			1			1			1	
					B/B			A/A			NA			NA	
Eagle Pkwy.	&	Casey RD (S)	1-way stop					1			1			1	
								A/B			NA			NA	
Casey RD (N)	&	Eagle Pkwy.	1-way stop		1			1						1	
					NA			NA						A/A	
Springmill RD	&	Eagle Pkwy.	2-way stop		1			1			1			1	
					NA			NA			B/C			C/B	
Eagletown RD.	&	171st St.	2-way stop		1			1			1			1	
					NA			NA			A/A			A/A	

Notes:

1. State route and 146th Street intersections will not become Westfield responsibility and are not shown.
2. Lanes that accommodate shared through and turning traffic are shown as through lanes.
3. A "+" indicates a shared lane in addition to an exclusive turn lane.
4. NA indicates movements that do not have to stop at an intersection. No LOS is defined.

2017 Intersection Lane Configuration and AM/PM Peak Hour Approach Levels of Service
(With US 31 Freeway)

N/S Street		E/W Street	Control Type	EB			WB			NB			SB		
				L	T	R	L	T	R	L	T	R	L	T	R
Hinkle RD	&	E 216th ST	All-way stop		1 B/B			1 B/A			1 A/A			1 A/A	
Anthony RD	&	E 216th ST	All-way stop		1 A/B			1 B/A			1 A/A			1 A/A	
Moontown RD	&	191st St.	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Shadynook RD	&	191st St.	1-way stop		1 NA			1 NA			1 A/A				
Grassy Branch	&	191st St.	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
East ST	&	191st St.	2-way stop		1 NA			1 NA			1 A/B			1 A	
Moontown RD	&	E 196th ST	1-way stop		1 A/A						1 NA			1 NA	
Grassy Branch	&	E 196th ST	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Moontown RD	&	186th St.	1-way stop		1 A/A						1 NA			1 NA	
Grassy Branch	&	E 186th ST	1-way stop		1 A/A						1 NA			1 NA	
East ST	&	E 181st ST	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
East ST	&	E 186th ST	1-way stop					1 A/A			1 NA			1 NA	
N Union ST	&	181ST ST	2-way stop		1 A/B			1 B/B			1 NA			1 NA	
Shadynook RD	&	186th St.	1-way stop					1 A/A			1 NA			1 NA	
S Union ST	&	W 169th ST	2-way stop		1 A/A			1 A/A			1 1 NA			1 NA	
S Union ST	&	W 161st ST	All-way stop		1 B/B			1 B/B		1	1 A/A		1	1 A/A	
Oak RD	&	W 161st ST	All-way stop		1 B/C			1 B/B			1 A/A			1 B/A	
Carey RD	&	W 161st ST	Signal	1	1 A/A		1	1 A/A		1	1 A/A		1	1 A/A	
Gray RD	&	E 161st ST	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Gray RD	&	E 169th ST	2-way stop		1 A/B			1 A/A			1 NA			1 NA	
Carey RD	&	E 169th ST	1-way stop					1 A/A			1 NA			1 NA	

2017 Intersection Lane Configuration and AM/PM Peak Hour Approach Levels of Service
(With US 31 Freeway)

N/S Street		E/W Street	Control Type	EB			WB			NB			SB		
				L	T	R	L	T	R	L	T	R	L	T	R
S Union ST	&	E 171st ST	1-way stop					1			1			1	
								A/A			NA			NA	
Oak RD	&	E 171st ST	All-way stop		1			1			1				
					A/A			A/A			A/A				
Carey RD	&	E 171st ST	1-way stop		1						1			1	
					A/A						NA			NA	
Gray RD	&	156th ST	1-way stop					1			1			1	
								A/A			NA			NA	
Gray RD	&	E 151st ST	1-way stop		1						1			1	
					B/B						NA			NA	
Carey RD	&	E 151st ST	Roundabout												
Oak RD	&	E 151st ST	2-way stop	1	2			2			1			1	
					NA			NA			B/B			A/A	
S Union ST	&	W 156th ST	1-way stop		1						1			1	
					A/A						NA			NA	
Dunbar RD	&	E 216th ST	1-way stop					1			1	1		1	
								A/A			NA			NA	
Western Way	&	E Greyhound Pass	Signal		1	1	1+	1		1		2			
					A/A			A/A			B/B				
E Greyhound Pass	&	151st ST	1-way stop		1			1			1				
					NA			A/B			NA				
Oakridge RD	&	Greyhound Pass	All-way stop		1			1			1			1	
					A/A			A/A			A/A			A/A	
Springmill RD	&	Greyhound Pass	1-way stop					1			1			1	
								B/B			NA			NA	
Oakridge RD	&	W 156th ST	All-way stop		1			1			1			1	
					A/A			A/A			A/A			A/A	
Springmill RD	&	W 156th ST	All-way stop		1			1			1			1	
					A/B			B/B			C/D			C/D	
Ditch RD	&	W 151st ST	1-way stop		1						1			1	
					A/A						NA			NA	
Ditch RD	&	W 156th ST	All-way stop		1			1			1			1	
					A/A			A/A			A/A			A/A	
Oakridge RD	&	E 161st ST	Signal	1	1		1	1	1	1	1		1	1	
					A/A			A/B			B/B			B/B	
Oakridge RD	&	W 169th ST	2-way stop	1	1		1	1			1			1	
					B/B			B/C			NA			NA	
Springmill RD	&	W 161st ST	Signal	1	1		1	1	1	1	1	1	1	1	
					C/C			B/C			B/D			B/B	
Springmill RD	&	W 169th ST	All-way stop	1	1		1	1			1			1	
					B/B			A/B			B/B			B/C	

2017 Intersection Lane Configuration and AM/PM Peak Hour Approach Levels of Service (With US 31 Freeway)

N/S Street		E/W Street	Control Type	EB			WB			NB			SB		
				L	T	R	L	T	R	L	T	R	L	T	R
Ditch RD	&	W 161st ST	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Ditch RD	&	W 166th ST.	1-way stop		1 A/A						1 NA			1 NA	
Ditch RD	&	W 169th ST	All-way stop		1 C/B			1 B/B			1 A/B			1 B/B	
Towne RD	&	Eagle Creek Ave.	2-way stop	1	1 NA		1	1 NA		1	1 B/B		1	1 B/B	
Eagle Creek Ave.	&	W 166th ST.	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Eagle Creek Ave.	&	Little Eagle Creek RD	All-way stop		1 A/A			1 A/A						1 A/A	
Shelborne RD	&	Little Eagle Creek RD	1-way stop		1 NA			1 NA			1 A/A				
Little Eagle Creek RD	&	W. 156th ST	1-way stop		1 A/A						1 NA			1 NA	
Joliet RD.	&	W. 156th ST	1-way stop		1 NA			1 NA						1 A/A	
Hamilton Boone RD	&	W. 156th ST	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Joliet RD.	&	W 166th ST.	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Hamilton Boone RD	&	W 166th ST.	1-way stop					1 A/A			1 NA			1 NA	
Eagletown RD.	&	W 166th ST.	1-way stop		1 NA			1 NA						1 A/A	
Towne RD	&	W 166th ST.	All-way stop		1 A/A			1 A/A			1 A/A			1 A/A	
Towne RD	&	W 161st ST	1-way stop					1 B/B			1 NA			1 NA	
Towne RD	&	W 156th ST	1-way stop					1 B/B			1 NA			1 NA	
Towne RD	&	W 159th ST	1-way stop		1 B/B						1 NA			1 NA	
Shelborne RD	&	W 151st ST	1-way stop					1 A/A			1 NA			1 NA	
Towne RD	&	W 151st ST	2-way stop		1 B/A			1 B/B			1 NA			1 NA	
Hamilton Boone RD	&	W 186th ST.	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Hamilton Boone RD	&	W 196th ST.	2-way stop		1 A/A			1 A/A			1 NA			1 NA	

2017 Intersection Lane Configuration and AM/PM Peak Hour Approach Levels of Service (With US 31 Freeway)

N/S Street		E/W Street	Control Type	EB			WB			NB			SB		
				L	T	R	L	T	R	L	T	R	L	T	R
Joliet RD.	&	W 196th ST.	1-way stop		1 A/A						1 NA			1 NA	
Joliet RD.	&	W 193rd ST	1-way stop					1 A/A			1 NA			1 NA	
Joliet RD.	&	W 186th ST.	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Mule Barn RD	&	W 193rd ST	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Mule Barn RD	&	W 186th ST.	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Centennial RD	&	W 186th ST.	2-way stop		1 NA			1 NA			1 A/A			1 A/A	
Centennial RD	&	W 193rd ST	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Lamong RD.	&	W 193rd ST	1-way stop		1 NA			1 NA						1 A/A	
Eagletown RD	&	W 193rd ST	1-way stop		1 NA			1 NA			1 A/A				
Eagletown RD	&	W 186th ST.	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Casey RD	&	W 193rd ST	1-way stop		1 NA			1 NA			1 A/A				
Freemont Moore RD.	&	W 193rd ST	1-way stop		1 NA			1 NA						1 A/A	
Six Points RD.	&	W 193rd ST	2-way stop		1 NA			1 NA			1 A/A			1 A/A	
Springmill RD	&	W 186th ST.	2-way stop		1 A/A			1 A/A			1 NA			1 NA	
Dartown RD	&	Kinsey Ave.	All-way stop		1 A/A			1 A/A			1 A/A				
N Wheeler RD	&	E 181st ST	1-way stop		1 NA			1 NA			1 A/A				
Horton RD.	&	191st St.	All-way stop		1 A/A			1 A/A						1 A/A	
Tomlinson RD	&	191st St.	All-way stop		1 A/A			1 A/B			1 A/A			1 A/A	
Tomlinson RD	&	E 196th ST	1-way stop					1 A/A			1 NA			1 NA	
Tomlinson RD	&	199th ST	1-way stop		1 A/A						1 NA			1 NA	
Tomlinson RD	&	E 206th ST	1-way stop		1 NA			1 NA			1 A/A				

2017 Intersection Lane Configuration and AM/PM Peak Hour Approach Levels of Service (With US 31 Freeway)

N/S Street		E/W Street	Control Type	EB	WB	NB	SB
				L T R	L T R	L T R	L T R
Horton RD.	&	W 206th ST	All-way stop	1 A/A	1 A/A	1 A/A	1 A/A
Six Points RD.	&	W 206th ST.	2-way stop	1 NA	1 NA	1 A/A	1 A/A
Horton RD.	&	199th ST	1-way stop		1 A/A	1 NA	1 NA
Oakridge Rd.	&	214th ST	1-way stop	1 A/A		1 NA	1 NA
Horton RD.	&	214th ST	1-way stop		1 A/A	1 NA	1 NA
Horton RD.	&	W 216th ST	1-way stop	1 A/A		1 NA	1 NA
Six Points RD	&	W 216th ST	2-way stop	1 A/A	1 A/A	1 NA	1 NA
Freemont Moore RD.	&	W 216th ST	All-way stop	1 A/A	1 A/A	1 A/A	1 A/A
Freemont Moore RD.	&	W 211th ST	1-way stop	1 A/A		1 NA	1 NA
Freemont Moore RD.	&	W 206th ST.	2-way stop	1 NA	1 NA	1 A/A	1 A/A
Lamong RD.	&	W 206th ST.	All-way stop	1 A/A	1 A/A	1 A/A	1 A/A
Centennial RD	&	W 206th ST.	1-way stop	1 NA	1 NA	1 A/A	
Mule Barn RD	&	W 206th ST.	2-way stop	1 A/A	1 A/A	1 NA	1 NA
Joliet RD.	&	W 206th ST.	1-way stop	1 NA	1 NA	1 A/A	
Hamilton Boone RD	&	W 206th ST.	2-way stop	1 NA	1 NA	1 A/A	1 A/A
Hamilton Boone RD	&	W 216th ST	1-way stop		1 A/A	1 NA	1 NA
Mule Barn RD	&	W 216th ST	2-way stop	1 A/A	1 A/A	1 NA	1 NA
Lamong RD	&	W 216th ST	2-way stop	1 A/A	1 A/A	1 NA	1 NA
Lamong RD	&	W 211th ST	1-way stop		1 A/A	1 NA	1 NA
Thatcher LN	&	E 151st ST	Signal	1 2 B/C	1 2 B/B/	1 1 B/B	1 1 B/B
E Greyhound Pass		147th ST	Signal		1 1 B/B	1 1 A/A	1 2 A/A

2017 Intersection Lane Configuration and AM/PM Peak Hour Approach Levels of Service (With US 31 Freeway)

N/S Street		E/W Street	Control Type	EB			WB			NB			SB		
				L	T	R	L	T	R	L	T	R	L	T	R
Greyhound CT.	&	151st. ST	1-way stop		1			1			1				
					NA			NA			B/B				
N Casey RD	&	SR 32													
Greyhound CT.	&	E Greyhound Pass	Signal	1	2		1	2		1	1		1	1	
					B/B			B/B			A/A			A/A	
Towne RD	&	169th ST	1-way stop					1			1	1	1	1	
								B/B			NA			NA	
Oak Rd	&	146th St.	Signal		2			2						1	
					C/D			B/A						B/D	
Oakridge Rd.	&	E 206th ST	1-way stop		1			1						1	
					NA			NA						A/A	
Marsh Dr.	&	E Greyhound Pass	Signal	1	2	1	1	2			1		1	1	
					A/A			B/B			A/A			A/A	
East Acces Rd.	&	E Greyhound Pass	Signal	1	2			2	1		1			1	1
					A/A			B/B			A/A			B/B	
East Acces Rd.	&	E 151st ST	Signal		2	1	1	2		1		1			
					A/A			A/A			A/B				
Union St. Ext.	&	E 196th ST	2-way stop		1			1			1			1	
					A/A			B/B			NA			NA	
Union St. Ext.	&	202nd St	1-way stop		1			1			1				
					NA			NA			B/A				
202nd ST	&	Grassy Branch RD	1-way stop					1			1			1	
								B/B			NA			NA	
Eagle Pkwy.	&	W 186th ST.	2-way stop		1			1			1			1	
					A/B			A/B			NA			NA	
Eagle Pkwy.	&	Casey RD (S)	1-way stop					1			1			1	
								A/A			NA			NA	
Casey RD (N)	&	Eagle Pkwy.	1-way stop		1			1						1	
					NA			NA						A/A	
Springmill RD	&	Eagle Pkwy.	2-way stop		1			1			1			1	
					NA			NA			B/B			B/B	
Eagletown RD.	&	171st St.	2-way stop		1			1			1			1	
					NA			NA			A/A			A/A	
Towne RD	&	SR 32	All-way stop		1	1	1	1			1	1			
					A/B			B/B			A/A				

Notes:

1. State route and 146th Street intersections will not become Westfield responsibility and are not shown.
2. Lanes that accommodate shared through and turning traffic are shown as through lanes.
3. A "+" indicates a shared lane in addition to an exclusive turn lane.
4. NA indicates movements that do not have to stop at an intersection. No LOS is defined.

Appendix G:
Project Cost Estimates

Carey Road from 146th to 161st

Widening Portion 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$29,900.00	$29,900.00
2	Excavation	C.Y.	2067.59	2068.0	$25.00	$51,689.81
3	HMA Surface	TON	183.29	183.0	$65.00	$11,913.69
4	HMA Intermediate	TON	305.48	305.0	$60.00	$18,328.75
5	HMA Base	TON	6844.57	6845.0	$55.00	$376,451.17
6	No. 53 Aggregate Base	TON	5397.13	5397.0	$20.00	$107,942.59
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	275.00	275.0	$65.00	$17,875.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	555.56	556.0	$25.00	$13,888.89
21	Seeding & Mulching	S.Y.	6666.67	6667.0	$3.00	$20,000.00
22	Erosion Control	L.S.	1.00	1.0	$6,500.00	$6,500.00
23	Traffic Control	L.S.	1.00	1.0	$13,000.00	$13,000.00
24	Construction Staking	L.S.	1.00	1.0	$30,900.00	$30,900.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$698,389.90**
					Contingency 15%	$104,758.49
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$803,100.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Carey Road from 146th to 161st

Resurfacing Portion 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$6,700.00	$6,700.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	733.29	733.0	$65.00	$47,663.69
4	HMA Intermediate	TON	1222.15	1222.0	$60.00	$73,328.75
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	555.56	556.0	$25.00	$13,888.89
21	Seeding & Mulching	S.Y.	6666.67	6667.0	$3.00	$20,000.00
22	Erosion Control	L.S.	1.00	1.0	$1,600.00	$1,600.00
23	Traffic Control	L.S.	1.00	1.0	$3,200.00	$3,200.00
24	Construction Staking	L.S.	1.00	1.0	$7,700.00	$7,700.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$174,081.33**
					Contingency 15%	$26,112.20
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$200,200.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2007 Construction Cost: Carey -146th to 161st

Total Widen & Resurface	$1,003,300.00
Small Structure (2)	$50,000.00
Subtract 161st & Carey mainline	($66,886.67)
Total	**$986,413.33**

Springmill Road from 156th to SR 32

Widening Option 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$64,200.00	$64,200.00
2	Excavation	C.Y.	4329.26	4329.0	$25.00	$108,231.58
3	HMA Surface	TON	383.78	384.0	$65.00	$24,945.67
4	HMA Intermediate	TON	639.63	640.0	$60.00	$38,377.96
5	HMA Base	TON	14331.61	14332.0	$55.00	$788,238.55
6	No. 53 Aggregate Base	TON	11480.60	11481.0	$20.00	$229,612.10
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	1025.00	1025.0	$65.00	$66,625.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	1118.52	1119.0	$25.00	$27,962.96
21	Seeding & Mulching	S.Y.	13422.22	13422.0	$3.00	$40,266.67
22	Erosion Control	L.S.	1.00	1.0	$13,900.00	$13,900.00
23	Traffic Control	L.S.	1.00	1.0	$27,800.00	$27,800.00
24	Construction Staking	L.S.	1.00	1.0	$66,200.00	$66,200.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$1,496,360.49**
					Contingency 15%	$224,454.07
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$1,720,800.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Gray Road from 146th to 156th

Resurfacing Option 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$17,400.00	$17,400.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	1535.41	1535.0	$65.00	$99,801.41
4	HMA Intermediate	TON	2559.01	2559.0	$60.00	$153,540.63
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	1025.00	1025.0	$65.00	$66,625.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	1118.52	1119.0	$25.00	$27,962.96
21	Seeding & Mulching	S.Y.	13422.22	13422.0	$3.00	$40,266.67
22	Erosion Control	L.S.	1.00	1.0	$4,100.00	$4,100.00
23	Traffic Control	L.S.	1.00	1.0	$8,100.00	$8,100.00
24	Construction Staking	L.S.	1.00	1.0	$19,400.00	$19,400.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$437,196.66**
					Contingency 15%	$65,579.50
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$502,800.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2007 Construction Cost: Springmill-146th to SR 32

Total Widening & Resurface Cost	**$2,223,600.00**
Subtract mainline at Greyhound	($147,258.28)
Subtract mainline at 156th	($147,258.28)
Subtract mainline at 169th	($147,258.28)
Total	**$2,076,341.72**

Springmill & Greyhound Pass Intersection - non curbed section

Widening Existing Lanes 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$7,700.00	$7,700.00
2	Excavation	C.Y.	551.36	551.0	$25.00	$13,783.95
3	HMA Surface	TON	48.88	49.0	$65.00	$3,176.98
4	HMA Intermediate	TON	81.46	81.0	$60.00	$4,887.67
5	HMA Base	TON	1825.22	1825.0	$55.00	$100,386.98
6	No. 53 Aggregate Base	TON	1412.35	1412.0	$20.00	$28,246.91
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	148.15	148.0	$25.00	$3,703.70
21	Seeding & Mulching	S.Y.	1777.78	1778.0	$3.00	$5,333.33
22	Erosion Control	L.S.	1.00	1.0	$1,700.00	$1,700.00
23	Traffic Control	L.S.	1.00	1.0	$3,300.00	$3,300.00
24	Construction Staking	L.S.	1.00	1.0	$8,000.00	$8,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$180,219.53**
				Contingency	15%	$27,032.93
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$207,300.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Springmill & Greyhound Pass Intersection - non curbed section

Resurfacing Existing Lanes 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$1,600.00	$1,600.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	195.54	196.0	$65.00	$12,710.32
4	HMA Intermediate	TON	325.91	326.0	$60.00	$19,554.33
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$300.00	$300.00
23	Traffic Control	L.S.	1.00	1.0	$700.00	$700.00
24	Construction Staking	L.S.	1.00	1.0	$1,600.00	$1,600.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$36,464.65**
				Contingency	15%	$5,469.70
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$41,900.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2007 Construction Cost: INT-Springmill & Greyhound

Intersections (assume existing 2-10' travel lanes is for pvr		Total Length for all lanes (ft.)		
Road - Improvement	Turn Lanes	Storage	Entra. Tapers	Exit Tapers
Springmill & Greyhound Pass	2	250	200	420

Assume taper is widening, DS =40mph (35:1 rate) DS = 60mph (65:1)

Springmill & Greyhound Pass Intersection - non curbed section

New Turn Lanes 12 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$3,500.00	$3,500.00
2	Excavation	C.Y.	454.66	455.0	$25.00	$11,366.39
3	HMA Surface	TON	53.16	53.0	$65.00	$3,455.49
4	HMA Intermediate	TON	88.60	89.0	$60.00	$5,316.14
5	HMA Base	TON	751.44	751.0	$55.00	$41,329.00
6	No. 53 Aggregate Base	TON	425.33	425.0	$20.00	$8,506.67
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$700.00	$700.00
23	Traffic Control	L.S.	1.00	1.0	$1,500.00	$1,500.00
24	Construction Staking	L.S.	1.00	1.0	$3,500.00	$3,500.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$79,173.68**
				Contingency	15%	$11,876.05
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$91,000.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Widening and Resurface Existing	**$249,200.00**
Add New Turn Lanes	**$91,000.00**
Total	**$340,200.00**

Springmill & 156th Intersection - non curbed section

Widening Existing Lanes 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$7,700.00	$7,700.00
2	Excavation	C.Y.	551.36	551.0	$25.00	$13,783.95
3	HMA Surface	TON	48.88	49.0	$65.00	$3,176.98
4	HMA Intermediate	TON	81.46	81.0	$60.00	$4,887.67
5	HMA Base	TON	1825.22	1825.0	$55.00	$100,386.98
6	No. 53 Aggregate Base	TON	1412.35	1412.0	$20.00	$28,246.91
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	148.15	148.0	$25.00	$3,703.70
21	Seeding & Mulching	S.Y.	1777.78	1778.0	$3.00	$5,333.33
22	Erosion Control	L.S.	1.00	1.0	$1,700.00	$1,700.00
23	Traffic Control	L.S.	1.00	1.0	$3,300.00	$3,300.00
24	Construction Staking	L.S.	1.00	1.0	$8,000.00	$8,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$180,219.53**
					Contingency 15%	$27,032.93
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$207,300.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Springmill & 156th Intersection - non curbed section

Resurfacing Existing Lanes 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$1,600.00	$1,600.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	195.54	196.0	$65.00	$12,710.32
4	HMA Intermediate	TON	325.91	326.0	$60.00	$19,554.33
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$300.00	$300.00
23	Traffic Control	L.S.	1.00	1.0	$700.00	$700.00
24	Construction Staking	L.S.	1.00	1.0	$1,600.00	$1,600.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$36,464.65**
					Contingency 15%	$5,469.70
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$41,900.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2007 Construction Cost: INT-Springmill & 156th

Intersections (assume existing 2-10' travel lanes is for pvr		Total Length for all lanes (ft.)		
Road - Improvement	Turn Lanes	Storage	Entra. Tapers	Exit Tapers
Springmill & 156th	3	510	300	630

Assume taper is widening, DS =40mph (35:1 rate) DS = 60mph (65:1)

Springmill & 156th Intersection - non curbed section

New Turn Lanes 12 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$5,800.00	$5,800.00
2	Excavation	C.Y.	752.53	753.0	$25.00	$18,813.33
3	HMA Surface	TON	87.99	88.0	$65.00	$5,719.43
4	HMA Intermediate	TON	146.65	147.0	$60.00	$8,799.12
5	HMA Base	TON	1243.76	1244.0	$55.00	$68,406.62
6	No. 53 Aggregate Base	TON	704.00	704.0	$20.00	$14,080.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$1,200.00	$1,200.00
23	Traffic Control	L.S.	1.00	1.0	$2,400.00	$2,400.00
24	Construction Staking	L.S.	1.00	1.0	$5,800.00	$5,800.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$131,018.51**
				Contingency	15%	$19,652.78
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$150,700.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Widening and Resurface Existing	**$249,200.00**
Add New Turn Lanes	**$150,700.00**
Total	**$399,900.00**

Springmill & 169th Intersection - non curbed section

Widening Existing Lanes 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$7,700.00	$7,700.00
2	Excavation	C.Y.	551.36	551.0	$25.00	$13,783.95
3	HMA Surface	TON	48.88	49.0	$65.00	$3,176.98
4	HMA Intermediate	TON	81.46	81.0	$60.00	$4,887.67
5	HMA Base	TON	1825.22	1825.0	$55.00	$100,386.98
6	No. 53 Aggregate Base	TON	1412.35	1412.0	$20.00	$28,246.91
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	148.15	148.0	$25.00	$3,703.70
21	Seeding & Mulching	S.Y.	1777.78	1778.0	$3.00	$5,333.33
22	Erosion Control	L.S.	1.00	1.0	$1,700.00	$1,700.00
23	Traffic Control	L.S.	1.00	1.0	$3,300.00	$3,300.00
24	Construction Staking	L.S.	1.00	1.0	$8,000.00	$8,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$180,219.53**
				Contingency	15%	$27,032.93
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$207,300.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Springmill & 169th Intersection - non curbed section

Resurfacing Existing Lanes 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$1,600.00	$1,600.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	195.54	196.0	$65.00	$12,710.32
4	HMA Intermediate	TON	325.91	326.0	$60.00	$19,554.33
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$300.00	$300.00
23	Traffic Control	L.S.	1.00	1.0	$700.00	$700.00
24	Construction Staking	L.S.	1.00	1.0	$1,600.00	$1,600.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$36,464.65**
				Contingency	15%	$5,469.70
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$41,900.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2007 Construction Cost: INT-Springmill & 169th

Intersections (assume existing 2-10' travel lanes is for pvr		Total Length for all lanes (ft.)		
Road - Improvement	Turn Lanes	Storage	Entra. Tapers	Exit Tapers
Springmill & 169th	2	200	200	420

Assume taper is widening, DS =40mph (35:1 rate) DS = 60mph (65:1)

Springmill & 169th Intersection - non curbed section

New Turn Lanes 12 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$3,300.00	$3,300.00
2	Excavation	C.Y.	428.53	429.0	$25.00	$10,713.15
3	HMA Surface	TON	50.11	50.0	$65.00	$3,256.90
4	HMA Intermediate	TON	83.51	84.0	$60.00	$5,010.61
5	HMA Base	TON	708.25	708.0	$55.00	$38,953.77
6	No. 53 Aggregate Base	TON	400.89	401.0	$20.00	$8,017.78
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$700.00	$700.00
23	Traffic Control	L.S.	1.00	1.0	$1,400.00	$1,400.00
24	Construction Staking	L.S.	1.00	1.0	$3,300.00	$3,300.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$74,652.20**
				Contingency	15%	$11,197.83
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$85,900.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Widening and Resurface Existing	**$249,200.00**
Add New Turn Lanes	**$85,900.00**
Total	**$335,100.00**

161st & Carey Intersection - non curbed section

Widening Existing Lanes 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$7,700.00	$7,700.00
2	Excavation	C.Y.	551.36	551.0	$25.00	$13,783.95
3	HMA Surface	TON	48.88	49.0	$65.00	$3,176.98
4	HMA Intermediate	TON	81.46	81.0	$60.00	$4,887.67
5	HMA Base	TON	1825.22	1825.0	$55.00	$100,386.98
6	No. 53 Aggregate Base	TON	1412.35	1412.0	$20.00	$28,246.91
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	148.15	148.0	$25.00	$3,703.70
21	Seeding & Mulching	S.Y.	1777.78	1778.0	$3.00	$5,333.33
22	Erosion Control	L.S.	1.00	1.0	$1,700.00	$1,700.00
23	Traffic Control	L.S.	1.00	1.0	$3,300.00	$3,300.00
24	Construction Staking	L.S.	1.00	1.0	$8,000.00	$8,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$180,219.53**
				Contingency	15%	$27,032.93
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$207,300.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

161st & Carey Intersection - non curbed section

Resurfacing Existing Lanes 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$1,600.00	$1,600.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	195.54	196.0	$65.00	$12,710.32
4	HMA Intermediate	TON	325.91	326.0	$60.00	$19,554.33
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$300.00	$300.00
23	Traffic Control	L.S.	1.00	1.0	$700.00	$700.00
24	Construction Staking	L.S.	1.00	1.0	$1,600.00	$1,600.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$36,464.65**
				Contingency	15%	$5,469.70
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$41,900.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2007 Construction Cost: INT-161st & Carey

Intersections (assume existing 2-10' travel lanes is for pvr		Total Length for all lanes (ft.)		
Road - Improvement	Turn Lanes	Storage	Entra. Tapers	Exit Tapers
Springmill & 169th	4	400	400	840

Assume taper is widening, DS =40mph (35:1 rate) DS = 60mph (65:1)

Springmill & 169th Intersection - non curbed section

New Turn Lanes 12 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$6,600.00	$6,600.00
2	Excavation	C.Y.	857.05	857.0	$25.00	$21,426.30
3	HMA Surface	TON	100.21	100.0	$65.00	$6,513.79
4	HMA Intermediate	TON	167.02	167.0	$60.00	$10,021.22
5	HMA Base	TON	1416.50	1417.0	$55.00	$77,907.54
6	No. 53 Aggregate Base	TON	801.78	802.0	$20.00	$16,035.56
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$1,400.00	$1,400.00
23	Traffic Control	L.S.	1.00	1.0	$2,800.00	$2,800.00
24	Construction Staking	L.S.	1.00	1.0	$6,600.00	$6,600.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$149,304.41**
				Contingency	15%	$22,395.66
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$171,700.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Widening and Resurface Existing	**$249,200.00**
Add New Turn Lanes	**$171,700.00**
Traffic Signal	**$160,000.00**
Total	**$580,900.00**

Towne Road, 146th St to Eagle Creek Ave

Widening Portion 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$54,900.00	$54,900.00
2	Excavation	C.Y.	3842.41	3842.0	$25.00	$96,060.35
3	HMA Surface	TON	339.08	339.0	$65.00	$22,040.35
4	HMA Intermediate	TON	565.14	565.0	$60.00	$33,908.23
5	HMA Base	TON	12606.22	12606.0	$55.00	$693,342.37
6	No. 53 Aggregate Base	TON	9918.33	9918.0	$20.00	$198,366.67
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	450.00	450.0	$65.00	$29,250.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	1022.22	1022.0	$25.00	$25,555.56
21	Seeding & Mulching	S.Y.	12266.67	12267.0	$3.00	$36,800.00
22	Erosion Control	L.S.	1.00	1.0	$11,900.00	$11,900.00
23	Traffic Control	L.S.	1.00	1.0	$23,800.00	$23,800.00
24	Construction Staking	L.S.	1.00	1.0	$56,800.00	$56,800.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$1,282,723.53**
					Contingency 15%	$192,408.53
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$1,475,100.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Towne Road, 146th St to Eagle Creek Ave

Resurfacing Portion 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$12,400.00	$12,400.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	1351.08	1351.0	$65.00	$87,820.35
4	HMA Intermediate	TON	2251.80	2252.0	$60.00	$135,108.23
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	1022.22	1022.0	$25.00	$25,555.56
21	Seeding & Mulching	S.Y.	12266.67	12267.0	$3.00	$36,800.00
22	Erosion Control	L.S.	1.00	1.0	$3,000.00	$3,000.00
23	Traffic Control	L.S.	1.00	1.0	$6,000.00	$6,000.00
24	Construction Staking	L.S.	1.00	1.0	$14,300.00	$14,300.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$320,984.14**
					Contingency 15%	$48,147.62
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$369,100.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2017 Construction Cost: Towne Rd-146th to Eagle Creek

Widen and Resurface Existing	$1,844,200.00
Small Structure Extension	$5,000.00
Subtract mainline cost @ 151st	($133,637.68)
Subtract mainline cost @ 156th	($133,637.68)
Subtract mainline cost @ 159th	($133,637.68)
Subtract mainline cost @ 161st	($133,637.68)
Subtract mainline cost @ 166th	($133,637.68)
Subtract mainline cost @ 171st	($133,637.68)
Subtract mainline cost @ Eagle Creek Ave	$0.00
Total	$1,047,373.91

Towne Road & 151st Intersection

Widening Existing Lanes 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$7,700.00	$7,700.00
2	Excavation	C.Y.	551.36	551.0	$25.00	$13,783.95
3	HMA Surface	TON	48.88	49.0	$65.00	$3,176.98
4	HMA Intermediate	TON	81.46	81.0	$60.00	$4,887.67
5	HMA Base	TON	1825.22	1825.0	$55.00	$100,386.98
6	No. 53 Aggregate Base	TON	1412.35	1412.0	$20.00	$28,246.91
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	148.15	148.0	$25.00	$3,703.70
21	Seeding & Mulching	S.Y.	1777.78	1778.0	$3.00	$5,333.33
22	Erosion Control	L.S.	1.00	1.0	$1,700.00	$1,700.00
23	Traffic Control	L.S.	1.00	1.0	$3,300.00	$3,300.00
24	Construction Staking	L.S.	1.00	1.0	$8,000.00	$8,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$180,219.53**
					Contingency 15%	$27,032.93
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$207,300.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Towne Road & 151st Intersection

Resurfacing Existing Lanes 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$1,600.00	$1,600.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	195.54	196.0	$65.00	$12,710.32
4	HMA Intermediate	TON	325.91	326.0	$60.00	$19,554.33
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$300.00	$300.00
23	Traffic Control	L.S.	1.00	1.0	$700.00	$700.00
24	Construction Staking	L.S.	1.00	1.0	$1,600.00	$1,600.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$36,464.65**
					Contingency 15%	$5,469.70
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$41,900.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2017 Construction Cost: INT-Towne & 151st

Intersections (assume existing 2-10' travel lanes is for pvr		Total Length for all lanes (ft.)		
Road - Improvement	Turn Lanes	Storage	Entra. Tapers	Exit Tapers
Towne at 151st	2	200	200	420

Assume taper is widening, DS =40mph (35:1 rate) DS = 60mph (65:1)

Towne Road & 151st Intersection

New Turn Lanes 12 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$3,300.00	$3,300.00
2	Excavation	C.Y.	428.53	429.0	$25.00	$10,713.15
3	HMA Surface	TON	50.11	50.0	$65.00	$3,256.90
4	HMA Intermediate	TON	83.51	84.0	$60.00	$5,010.61
5	HMA Base	TON	708.25	708.0	$55.00	$38,953.77
6	No. 53 Aggregate Base	TON	400.89	401.0	$20.00	$8,017.78
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$700.00	$700.00
23	Traffic Control	L.S.	1.00	1.0	$1,400.00	$1,400.00
24	Construction Staking	L.S.	1.00	1.0	$3,300.00	$3,300.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$74,652.20**
				Contingency	15%	$11,197.83
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$85,900.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Widening and Resurface Existing	**$249,200.00**
Add New Turn Lanes	**$85,900.00**
Total	**$335,100.00**

Towne Road & 156th Intersection

Widening Existing Lanes 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$5,800.00	$5,800.00
2	Excavation	C.Y.	413.52	414.0	$25.00	$10,337.96
3	HMA Surface	TON	36.66	37.0	$65.00	$2,382.74
4	HMA Intermediate	TON	61.10	61.0	$60.00	$3,665.75
5	HMA Base	TON	1368.91	1369.0	$55.00	$75,290.23
6	No. 53 Aggregate Base	TON	1059.26	1059.0	$20.00	$21,185.19
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	111.11	111.0	$25.00	$2,777.78
21	Seeding & Mulching	S.Y.	1333.33	1333.0	$3.00	$4,000.00
22	Erosion Control	L.S.	1.00	1.0	$1,300.00	$1,300.00
23	Traffic Control	L.S.	1.00	1.0	$2,500.00	$2,500.00
24	Construction Staking	L.S.	1.00	1.0	$6,000.00	$6,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$135,239.65**
					Contingency 15%	$20,285.95
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$155,500.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Towne Road & 156th Intersection

Resurfacing Existing Lanes 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$1,200.00	$1,200.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	146.66	147.0	$65.00	$9,532.74
4	HMA Intermediate	TON	244.43	244.0	$60.00	$14,665.75
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$300.00	$300.00
23	Traffic Control	L.S.	1.00	1.0	$500.00	$500.00
24	Construction Staking	L.S.	1.00	1.0	$1,200.00	$1,200.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$27,398.49**
					Contingency 15%	$4,109.77
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$31,500.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2017 Construction Cost: INT-Towne & 156th

Intersections (assume existing 2-10' travel lanes is for pvr		Total Length for all lanes (ft.)		
Road - Improvement	Turn Lanes	Storage	Entra. Tapers	Exit Tapers
Towne at 156th	1	100	100	210

Assume taper is widening, DS =40mph (35:1 rate) DS = 60mph (65:1)

Towne Road & 156th Intersection

New Turn Lanes 12 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$1,600.00	$1,600.00
2	Excavation	C.Y.	214.26	214.0	$25.00	$5,356.57
3	HMA Surface	TON	25.05	25.0	$65.00	$1,628.45
4	HMA Intermediate	TON	41.76	42.0	$60.00	$2,505.31
5	HMA Base	TON	354.13	354.0	$55.00	$19,476.89
6	No. 53 Aggregate Base	TON	200.44	200.0	$20.00	$4,008.89
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$300.00	$300.00
23	Traffic Control	L.S.	1.00	1.0	$700.00	$700.00
24	Construction Staking	L.S.	1.00	1.0	$1,600.00	$1,600.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$37,176.10**
				Contingency	15%	$5,576.42
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$42,800.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Widening and Resurface Existing	**$187,000.00**
Add New Turn Lanes	**$42,800.00**
Total	**$229,800.00**

Towne Road & 159th Intersection

Widening Existing Lanes 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$5,800.00	$5,800.00
2	Excavation	C.Y.	413.52	414.0	$25.00	$10,337.96
3	HMA Surface	TON	36.66	37.0	$65.00	$2,382.74
4	HMA Intermediate	TON	61.10	61.0	$60.00	$3,665.75
5	HMA Base	TON	1368.91	1369.0	$55.00	$75,290.23
6	No. 53 Aggregate Base	TON	1059.26	1059.0	$20.00	$21,185.19
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	111.11	111.0	$25.00	$2,777.78
21	Seeding & Mulching	S.Y.	1333.33	1333.0	$3.00	$4,000.00
22	Erosion Control	L.S.	1.00	1.0	$1,300.00	$1,300.00
23	Traffic Control	L.S.	1.00	1.0	$2,500.00	$2,500.00
24	Construction Staking	L.S.	1.00	1.0	$6,000.00	$6,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$135,239.65**
					Contingency 15%	$20,285.95
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$155,500.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Towne Road & 159th Intersection

Resurfacing Existing Lanes 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$1,200.00	$1,200.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	146.66	147.0	$65.00	$9,532.74
4	HMA Intermediate	TON	244.43	244.0	$60.00	$14,665.75
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$300.00	$300.00
23	Traffic Control	L.S.	1.00	1.0	$500.00	$500.00
24	Construction Staking	L.S.	1.00	1.0	$1,200.00	$1,200.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$27,398.49**
					Contingency 15%	$4,109.77
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$31,500.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2017 Construction Cost: INT-Towne & 159th

Intersections (assume existing 2-10' travel lanes is for pvr		Total Length for all lanes (ft.)		
Road - Improvement	Turn Lanes	Storage	Entra. Tapers	Exit Tapers
Towne at 159th	1	100	100	210

Assume taper is widening, DS =40mph (35:1 rate) DS = 60mph (65:1)

Towne Road & 159th Intersection

New Turn Lanes 12 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$1,600.00	$1,600.00
2	Excavation	C.Y.	214.26	214.0	$25.00	$5,356.57
3	HMA Surface	TON	25.05	25.0	$65.00	$1,628.45
4	HMA Intermediate	TON	41.76	42.0	$60.00	$2,505.31
5	HMA Base	TON	354.13	354.0	$55.00	$19,476.89
6	No. 53 Aggregate Base	TON	200.44	200.0	$20.00	$4,008.89
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$300.00	$300.00
23	Traffic Control	L.S.	1.00	1.0	$700.00	$700.00
24	Construction Staking	L.S.	1.00	1.0	$1,600.00	$1,600.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$37,176.10**
				Contingency	15%	$5,576.42
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$42,800.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Widening and Resurface Existing	**$187,000.00**
Add New Turn Lanes	**$42,800.00**
Total	**$229,800.00**

Towne Road & 161st Intersection

Widening Existing Lanes 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$5,800.00	$5,800.00
2	Excavation	C.Y.	413.52	414.0	$25.00	$10,337.96
3	HMA Surface	TON	36.66	37.0	$65.00	$2,382.74
4	HMA Intermediate	TON	61.10	61.0	$60.00	$3,665.75
5	HMA Base	TON	1368.91	1369.0	$55.00	$75,290.23
6	No. 53 Aggregate Base	TON	1059.26	1059.0	$20.00	$21,185.19
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	111.11	111.0	$25.00	$2,777.78
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22	Erosion Control	L.S.	1.00	1.0	$1,300.00	$1,300.00
23	Traffic Control	L.S.	1.00	1.0	$2,500.00	$2,500.00
24	Construction Staking	L.S.	1.00	1.0	$6,000.00	$6,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$135,239.65**
					Contingency 15%	$20,285.95
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$155,500.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Towne Road & 161st Intersection

Resurfacing Existing Lanes 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$1,200.00	$1,200.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	146.66	147.0	$65.00	$9,532.74
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6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$300.00	$300.00
23	Traffic Control	L.S.	1.00	1.0	$500.00	$500.00
24	Construction Staking	L.S.	1.00	1.0	$1,200.00	$1,200.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$27,398.49**
					Contingency 15%	$4,109.77
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$31,500.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2017 Construction Cost: INT-Towne & 161st

Intersections (assume existing 2-10' travel lanes is for pvr		Total Length for all lanes (ft.)		
Road - Improvement	Turn Lanes	Storage	Entra. Tapers	Exit Tapers
Towne at 161st	1	100	100	210

Assume taper is widening, DS =40mph (35:1 rate) DS = 60mph (65:1)

Towne Road & 161st Intersection

New Turn Lanes — 12 ' Wide Street — 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$1,600.00	$1,600.00
2	Excavation	C.Y.	214.26	214.0	$25.00	$5,356.57
3	HMA Surface	TON	25.05	25.0	$65.00	$1,628.45
4	HMA Intermediate	TON	41.76	42.0	$60.00	$2,505.31
5	HMA Base	TON	354.13	354.0	$55.00	$19,476.89
6	No. 53 Aggregate Base	TON	200.44	200.0	$20.00	$4,008.89
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$300.00	$300.00
23	Traffic Control	L.S.	1.00	1.0	$700.00	$700.00
24	Construction Staking	L.S.	1.00	1.0	$1,600.00	$1,600.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$37,176.10**
				Contingency	15%	$5,576.42
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$42,800.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Widening and Resurface Existing	**$187,000.00**
Add New Turn Lanes	**$42,800.00**
Total	**$229,800.00**

Towne Road & 166th Intersection

Widening Existing Lanes — 8 ' Wide Street — 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$7,700.00	$7,700.00
2	Excavation	C.Y.	551.36	551.0	$25.00	$13,783.95
3	HMA Surface	TON	48.88	49.0	$65.00	$3,176.98
4	HMA Intermediate	TON	81.46	81.0	$60.00	$4,887.67
5	HMA Base	TON	1825.22	1825.0	$55.00	$100,386.98
6	No. 53 Aggregate Base	TON	1412.35	1412.0	$20.00	$28,246.91
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	148.15	148.0	$25.00	$3,703.70
21	Seeding & Mulching	S.Y.	1777.78	1778.0	$3.00	$5,333.33
22	Erosion Control	L.S.	1.00	1.0	$1,700.00	$1,700.00
23	Traffic Control	L.S.	1.00	1.0	$3,300.00	$3,300.00
24	Construction Staking	L.S.	1.00	1.0	$8,000.00	$8,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$180,219.53**
					Contingency 15%	$27,032.93
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$207,300.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Towne Road & 166th Intersection

Resurfacing Existing Lanes — 16 ' Wide Street — 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$1,600.00	$1,600.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	195.54	196.0	$65.00	$12,710.32
4	HMA Intermediate	TON	325.91	326.0	$60.00	$19,554.33
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$300.00	$300.00
23	Traffic Control	L.S.	1.00	1.0	$700.00	$700.00
24	Construction Staking	L.S.	1.00	1.0	$1,600.00	$1,600.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$36,464.65**
					Contingency 15%	$5,469.70
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$41,900.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2017 Construction Cost: INT-Towne & 166th

Intersections (assume existing 2-10' travel lanes is for pvr		Total Length for all lanes (ft.)		
Road - Improvement	Turn Lanes	Storage	Entra. Tapers	Exit Tapers
Towne at 166th	2	200	200	420

Assume taper is widening, DS =40mph (35:1 rate) DS = 60mph (65:1)

Towne Road & 166th Intersection

New Turn Lanes 12 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$3,300.00	$3,300.00
2	Excavation	C.Y.	428.53	429.0	$25.00	$10,713.15
3	HMA Surface	TON	50.11	50.0	$65.00	$3,256.90
4	HMA Intermediate	TON	83.51	84.0	$60.00	$5,010.61
5	HMA Base	TON	708.25	708.0	$55.00	$38,953.77
6	No. 53 Aggregate Base	TON	400.89	401.0	$20.00	$8,017.78
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$700.00	$700.00
23	Traffic Control	L.S.	1.00	1.0	$1,400.00	$1,400.00
24	Construction Staking	L.S.	1.00	1.0	$3,300.00	$3,300.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$74,652.20**
				Contingency	15%	$11,197.83
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$85,900.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Widening and Resurface Existing	**$249,200.00**
Add New Turn Lanes	**$85,900.00**
Total	**$335,100.00**

Towne Road & 169th Intersection

Widening Existing Lanes 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$5,800.00	$5,800.00
2	Excavation	C.Y.	413.52	414.0	$25.00	$10,337.96
3	HMA Surface	TON	36.66	37.0	$65.00	$2,382.74
4	HMA Intermediate	TON	61.10	61.0	$60.00	$3,665.75
5	HMA Base	TON	1368.91	1369.0	$55.00	$75,290.23
6	No. 53 Aggregate Base	TON	1059.26	1059.0	$20.00	$21,185.19
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	111.11	111.0	$25.00	$2,777.78
21	Seeding & Mulching	S.Y.	1333.33	1333.0	$3.00	$4,000.00
22	Erosion Control	L.S.	1.00	1.0	$1,300.00	$1,300.00
23	Traffic Control	L.S.	1.00	1.0	$2,500.00	$2,500.00
24	Construction Staking	L.S.	1.00	1.0	$6,000.00	$6,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$135,239.65**
					Contingency 15%	$20,285.95
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$155,500.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Towne Road & 169th Intersection

Resurfacing Existing Lanes 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$1,200.00	$1,200.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	146.66	147.0	$65.00	$9,532.74
4	HMA Intermediate	TON	244.43	244.0	$60.00	$14,665.75
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$300.00	$300.00
23	Traffic Control	L.S.	1.00	1.0	$500.00	$500.00
24	Construction Staking	L.S.	1.00	1.0	$1,200.00	$1,200.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$27,398.49**
					Contingency 15%	$4,109.77
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$31,500.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2017 Construction Cost: INT-Towne & 169th

Intersections (assume existing 2-10' travel lanes is for pvr		Total Length for all lanes (ft.)		
Road - Improvement	Turn Lanes	Storage	Entra. Tapers	Exit Tapers
Towne at 169th	1	100	100	210

Assume taper is widening, DS =40mph (35:1 rate) DS = 60mph (65:1)

Towne Road & 169th Intersection

New Turn Lanes 12 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$1,600.00	$1,600.00
2	Excavation	C.Y.	214.26	214.0	$25.00	$5,356.57
3	HMA Surface	TON	25.05	25.0	$65.00	$1,628.45
4	HMA Intermediate	TON	41.76	42.0	$60.00	$2,505.31
5	HMA Base	TON	354.13	354.0	$55.00	$19,476.89
6	No. 53 Aggregate Base	TON	200.44	200.0	$20.00	$4,008.89
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$300.00	$300.00
23	Traffic Control	L.S.	1.00	1.0	$700.00	$700.00
24	Construction Staking	L.S.	1.00	1.0	$1,600.00	$1,600.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$37,176.10**
				Contingency	15%	$5,576.42
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$42,800.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Widening and Resurface Existing	**$187,000.00**
Add New Turn Lanes	**$42,800.00**
Total	**$229,800.00**

Towne Road, Eagle Creek Ave to SR 32

Full Reconstruction 24 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$44,100.00	$44,100.00
2	Excavation	C.Y.	2304.44	2304.0	$25.00	$57,611.11
3	HMA Surface	TON	342.21	342.0	$65.00	$22,243.65
4	HMA Intermediate	TON	570.35	570.0	$60.00	$34,221.00
5	HMA Base	TON	3194.11	3194.0	$55.00	$175,675.87
6	No. 53 Aggregate Base	TON	1955.56	1956.0	$20.00	$39,111.11
7	Curb & Gutter	L.F.	4000.00	4000.0	$26.00	$104,000.00
8	HMA Trail Pavement	S.Y.	3555.56	3556.0	$32.00	$113,777.78
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	480.00	480.0	$30.00	$14,400.00
13	18" R.C.P.	L.F.	666.67	667.0	$40.00	$26,666.67
14	24" R.C.P.	L.F.	666.67	667.0	$45.00	$30,000.00
15	36" R.C.P.	L.F.	666.67	667.0	$61.00	$40,666.67
16	Inlet Type "B-15"	EA.	40.00	40.0	$2,500.00	$100,000.00
17	Manhole Type "C-4"	EA.	20.00	20.0	$3,000.00	$60,000.00
18	Structure Backfill	C.Y.	1192.59	1193.0	$20.00	$23,851.85
19	Underdrain**	L.F.	4000.00	4000.0	$9.00	$36,000.00
20	Earthfill and Topsoil	C.Y.	148.15	148.0	$25.00	$3,703.70
21	Seeding & Mulching	S.Y.	1777.78	1778.0	$3.00	$5,333.33
22	Erosion Control	L.S.	1.00	1.0	$9,300.00	$9,300.00
23	Traffic Control	L.S.	1.00	1.0	$18,600.00	$18,600.00
24	Construction Staking	L.S.	1.00	1.0	$44,400.00	$44,400.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$1,003,662.74**
				Contingency	15%	$150,549.41
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$1,154,200.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2017 Construction Cost: 169th-Towne to Ditch

169th Street Extension, Town Rd to Ditch Rd

Full Reconstruction Option — 24 ' Wide Street — 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$136,800.00	$136,800.00
2	Excavation	C.Y.	7215.22	7215.0	$25.00	$180,380.39
3	HMA Surface	TON	1062.68	1063.0	$65.00	$69,074.48
4	HMA Intermediate	TON	1771.14	1771.0	$60.00	$106,268.43
5	HMA Base	TON	9913.95	9914.0	$55.00	$545,267.41
6	No. 53 Aggregate Base	TON	6070.37	6070.0	$20.00	$121,407.41
7	Curb & Gutter	L.F.	12400.00	12400.0	$26.00	$322,400.00
8	HMA Trail Pavement	S.Y.	11022.22	11022.0	$32.00	$352,711.11
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	1488.00	1488.0	$30.00	$44,640.00
13	18" R.C.P.	L.F.	2066.67	2067.0	$40.00	$82,666.67
14	24" R.C.P.	L.F.	2066.67	2067.0	$45.00	$93,000.00
15	36" R.C.P.	L.F.	2066.67	2067.0	$61.00	$126,066.67
16	Inlet Type "B-15"	EA.	124.00	124.0	$2,500.00	$310,000.00
17	Manhole Type "C-4"	EA.	62.00	62.0	$3,000.00	$186,000.00
18	Structure Backfill	C.Y.	3697.04	3697.0	$20.00	$73,940.74
19	Underdrain**	L.F.	12400.00	12400.0	$9.00	$111,600.00
20	Earthfill and Topsoil	C.Y.	459.26	459.0	$25.00	$11,481.48
21	Seeding & Mulching	S.Y.	5511.11	5511.0	$3.00	$16,533.33
22	Erosion Control	L.S.	1.00	1.0	$28,900.00	$28,900.00
23	Traffic Control	L.S.	1.00	1.0	$57,800.00	$57,800.00
24	Construction Staking	L.S.	1.00	1.0	$137,700.00	$137,700.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$3,114,638.12**
				Contingency	15%	$467,195.72
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$3,581,800.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Small Structures (2) $50,000.00

Total $3,631,800.00

Ditch Widening, 169th to SR 32

Widening Portion 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$10,100.00	$10,100.00
2	Excavation	C.Y.	723.93	724.0	$25.00	$18,098.33
3	HMA Surface	TON	65.37	65.0	$65.00	$4,249.25
4	HMA Intermediate	TON	108.96	109.0	$60.00	$6,537.30
5	HMA Base	TON	2385.01	2385.0	$55.00	$131,175.29
6	No. 53 Aggregate Base	TON	1844.20	1844.0	$20.00	$36,883.95
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	192.59	193.0	$25.00	$4,814.81
21	Seeding & Mulching	S.Y.	2311.11	2311.0	$3.00	$6,933.33
22	Erosion Control	L.S.	1.00	1.0	$2,200.00	$2,200.00
23	Traffic Control	L.S.	1.00	1.0	$4,400.00	$4,400.00
24	Construction Staking	L.S.	1.00	1.0	$10,400.00	$10,400.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$235,792.26**
					Contingency 15%	$35,368.84
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$271,200.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Ditch Widening, 169th to SR 32

Resurfacing Portion 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$2,400.00	$2,400.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	256.04	256.0	$65.00	$16,642.58
4	HMA Intermediate	TON	426.73	427.0	$60.00	$25,603.97
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	192.59	193.0	$25.00	$4,814.81
21	Seeding & Mulching	S.Y.	2311.11	2311.0	$3.00	$6,933.33
22	Erosion Control	L.S.	1.00	1.0	$600.00	$600.00
23	Traffic Control	L.S.	1.00	1.0	$1,100.00	$1,100.00
24	Construction Staking	L.S.	1.00	1.0	$2,700.00	$2,700.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$60,794.69**
					Contingency 15%	$9,119.20
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$69,900.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Total **$341,100.00**

Eagle Parkway New construction, SR 32 to 186th

Full Reconstruction 24 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$121,700.00	$121,700.00
2	Excavation	C.Y.	6463.97	6464.0	$25.00	$161,599.17
3	HMA Surface	TON	944.74	945.0	$65.00	$61,408.37
4	HMA Intermediate	TON	1574.57	1575.0	$60.00	$94,474.42
5	HMA Base	TON	8808.24	8808.0	$55.00	$484,453.08
6	No. 53 Aggregate Base	TON	5412.41	5412.0	$20.00	$108,248.15
7	Curb & Gutter	L.F.	11000.00	11000.0	$26.00	$286,000.00
8	HMA Trail Pavement	S.Y.	9777.78	9778.0	$32.00	$312,888.89
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	50.00	50.0	$65.00	$3,250.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	1320.00	1320.0	$30.00	$39,600.00
13	18" R.C.P.	L.F.	1833.33	1833.0	$40.00	$73,333.33
14	24" R.C.P.	L.F.	1833.33	1833.0	$45.00	$82,500.00
15	36" R.C.P.	L.F.	1833.33	1833.0	$61.00	$111,833.33
16	Inlet Type "B-15"	EA.	110.00	110.0	$2,500.00	$275,000.00
17	Manhole Type "C-4"	EA.	55.00	55.0	$3,000.00	$165,000.00
18	Structure Backfill	C.Y.	3279.63	3280.0	$20.00	$65,592.59
19	Underdrain**	L.F.	11000.00	11000.0	$9.00	$99,000.00
20	Earthfill and Topsoil	C.Y.	407.41	407.0	$25.00	$10,185.19
21	Seeding & Mulching	S.Y.	4888.89	4889.0	$3.00	$14,666.67
22	Erosion Control	L.S.	1.00	1.0	$25,700.00	$25,700.00
23	Traffic Control	L.S.	1.00	1.0	$51,400.00	$51,400.00
24	Construction Staking	L.S.	1.00	1.0	$122,500.00	$122,500.00
25	Small Structures (5)					$150,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$2,920,333.18**
				Contingency	15%	$438,049.98
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$3,358,400.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Casey Road Realignment North of Eagle Parkway

Full Reconstruction Option 24 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$11,000.00	$11,000.00
2	Excavation	C.Y.	576.11	576.0	$25.00	$14,402.78
3	HMA Surface	TON	85.55	86.0	$65.00	$5,560.91
4	HMA Intermediate	TON	142.59	143.0	$60.00	$8,555.25
5	HMA Base	TON	798.53	799.0	$55.00	$43,918.97
6	No. 53 Aggregate Base	TON	488.89	489.0	$20.00	$9,777.78
7	Curb & Gutter	L.F.	1000.00	1000.0	$26.00	$26,000.00
8	HMA Trail Pavement	S.Y.	888.89	889.0	$32.00	$28,444.44
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	120.00	120.0	$30.00	$3,600.00
13	18" R.C.P.	L.F.	166.67	167.0	$40.00	$6,666.67
14	24" R.C.P.	L.F.	166.67	167.0	$45.00	$7,500.00
15	36" R.C.P.	L.F.	166.67	167.0	$61.00	$10,166.67
16	Inlet Type "B-15"	EA.	10.00	10.0	$2,500.00	$25,000.00
17	Manhole Type "C-4"	EA.	5.00	5.0	$3,000.00	$15,000.00
18	Structure Backfill	C.Y.	298.15	298.0	$20.00	$5,962.96
19	Underdrain**	L.F.	1000.00	1000.0	$9.00	$9,000.00
20	Earthfill and Topsoil	C.Y.	37.04	37.0	$25.00	$925.93
21	Seeding & Mulching	S.Y.	444.44	444.0	$3.00	$1,333.33
22	Erosion Control	L.S.	1.00	1.0	$2,300.00	$2,300.00
23	Traffic Control	L.S.	1.00	1.0	$4,700.00	$4,700.00
24	Construction Staking	L.S.	1.00	1.0	$11,100.00	$11,100.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$250,915.68**
				Contingency	15%	$37,637.35
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$288,600.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Small Structures (2) $50,000.00

Total **$338,600.00**

Casey Road Realignment South of Eagle Parkway

Full Reconstruction Option 24 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$122,400.00	$122,400.00
2	Excavation	C.Y.	6400.59	6401.0	$25.00	$160,014.86
3	HMA Surface	TON	942.91	943.0	$65.00	$61,289.20
4	HMA Intermediate	TON	1571.52	1572.0	$60.00	$94,291.08
5	HMA Base	TON	8796.02	8796.0	$55.00	$483,780.86
6	No. 53 Aggregate Base	TON	5486.76	5487.0	$20.00	$109,735.19
7	Curb & Gutter	L.F.	11000.00	11000.0	$26.00	$286,000.00
8	HMA Trail Pavement	S.Y.	9777.78	9778.0	$32.00	$312,888.89
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	275.00	275.0	$65.00	$17,875.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	1320.00	1320.0	$30.00	$39,600.00
13	18" R.C.P.	L.F.	1833.33	1833.0	$40.00	$73,333.33
14	24" R.C.P.	L.F.	1833.33	1833.0	$45.00	$82,500.00
15	36" R.C.P.	L.F.	1833.33	1833.0	$61.00	$111,833.33
16	Inlet Type "B-15"	EA.	110.00	110.0	$2,500.00	$275,000.00
17	Manhole Type "C-4"	EA.	55.00	55.0	$3,000.00	$165,000.00
18	Structure Backfill	C.Y.	3279.63	3280.0	$20.00	$65,592.59
19	Underdrain**	L.F.	11000.00	11000.0	$9.00	$99,000.00
20	Earthfill and Topsoil	C.Y.	407.41	407.0	$25.00	$10,185.19
21	Seeding & Mulching	S.Y.	4888.89	4889.0	$3.00	$14,666.67
22	Erosion Control	L.S.	1.00	1.0	$25,800.00	$25,800.00
23	Traffic Control	L.S.	1.00	1.0	$51,700.00	$51,700.00
24	Construction Staking	L.S.	1.00	1.0	$123,100.00	$123,100.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$2,785,586.19**
				Contingency	15%	$417,837.93
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$3,203,400.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Small Structures (3) $90,000

Total **$3,293,400.00**

Springmill Realignment, 186th to 193rd

Full Reconstruction Option 24 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$115,000.00	$115,000.00
2	Excavation	C.Y.	5991.56	5992.0	$25.00	$149,788.89
3	HMA Surface	TON	889.75	890.0	$65.00	$57,833.49
4	HMA Intermediate	TON	1482.91	1483.0	$60.00	$88,974.60
5	HMA Base	TON	8304.68	8305.0	$55.00	$456,757.25
6	No. 53 Aggregate Base	TON	5121.11	5121.0	$20.00	$102,422.22
7	Curb & Gutter	L.F.	10400.00	10400.0	$26.00	$270,400.00
8	HMA Trail Pavement	S.Y.	9244.44	9244.0	$32.00	$295,822.22
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	100.00	100.0	$65.00	$6,500.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	1248.00	1248.0	$30.00	$37,440.00
13	18" R.C.P.	L.F.	1733.33	1733.0	$40.00	$69,333.33
14	24" R.C.P.	L.F.	1733.33	1733.0	$45.00	$78,000.00
15	36" R.C.P.	L.F.	1733.33	1733.0	$61.00	$105,733.33
16	Inlet Type "B-15"	EA.	104.00	104.0	$2,500.00	$260,000.00
17	Manhole Type "C-4"	EA.	52.00	52.0	$3,000.00	$156,000.00
18	Structure Backfill	C.Y.	3100.74	3101.0	$20.00	$62,014.81
19	Underdrain**	L.F.	10400.00	10400.0	$9.00	$93,600.00
20	Earthfill and Topsoil	C.Y.	385.19	385.0	$25.00	$9,629.63
21	Seeding & Mulching	S.Y.	4622.22	4622.0	$3.00	$13,866.67
22	Erosion Control	L.S.	1.00	1.0	$24,300.00	$24,300.00
23	Traffic Control	L.S.	1.00	1.0	$48,600.00	$48,600.00
24	Construction Staking	L.S.	1.00	1.0	$115,700.00	$115,700.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$2,617,716.45**
				Contingency	15%	$392,657.47
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$3,010,400.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Small Structres (2) $50,000

Total **$3,060,400.00**

Springmill Road from 146th to SR 32

Full Reconstruction Option 48 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$540,900.00	$540,900.00
2	Excavation	C.Y.	41085.78	41086.0	$25.00	$1,027,144.44
3	HMA Surface	TON	6101.24	6101.0	$65.00	$396,580.47
4	HMA Intermediate	TON	10168.73	10169.0	$60.00	$610,123.80
5	HMA Base	TON	47794.03	47794.0	$55.00	$2,628,671.76
6	No. 53 Aggregate Base	TON	57623.70	57624.0	$20.00	$1,152,474.07
7	Curb & Gutter	L.F.	31200.00	31200.0	$26.00	$811,200.00
8	Curb	L.F.	31200.00	31200.0	$15.00	$468,000.00
9	HMA Trail Pavement	S.Y.	27733.33	27733.0	$32.00	$887,466.67
10	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
11	No. 11 HAC Driveway Pavement	S.Y.	1025.00	1025.0	$65.00	$66,625.00
12	12" R.C.P.	L.F.	7488.00	7488.0	$30.00	$224,640.00
13	18" R.C.P.	L.F.	5200.00	5200.0	$40.00	$208,000.00
14	24" R.C.P.	L.F.	5200.00	5200.0	$45.00	$234,000.00
15	36" R.C.P.	L.F.	5200.00	5200.0	$61.00	$317,200.00
16	Inlet Type "B-15"	EA.	312.00	312.0	$2,500.00	$780,000.00
17	Manhole Type "C-4"	EA.	156.00	156.0	$3,000.00	$468,000.00
18	Structure Backfill	C.Y.	11382.22	11382.0	$20.00	$227,644.44
19	Underdrain**	L.F.	31200.00	31200.0	$9.00	$280,800.00
20	Earthfill and Topsoil	C.Y.	1155.56	1156.0	$25.00	$28,888.89
21	Seeding & Mulching	S.Y.	13866.67	13867.0	$3.00	$41,600.00
22	Erosion Control	L.S.	1.00	1.0	$114,000.00	$114,000.00
23	Traffic Control	L.S.	1.00	1.0	$228,000.00	$228,000.00
24	Construction Staking	L.S.	1.00	1.0	$543,000.00	$543,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$12,284,959.55**
				Contingency	15%	$1,842,743.93
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$14,127,700.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Reconstruct Existing	$14,127,700.00
Small Structures (4)	$120,000
Subtract Mainline @ Greyhound Pass (1000 ft)	($905,621.79)
Subtract Mainline @ 156th (1000 ft)	($905,621.79)
Subtract Mainline @ 161st (1000 ft)	($905,621.79)
Subtract Mainline @ 169th (1000 ft)	($905,621.79)
Total	$10,625,212.82

Springmill & Greyhound Pass Intersection - curbed section

Widening Existing Lanes 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$24,400.00	$24,400.00
2	Excavation	C.Y.	329.14	329.0	$25.00	$8,228.40
3	HMA Surface	TON	48.88	49.0	$65.00	$3,176.98
4	HMA Intermediate	TON	81.46	81.0	$60.00	$4,887.67
5	HMA Base	TON	1238.55	1239.0	$55.00	$68,120.31
6	No. 53 Aggregate Base	TON	651.85	652.0	$20.00	$13,037.04
7	Curb & Gutter	L.F.	4000.00	4000.0	$26.00	$104,000.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	160.00	160.0	$30.00	$4,800.00
13	18" R.C.P.	L.F.	666.67	667.0	$40.00	$26,666.67
14	24" R.C.P.	L.F.	666.67	667.0	$45.00	$30,000.00
15	36" R.C.P.	L.F.	666.67	667.0	$61.00	$40,666.67
16	Inlet Type "B-15"	EA.	40.00	40.0	$2,500.00	$100,000.00
17	Manhole Type "C-4"	EA.	20.00	20.0	$3,000.00	$60,000.00
18	Structure Backfill	C.Y.	1014.81	1015.0	$20.00	$20,296.30
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	148.15	148.0	$25.00	$3,703.70
21	Seeding & Mulching	S.Y.	1777.78	1778.0	$3.00	$5,333.33
22	Erosion Control	L.S.	1.00	1.0	$5,200.00	$5,200.00
23	Traffic Control	L.S.	1.00	1.0	$10,300.00	$10,300.00
24	Construction Staking	L.S.	1.00	1.0	$24,600.00	$24,600.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$557,417.06**
				Contingency	15%	$83,612.56
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$641,000.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Springmill & Greyhound Pass Intersection - curbed section

Resurfacing Existing Lanes 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$1,600.00	$1,600.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	195.54	196.0	$65.00	$12,710.32
4	HMA Intermediate	TON	325.91	326.0	$60.00	$19,554.33
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$300.00	$300.00
23	Traffic Control	L.S.	1.00	1.0	$700.00	$700.00
24	Construction Staking	L.S.	1.00	1.0	$1,600.00	$1,600.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$36,464.65**
				Contingency	15%	$5,469.70
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$41,900.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2017 Construction Cost: INT-Springmill & Greyhound

Intersections (assume existing 2-10' travel lanes is for pvr		Total Length for all lanes (ft.)		
Road - Improvement	Turn Lanes	Storage	Entra. Tapers	Exit Tapers
Springmill & Greyhound Pass	3	300	300	630

Assume taper is widening, DS =40mph (35:1 rate) DS = 60mph (65:1)

Springmill & Greyhound Pass Intersection - curbed section

New Turn Lanes 12 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$4,900.00	$4,900.00
2	Excavation	C.Y.	642.79	643.0	$25.00	$16,069.72
3	HMA Surface	TON	75.16	75.0	$65.00	$4,885.34
4	HMA Intermediate	TON	125.27	125.0	$60.00	$7,515.92
5	HMA Base	TON	1062.38	1062.0	$55.00	$58,430.66
6	No. 53 Aggregate Base	TON	601.33	601.0	$20.00	$12,026.67
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$1,000.00	$1,000.00
23	Traffic Control	L.S.	1.00	1.0	$2,100.00	$2,100.00
24	Construction Staking	L.S.	1.00	1.0	$4,900.00	$4,900.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$111,828.31**
				Contingency	15%	$16,774.25
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$128,600.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Widening and Resurface Existing	**$682,900.00**
Add New Turn Lanes	**$128,600.00**
Total	**$811,500.00**

Intersection - Springmill & 156th - non curbed section

Widening Existing Lanes 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$24,400.00	$24,400.00
2	Excavation	C.Y.	329.14	329.0	$25.00	$8,228.40
3	HMA Surface	TON	48.88	49.0	$65.00	$3,176.98
4	HMA Intermediate	TON	81.46	81.0	$60.00	$4,887.67
5	HMA Base	TON	1238.55	1239.0	$55.00	$68,120.31
6	No. 53 Aggregate Base	TON	651.85	652.0	$20.00	$13,037.04
7	Curb & Gutter	L.F.	4000.00	4000.0	$26.00	$104,000.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	160.00	160.0	$30.00	$4,800.00
13	18" R.C.P.	L.F.	666.67	667.0	$40.00	$26,666.67
14	24" R.C.P.	L.F.	666.67	667.0	$45.00	$30,000.00
15	36" R.C.P.	L.F.	666.67	667.0	$61.00	$40,666.67
16	Inlet Type "B-15"	EA.	40.00	40.0	$2,500.00	$100,000.00
17	Manhole Type "C-4"	EA.	20.00	20.0	$3,000.00	$60,000.00
18	Structure Backfill	C.Y.	1014.81	1015.0	$20.00	$20,296.30
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	148.15	148.0	$25.00	$3,703.70
21	Seeding & Mulching	S.Y.	1777.78	1778.0	$3.00	$5,333.33
22	Erosion Control	L.S.	1.00	1.0	$5,200.00	$5,200.00
23	Traffic Control	L.S.	1.00	1.0	$10,300.00	$10,300.00
24	Construction Staking	L.S.	1.00	1.0	$24,600.00	$24,600.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$557,417.06**
				Contingency	15%	$83,612.56
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$641,000.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Intersection - Springmill & 156th - curb section

Lane	Length	Width	Entra. Taper (ft)	Exit Taper (ft)
NB Left	100	12	100	
SB Left	210	12	100	
156th St EB	100	36	100	210
156th St WB	100	36	100	210
	510			

Left turn lanes on Springmill 12 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$2,900.00	$2,900.00
2	Excavation	C.Y.	214.26	214.0	$25.00	$5,356.57
3	HMA Surface	TON	25.05	25.0	$65.00	$1,628.45
4	HMA Intermediate	TON	41.76	42.0	$60.00	$2,505.31
5	HMA Base	TON	354.13	354.0	$55.00	$19,476.89
6	No. 53 Aggregate Base	TON	200.44	200.0	$20.00	$4,008.89
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	728.89	729.0	$32.00	$23,324.44
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	30.37	30.0	$25.00	$759.26
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$600.00	$600.00

23	Traffic Control	L.S.	1.00	1.0	$1,200.00	$1,200.00
24	Construction Staking	L.S.	1.00	1.0	$2,900.00	$2,900.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$64,659.81**
					Contingency 15%	$9,698.97
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$74,400.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Full depth replacement for 156 approaches 36 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$8,000.00	$8,000.00
2	Excavation	C.Y.	1022.08	1022.0	$25.00	$25,551.94
3	HMA Surface	TON	143.36	143.0	$65.00	$9,318.63
4	HMA Intermediate	TON	238.94	239.0	$60.00	$14,336.36
5	HMA Base	TON	1188.50	1188.0	$55.00	$65,367.35
6	No. 53 Aggregate Base	TON	748.00	748.0	$20.00	$14,960.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	906.67	907.0	$32.00	$29,013.33
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	37.78	38.0	$25.00	$944.44
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$1,700.00	$1,700.00
23	Traffic Control	L.S.	1.00	1.0	$3,300.00	$3,300.00
24	Construction Staking	L.S.	1.00	1.0	$8,000.00	$8,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$180,492.05**
					Contingency 15%	$27,073.81
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$207,600.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Signal $160,000.00

Total **$1,083,000.00**

Intersection - Springmill Road & 161st

Springmill Mainline Full Reconstruction 48 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$34,500.00	$34,500.00
2	Excavation	C.Y.	2633.70	2634.0	$25.00	$65,842.59
3	HMA Surface	TON	391.11	391.0	$65.00	$25,421.83
4	HMA Intermediate	TON	651.84	652.0	$60.00	$39,110.50
5	HMA Base	TON	3063.72	3064.0	$55.00	$168,504.60
6	No. 53 Aggregate Base	TON	3693.83	3694.0	$20.00	$73,876.54
7	Curb & Gutter	L.F.	2000.00	2000.0	$26.00	$52,000.00
8	Curb	L.F.	2000.00	2000.0	$15.00	$30,000.00
9	HMA Trail Pavement	S.Y.	1777.78	1778.0	$32.00	$56,888.89
10	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
11	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
12	12" R.C.P.	L.F.	480.00	480.0	$30.00	$14,400.00
13	18" R.C.P.	L.F.	333.33	333.0	$40.00	$13,333.33
14	24" R.C.P.	L.F.	333.33	333.0	$45.00	$15,000.00
15	36" R.C.P.	L.F.	333.33	333.0	$61.00	$20,333.33
16	Inlet Type "B-15"	EA.	20.00	20.0	$2,500.00	$50,000.00
17	Manhole Type "C-4"	EA.	10.00	10.0	$3,000.00	$30,000.00
18	Structure Backfill	C.Y.	729.63	730.0	$20.00	$14,592.59
19	Underdrain**	L.F.	2000.00	2000.0	$9.00	$18,000.00
20	Earthfill and Topsoil	C.Y.	74.07	74.0	$25.00	$1,851.85
21	Seeding & Mulching	S.Y.	888.89	889.0	$3.00	$2,666.67
22	Erosion Control	L.S.	1.00	1.0	$7,300.00	$7,300.00
23	Traffic Control	L.S.	1.00	1.0	$14,500.00	$14,500.00
24	Construction Staking	L.S.	1.00	1.0	$34,600.00	$34,600.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$782,722.73**
				Contingency	15%	$117,408.41
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$900,100.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Intersections (assume existing 2-10' travel lanes is for pvr

Road - Improvement	Turn Lanes	Total Length for all lanes (ft.) Storage	Entra. Tapers	Exit Tapers
Springmill & 161st	3	440	300	630

Assume taper is widening, DS =40mph (35:1 rate) DS = 60mph (65:1)

Springmill & 161st

New Turn Lanes 12 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$5,500.00	$5,500.00
2	Excavation	C.Y.	715.95	716.0	$25.00	$17,898.80
3	HMA Surface	TON	83.71	84.0	$65.00	$5,441.40
4	HMA Intermediate	TON	139.52	140.0	$60.00	$8,371.39
5	HMA Base	TON	1183.30	1183.0	$55.00	$65,081.30
6	No. 53 Aggregate Base	TON	669.78	670.0	$20.00	$13,395.56
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$1,200.00	$1,200.00
23	Traffic Control	L.S.	1.00	1.0	$2,300.00	$2,300.00
24	Construction Staking	L.S.	1.00	1.0	$5,500.00	$5,500.00

	TOTAL ESTIMATED CONSTRUCTION COST:		**$124,688.44**
	Contingency	15%	$18,703.27
	TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$143,400.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Mainline Reconstruction	$ 900,100.00
New turn lanes	$ 143,400.00
Reconstruct traffic signal	$ 80,000.00
Total	$ 1,123,500.00

Intersection - Springmill & 169th - curb section

Widening Existing Lanes — 8 ' Wide Street — 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$24,400.00	$24,400.00
2	Excavation	C.Y.	329.14	329.0	$25.00	$8,228.40
3	HMA Surface	TON	48.88	49.0	$65.00	$3,176.98
4	HMA Intermediate	TON	81.46	81.0	$60.00	$4,887.67
5	HMA Base	TON	1238.55	1239.0	$55.00	$68,120.31
6	No. 53 Aggregate Base	TON	651.85	652.0	$20.00	$13,037.04
7	Curb & Gutter	L.F.	4000.00	4000.0	$26.00	$104,000.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	160.00	160.0	$30.00	$4,800.00
13	18" R.C.P.	L.F.	666.67	667.0	$40.00	$26,666.67
14	24" R.C.P.	L.F.	666.67	667.0	$45.00	$30,000.00
15	36" R.C.P.	L.F.	666.67	667.0	$61.00	$40,666.67
16	Inlet Type "B-15"	EA.	40.00	40.0	$2,500.00	$100,000.00
17	Manhole Type "C-4"	EA.	20.00	20.0	$3,000.00	$60,000.00
18	Structure Backfill	C.Y.	1014.81	1015.0	$20.00	$20,296.30
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	148.15	148.0	$25.00	$3,703.70
21	Seeding & Mulching	S.Y.	1777.78	1778.0	$3.00	$5,333.33
22	Erosion Control	L.S.	1.00	1.0	$5,200.00	$5,200.00
23	Traffic Control	L.S.	1.00	1.0	$10,300.00	$10,300.00
24	Construction Staking	L.S.	1.00	1.0	$24,600.00	$24,600.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$557,417.06**
				Contingency	15%	$83,612.56
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$641,000.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Intersection - Springmill & 169th - curb section

Lane	Length	Width	Entra. Taper (ft)	Exist Taper (ft)
NB Left	100	12	100	
SB Left	100	12	100	
156th St WB	100	36	100	210

Left turn lanes on Springmill — 12 ' Wide Street — 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$2,100.00	$2,100.00
2	Excavation	C.Y.	156.78	157.0	$25.00	$3,919.44
3	HMA Surface	TON	18.33	18.0	$65.00	$1,191.55
4	HMA Intermediate	TON	30.55	31.0	$60.00	$1,833.15
5	HMA Base	TON	259.12	259.0	$55.00	$14,251.38
6	No. 53 Aggregate Base	TON	146.67	147.0	$20.00	$2,933.33
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	533.33	533.0	$32.00	$17,066.67
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	22.22	22.0	$25.00	$555.56
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$400.00	$400.00
23	Traffic Control	L.S.	1.00	1.0	$900.00	$900.00

24	Construction Staking	L.S.	1.00	1.0	$2,100.00	$2,100.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$47,251.08**
					Contingency 15%	$7,087.66
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$54,300.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Full depth replacement for 169 approaches 36 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$4,000.00	$4,000.00
2	Excavation	C.Y.	511.04	511.0	$25.00	$12,775.97
3	HMA Surface	TON	71.68	72.0	$65.00	$4,659.32
4	HMA Intermediate	TON	119.47	119.0	$60.00	$7,168.18
5	HMA Base	TON	594.25	594.0	$55.00	$32,683.67
6	No. 53 Aggregate Base	TON	374.00	374.0	$20.00	$7,480.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	453.33	453.0	$32.00	$14,506.67
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	18.89	19.0	$25.00	$472.22
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$800.00	$800.00
23	Traffic Control	L.S.	1.00	1.0	$1,700.00	$1,700.00
24	Construction Staking	L.S.	1.00	1.0	$4,000.00	$4,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$90,246.03**
					Contingency 15%	$13,536.90
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$103,800.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Total Mainline Improvements	$641,000.00
Turn Lanes	$158,100.00
Signal	$160,000.00
Total	$959,100.00

Eagle Parkway, 186th to 191st

Full Reconstruction Option 24 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$119,200.00	$119,200.00
2	Excavation	C.Y.	6222.00	6222.0	$25.00	$155,550.00
3	HMA Surface	TON	923.97	924.0	$65.00	$60,057.86
4	HMA Intermediate	TON	1539.95	1540.0	$60.00	$92,396.70
5	HMA Base	TON	8624.09	8624.0	$55.00	$474,324.84
6	No. 53 Aggregate Base	TON	5298.33	5298.0	$20.00	$105,966.67
7	Curb & Gutter	L.F.	10800.00	10800.0	$26.00	$280,800.00
8	HMA Trail Pavement	S.Y.	9600.00	9600.0	$32.00	$307,200.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	50.00	50.0	$65.00	$3,250.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	1296.00	1296.0	$30.00	$38,880.00
13	18" R.C.P.	L.F.	1800.00	1800.0	$40.00	$72,000.00
14	24" R.C.P.	L.F.	1800.00	1800.0	$45.00	$81,000.00
15	36" R.C.P.	L.F.	1800.00	1800.0	$61.00	$109,800.00
16	Inlet Type "B-15"	EA.	108.00	108.0	$2,500.00	$270,000.00
17	Manhole Type "C-4"	EA.	54.00	54.0	$3,000.00	$162,000.00
18	Structure Backfill	C.Y.	3220.00	3220.0	$20.00	$64,400.00
19	Underdrain**	L.F.	10800.00	10800.0	$9.00	$97,200.00
20	Earthfill and Topsoil	C.Y.	400.00	400.0	$25.00	$10,000.00
21	Seeding & Mulching	S.Y.	4800.00	4800.0	$3.00	$14,400.00
22	Erosion Control	L.S.	1.00	1.0	$25,200.00	$25,200.00
23	Traffic Control	L.S.	1.00	1.0	$50,400.00	$50,400.00
24	Construction Staking	L.S.	1.00	1.0	$120,000.00	$120,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$2,714,026.06**
				Contingency	15%	$407,103.91
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$3,121,100.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

161st St, Springmill Rd to US 31

Widening Portion 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$38,800.00	$38,800.00
2	Excavation	C.Y.	2561.61	2562.0	$25.00	$64,040.23
3	HMA Surface	TON	226.67	227.0	$65.00	$14,733.29
4	HMA Intermediate	TON	377.78	378.0	$60.00	$22,666.60
5	HMA Base	TON	8408.22	8408.0	$55.00	$462,452.32
6	No. 53 Aggregate Base	TON	6834.94	6835.0	$20.00	$136,698.77
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	900.00	900.0	$65.00	$58,500.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	681.48	681.0	$25.00	$17,037.04
21	Seeding & Mulching	S.Y.	8177.78	8178.0	$3.00	$24,533.33
22	Erosion Control	L.S.	1.00	1.0	$8,400.00	$8,400.00
23	Traffic Control	L.S.	1.00	1.0	$16,800.00	$16,800.00
24	Construction Staking	L.S.	1.00	1.0	$40,000.00	$40,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$904,661.58**
				Contingency	15%	$135,699.24
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$1,040,400.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

161st St, Springmill Rd to US 31

Overlay 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$8,300.00	$8,300.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	901.33	901.0	$65.00	$58,586.62
4	HMA Intermediate	TON	1502.22	1502.0	$60.00	$90,133.27
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	681.48	681.0	$25.00	$17,037.04
21	Seeding & Mulching	S.Y.	8177.78	8178.0	$3.00	$24,533.33
22	Erosion Control	L.S.	1.00	1.0	$2,000.00	$2,000.00
23	Traffic Control	L.S.	1.00	1.0	$4,000.00	$4,000.00
24	Construction Staking	L.S.	1.00	1.0	$9,500.00	$9,500.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$214,090.26**
				Contingency	15%	$32,113.54
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$246,200.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2017 Construction Cost: 161st-Springmill to US 31

Widening and Overlay	**$1,286,600.00**
Small Structures Extension (4)	$20,000
Subtract 161st at Oakridge mainline (1000 ft)	($139,847.83)
Total	$1,166,752.17

Oak Ridge, 146th to SR 32

Widening Option 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$63,000.00	$63,000.00
2	Excavation	C.Y.	4245.46	4245.0	$25.00	$106,136.42
3	HMA Surface	TON	376.35	376.0	$65.00	$24,462.77
4	HMA Intermediate	TON	627.25	627.0	$60.00	$37,635.03
5	HMA Base	TON	14054.18	14054.0	$55.00	$772,979.73
6	No. 53 Aggregate Base	TON	11241.73	11242.0	$20.00	$224,834.57
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	1000.00	1000.0	$65.00	$65,000.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	1140.74	1141.0	$25.00	$28,518.52
21	Seeding & Mulching	S.Y.	13688.89	13689.0	$3.00	$41,066.67
22	Erosion Control	L.S.	1.00	1.0	$13,600.00	$13,600.00
23	Traffic Control	L.S.	1.00	1.0	$27,300.00	$27,300.00
24	Construction Staking	L.S.	1.00	1.0	$65,000.00	$65,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$1,469,533.71**
				Contingency	15%	$220,430.06
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$1,690,000.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Oak Ridge, 146th to SR 32

Resurfacing Option 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$13,800.00	$13,800.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	1505.68	1506.0	$65.00	$97,869.44
4	HMA Intermediate	TON	2509.47	2509.0	$60.00	$150,568.37
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	1140.74	1141.0	$25.00	$28,518.52
21	Seeding & Mulching	S.Y.	13688.89	13689.0	$3.00	$41,066.67
22	Erosion Control	L.S.	1.00	1.0	$3,300.00	$3,300.00
23	Traffic Control	L.S.	1.00	1.0	$6,600.00	$6,600.00
24	Construction Staking	L.S.	1.00	1.0	$15,900.00	$15,900.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$357,622.99**
				Contingency	15%	$53,643.45
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$411,300.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2017 Construction Cost: Oak Ridge-146th to SR 32

Widen and resurface entire length	$2,101,300.00
Small Structures Extensions (5)	$50,000.00
subtract mainline at Greyhound	($136,448.05)
Subtract mainline at 156th	($136,448.05)
Subtract mainline at 161st	($136,448.05)
Subtract mainline at 169th	($136,448.05)
Total	**$1,605,507.79**

Oakridge & Greyhound Intersection

Widening Existing Lanes 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$3,900.00	$3,900.00
2	Excavation	C.Y.	275.68	276.0	$25.00	$6,891.98
3	HMA Surface	TON	24.44	24.0	$65.00	$1,588.49
4	HMA Intermediate	TON	40.73	41.0	$60.00	$2,443.83
5	HMA Base	TON	912.61	913.0	$55.00	$50,193.49
6	No. 53 Aggregate Base	TON	706.17	706.0	$20.00	$14,123.46
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	74.07	74.0	$25.00	$1,851.85
21	Seeding & Mulching	S.Y.	888.89	889.0	$3.00	$2,666.67
22	Erosion Control	L.S.	1.00	1.0	$800.00	$800.00
23	Traffic Control	L.S.	1.00	1.0	$1,700.00	$1,700.00
24	Construction Staking	L.S.	1.00	1.0	$4,000.00	$4,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$90,159.76**
					Contingency 15%	$13,523.96
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$103,700.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Oakridge & Greyhound

Resurfacing Existing Lanes 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$800.00	$800.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	97.77	98.0	$65.00	$6,355.16
4	HMA Intermediate	TON	162.95	163.0	$60.00	$9,777.17
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$200.00	$200.00
23	Traffic Control	L.S.	1.00	1.0	$300.00	$300.00
24	Construction Staking	L.S.	1.00	1.0	$800.00	$800.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$18,232.33**
					Contingency 15%	$2,734.85
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$21,000.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2017 Construction Cost: INT-Oakridge & Greyhound

Intersections (assume existing 2-10' travel lanes is for pvr		Total Length for all lanes (ft.)		
Road - Improvement	Turn Lanes	Storage	Entra. Tapers	Exit Tapers
Greyhound Pass	2	570	200	420

Assume taper is widening, DS =40mph (35:1 rate) DS = 60mph (65:1)

Oakridge & Greyhound

New Turn Lanes 12 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$3,500.00	$3,500.00
2	Excavation	C.Y.	459.88	460.0	$25.00	$11,497.04
3	HMA Surface	TON	53.77	54.0	$65.00	$3,495.21
4	HMA Intermediate	TON	89.62	90.0	$60.00	$5,377.24
5	HMA Base	TON	760.07	760.0	$55.00	$41,804.05
6	No. 53 Aggregate Base	TON	430.22	430.0	$20.00	$8,604.44
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$700.00	$700.00
23	Traffic Control	L.S.	1.00	1.0	$1,500.00	$1,500.00
24	Construction Staking	L.S.	1.00	1.0	$3,500.00	$3,500.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$79,977.98**
				Contingency	15%	$11,996.70
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$92,000.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Widening and Resurface Existing	**$124,700.00**
Add New Turn Lanes	**$92,000.00**
Total	**$216,700.00**

Oakridge & 156th Street Intersection

Widening Existing Lanes 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$3,900.00	$3,900.00
2	Excavation	C.Y.	275.68	276.0	$25.00	$6,891.98
3	HMA Surface	TON	24.44	24.0	$65.00	$1,588.49
4	HMA Intermediate	TON	40.73	41.0	$60.00	$2,443.83
5	HMA Base	TON	912.61	913.0	$55.00	$50,193.49
6	No. 53 Aggregate Base	TON	706.17	706.0	$20.00	$14,123.46
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	74.07	74.0	$25.00	$1,851.85
21	Seeding & Mulching	S.Y.	888.89	889.0	$3.00	$2,666.67
22	Erosion Control	L.S.	1.00	1.0	$800.00	$800.00
23	Traffic Control	L.S.	1.00	1.0	$1,700.00	$1,700.00
24	Construction Staking	L.S.	1.00	1.0	$4,000.00	$4,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$90,159.76**
					Contingency 15%	$13,523.96
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$103,700.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Oakridge & 156th Street Intersection

Resurfacing Existing Lanes 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$800.00	$800.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	97.77	98.0	$65.00	$6,355.16
4	HMA Intermediate	TON	162.95	163.0	$60.00	$9,777.17
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$200.00	$200.00
23	Traffic Control	L.S.	1.00	1.0	$300.00	$300.00
24	Construction Staking	L.S.	1.00	1.0	$800.00	$800.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$18,232.33**
					Contingency 15%	$2,734.85
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$21,000.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2017 Construction Cost: INT-Oakridge & 156

Intersections (assume existing 2-10' travel lanes is for pvr		Total Length for all lanes (ft.)		
Road - Improvement	Turn Lanes	Storage	Entra. Tapers	Exit Tapers
156th Street	5	850	500	1050

Assume taper is widening, DS =40mph (35:1 rate) DS = 60mph (65:1)

Oakridge & 156th Street Intersection

New Turn Lanes 12 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$6,500.00	$6,500.00
2	Excavation	C.Y.	849.21	849.0	$25.00	$21,230.32
3	HMA Surface	TON	99.30	99.0	$65.00	$6,454.22
4	HMA Intermediate	TON	165.49	165.0	$60.00	$9,929.56
5	HMA Base	TON	1403.55	1404.0	$55.00	$77,194.98
6	No. 53 Aggregate Base	TON	794.44	794.0	$20.00	$15,888.89
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$1,400.00	$1,400.00
23	Traffic Control	L.S.	1.00	1.0	$2,700.00	$2,700.00
24	Construction Staking	L.S.	1.00	1.0	$6,500.00	$6,500.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$147,797.97**
				Contingency	15%	$22,169.69
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$170,000.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Widening and Resurface Existing	**$124,700.00**
Traffic Signal	**$160,000.00**
Add New Turn Lanes	**$170,000.00**
Total	**$454,700.00**

Oakridge & 161st Street Intersection

Widening Existing Lanes 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$7,700.00	$7,700.00
2	Excavation	C.Y.	551.36	551.0	$25.00	$13,783.95
3	HMA Surface	TON	48.88	49.0	$65.00	$3,176.98
4	HMA Intermediate	TON	81.46	81.0	$60.00	$4,887.67
5	HMA Base	TON	1825.22	1825.0	$55.00	$100,386.98
6	No. 53 Aggregate Base	TON	1412.35	1412.0	$20.00	$28,246.91
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	148.15	148.0	$25.00	$3,703.70
21	Seeding & Mulching	S.Y.	1777.78	1778.0	$3.00	$5,333.33
22	Erosion Control	L.S.	1.00	1.0	$1,700.00	$1,700.00
23	Traffic Control	L.S.	1.00	1.0	$3,300.00	$3,300.00
24	Construction Staking	L.S.	1.00	1.0	$8,000.00	$8,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$180,219.53**
					Contingency 15%	$27,032.93
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$207,300.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Oakridge & 161st Street Intersection

Resurfacing Existing Lanes 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$1,600.00	$1,600.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	195.54	196.0	$65.00	$12,710.32
4	HMA Intermediate	TON	325.91	326.0	$60.00	$19,554.33
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$300.00	$300.00
23	Traffic Control	L.S.	1.00	1.0	$700.00	$700.00
24	Construction Staking	L.S.	1.00	1.0	$1,600.00	$1,600.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$36,464.65**
					Contingency 15%	$5,469.70
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$41,900.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2017 Construction Cost: INT-Oakridge & 161

Intersections (assume existing 2-10' travel lanes is for pvr		Total Length for all lanes (ft.)		
Road - Improvement	Turn Lanes	Storage	Entra. Tapers	Exit Tapers
161st Street	5	680	500	840

Assume taper is widening, DS =40mph (35:1 rate) DS = 60mph (65:1)

Oakridge & 161st Street Intersection

New Turn Lanes 12 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$5,400.00	$5,400.00
2	Excavation	C.Y.	705.50	706.0	$25.00	$17,637.50
3	HMA Surface	TON	82.49	82.0	$65.00	$5,361.96
4	HMA Intermediate	TON	137.49	137.0	$60.00	$8,249.18
5	HMA Base	TON	1166.02	1166.0	$55.00	$64,131.21
6	No. 53 Aggregate Base	TON	660.00	660.0	$20.00	$13,200.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$1,100.00	$1,100.00
23	Traffic Control	L.S.	1.00	1.0	$2,300.00	$2,300.00
24	Construction Staking	L.S.	1.00	1.0	$5,400.00	$5,400.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$122,779.85**
				Contingency	15%	$18,416.98
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$141,200.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Widening and Resurface Existing	**$249,200.00**
Traffic Signal	**$160,000.00**
Add New Turn Lanes	**$141,200.00**
Total	**$550,400.00**

Oakridge & 169th Street Intersection

Widening Existing Lanes 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$3,900.00	$3,900.00
2	Excavation	C.Y.	275.68	276.0	$25.00	$6,891.98
3	HMA Surface	TON	24.44	24.0	$65.00	$1,588.49
4	HMA Intermediate	TON	40.73	41.0	$60.00	$2,443.83
5	HMA Base	TON	912.61	913.0	$55.00	$50,193.49
6	No. 53 Aggregate Base	TON	706.17	706.0	$20.00	$14,123.46
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	74.07	74.0	$25.00	$1,851.85
21	Seeding & Mulching	S.Y.	888.89	889.0	$3.00	$2,666.67
22	Erosion Control	L.S.	1.00	1.0	$800.00	$800.00
23	Traffic Control	L.S.	1.00	1.0	$1,700.00	$1,700.00
24	Construction Staking	L.S.	1.00	1.0	$4,000.00	$4,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$90,159.76**
					Contingency 15%	$13,523.96
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$103,700.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Oakridge & 169th Street Intersection

Resurfacing Existing Lanes 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$800.00	$800.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	97.77	98.0	$65.00	$6,355.16
4	HMA Intermediate	TON	162.95	163.0	$60.00	$9,777.17
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$200.00	$200.00
23	Traffic Control	L.S.	1.00	1.0	$300.00	$300.00
24	Construction Staking	L.S.	1.00	1.0	$800.00	$800.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$18,232.33**
					Contingency 15%	$2,734.85
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$21,000.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2017 Construction Cost: INT-Oakridge & 169

Intersections (assume existing 2-10' travel lanes is for pvr

Road - Improvement	Turn Lanes	Total Length for all lanes (ft.) Storage	Entra. Tapers	Exit Tapers
169th Street	2	200	200	420

Assume taper is widening, DS =40mph (35:1 rate) DS = 60mph (65:1)

Oakridge & 169th Street Intersection

New Turn Lanes 12 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$3,300.00	$3,300.00
2	Excavation	C.Y.	428.53	429.0	$25.00	$10,713.15
3	HMA Surface	TON	50.11	50.0	$65.00	$3,256.90
4	HMA Intermediate	TON	83.51	84.0	$60.00	$5,010.61
5	HMA Base	TON	708.25	708.0	$55.00	$38,953.77
6	No. 53 Aggregate Base	TON	400.89	401.0	$20.00	$8,017.78
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$700.00	$700.00
23	Traffic Control	L.S.	1.00	1.0	$1,400.00	$1,400.00
24	Construction Staking	L.S.	1.00	1.0	$3,300.00	$3,300.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$74,652.20**
				Contingency	15%	$11,197.83
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$85,900.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Widening and Resurface Existing	**$124,700.00**
Add New Turn Lanes	**$85,900.00**
Total	**$210,600.00**

156th, Oak Ridge to US 31

Widening Portion 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$18,400.00	$18,400.00
2	Excavation	C.Y.	1280.80	1281.0	$25.00	$32,020.12
3	HMA Surface	TON	114.25	114.0	$65.00	$7,426.23
4	HMA Intermediate	TON	190.42	190.0	$60.00	$11,424.97
5	HMA Base	TON	4210.22	4210.0	$55.00	$231,562.27
6	No. 53 Aggregate Base	TON	3320.71	3321.0	$20.00	$66,414.20
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	175.00	175.0	$65.00	$11,375.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	340.74	341.0	$25.00	$8,518.52
21	Seeding & Mulching	S.Y.	4088.89	4089.0	$3.00	$12,266.67
22	Erosion Control	L.S.	1.00	1.0	$4,000.00	$4,000.00
23	Traffic Control	L.S.	1.00	1.0	$8,000.00	$8,000.00
24	Construction Staking	L.S.	1.00	1.0	$19,100.00	$19,100.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$430,507.97**
				Contingency	15%	$64,576.19
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$495,100.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

156th, Oak Ridge to US 31

Resurfacing Portion 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$4,200.00	$4,200.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	451.58	452.0	$65.00	$29,352.90
4	HMA Intermediate	TON	752.64	753.0	$60.00	$45,158.30
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	340.74	341.0	$25.00	$8,518.52
21	Seeding & Mulching	S.Y.	4088.89	4089.0	$3.00	$12,266.67
22	Erosion Control	L.S.	1.00	1.0	$1,000.00	$1,000.00
23	Traffic Control	L.S.	1.00	1.0	$2,000.00	$2,000.00
24	Construction Staking	L.S.	1.00	1.0	$4,800.00	$4,800.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$107,296.38**
				Contingency	15%	$16,094.46
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$123,400.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Small Structure Extensions (2) $15,000

Total **$633,500.00**

169th, Oak Ridge to US 31

Widening Portion 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$12,700.00	$12,700.00
2	Excavation	C.Y.	835.31	835.0	$25.00	$20,882.69
3	HMA Surface	TON	75.15	75.0	$65.00	$4,884.64
4	HMA Intermediate	TON	125.25	125.0	$60.00	$7,514.83
5	HMA Base	TON	2750.05	2750.0	$55.00	$151,252.69
6	No. 53 Aggregate Base	TON	2236.67	2237.0	$20.00	$44,733.33
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	300.00	300.0	$65.00	$19,500.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	222.22	222.0	$25.00	$5,555.56
21	Seeding & Mulching	S.Y.	2666.67	2667.0	$3.00	$8,000.00
22	Erosion Control	L.S.	1.00	1.0	$2,800.00	$2,800.00
23	Traffic Control	L.S.	1.00	1.0	$5,500.00	$5,500.00
24	Construction Staking	L.S.	1.00	1.0	$13,100.00	$13,100.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$296,423.74**
				Contingency	15%	$44,463.56
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$340,900.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

169th, Oak Ridge to US 31

Resurfacing Portion 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$2,700.00	$2,700.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	295.15	295.0	$65.00	$19,184.64
4	HMA Intermediate	TON	491.91	492.0	$60.00	$29,514.83
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	222.22	222.0	$25.00	$5,555.56
21	Seeding & Mulching	S.Y.	2666.67	2667.0	$3.00	$8,000.00
22	Erosion Control	L.S.	1.00	1.0	$600.00	$600.00
23	Traffic Control	L.S.	1.00	1.0	$1,300.00	$1,300.00
24	Construction Staking	L.S.	1.00	1.0	$3,100.00	$3,100.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$69,955.03**
				Contingency	15%	$10,493.25
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$80,400.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Total **$421,300.00**

Union Street Extension, Union Street to 191st/East St.

Full Reconstruction 24 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$46,500.00	$46,500.00
2	Excavation	C.Y.	2468.06	2468.0	$25.00	$61,701.50
3	HMA Surface	TON	362.99	363.0	$65.00	$23,594.17
4	HMA Intermediate	TON	604.98	605.0	$60.00	$36,298.72
5	HMA Base	TON	3378.26	3378.0	$55.00	$185,804.10
6	No. 53 Aggregate Base	TON	2069.63	2070.0	$20.00	$41,392.59
7	Curb & Gutter	L.F.	4200.00	4200.0	$26.00	$109,200.00
8	HMA Trail Pavement	S.Y.	3733.33	3733.0	$32.00	$119,466.67
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	504.00	504.0	$30.00	$15,120.00
13	18" R.C.P.	L.F.	700.00	700.0	$40.00	$28,000.00
14	24" R.C.P.	L.F.	700.00	700.0	$45.00	$31,500.00
15	36" R.C.P.	L.F.	700.00	700.0	$61.00	$42,700.00
16	Inlet Type "B-15"	EA.	42.00	42.0	$2,500.00	$105,000.00
17	Manhole Type "C-4"	EA.	21.00	21.0	$3,000.00	$63,000.00
18	Structure Backfill	C.Y.	1252.22	1252.0	$20.00	$25,044.44
19	Underdrain**	L.F.	4200.00	4200.0	$9.00	$37,800.00
20	Earthfill and Topsoil	C.Y.	155.56	156.0	$25.00	$3,888.89
21	Seeding & Mulching	S.Y.	1866.67	1867.0	$3.00	$5,600.00
22	Erosion Control	L.S.	1.00	1.0	$9,800.00	$9,800.00
23	Traffic Control	L.S.	1.00	1.0	$19,600.00	$19,600.00
24	Construction Staking	L.S.	1.00	1.0	$46,800.00	$46,800.00
25	Small Structures (5)					$150,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$1,207,811.08**
				Contingency	15%	$181,171.66
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$1,389,000.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Union Street Extension, 191st/East Street to 196th Street

Full Reconstruction 24 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$61,900.00	$61,900.00
2	Excavation	C.Y.	3290.75	3291.0	$25.00	$82,268.67
3	HMA Surface	TON	482.76	483.0	$65.00	$31,379.44
4	HMA Intermediate	TON	804.60	805.0	$60.00	$48,276.07
5	HMA Base	TON	4496.19	4496.0	$55.00	$247,290.66
6	No. 53 Aggregate Base	TON	2754.07	2754.0	$20.00	$55,081.48
7	Curb & Gutter	L.F.	5600.00	5600.0	$26.00	$145,600.00
8	HMA Trail Pavement	S.Y.	4977.78	4978.0	$32.00	$159,288.89
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	672.00	672.0	$30.00	$20,160.00
13	18" R.C.P.	L.F.	933.33	933.0	$40.00	$37,333.33
14	24" R.C.P.	L.F.	933.33	933.0	$45.00	$42,000.00
15	36" R.C.P.	L.F.	933.33	933.0	$61.00	$56,933.33
16	Inlet Type "B-15"	EA.	56.00	56.0	$2,500.00	$140,000.00
17	Manhole Type "C-4"	EA.	28.00	28.0	$3,000.00	$84,000.00
18	Structure Backfill	C.Y.	1669.63	1670.0	$20.00	$33,392.59
19	Underdrain**	L.F.	5600.00	5600.0	$9.00	$50,400.00
20	Earthfill and Topsoil	C.Y.	207.41	207.0	$25.00	$5,185.19
21	Seeding & Mulching	S.Y.	2488.89	2489.0	$3.00	$7,466.67
22	Erosion Control	L.S.	1.00	1.0	$13,100.00	$13,100.00
23	Traffic Control	L.S.	1.00	1.0	$26,200.00	$26,200.00
24	Construction Staking	L.S.	1.00	1.0	$62,300.00	$62,300.00
25	Small Structures (5)					$150,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$1,559,556.32**
				Contingency	15%	$233,933.45
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$1,793,500.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

North Union Street Extension, 196th to 202nd

Full Reconstruction Option 24 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$88,200.00	$88,200.00
2	Excavation	C.Y.	4608.89	4609.0	$25.00	$115,222.22
3	HMA Surface	TON	684.42	684.0	$65.00	$44,487.30
4	HMA Intermediate	TON	1140.70	1141.0	$60.00	$68,442.00
5	HMA Base	TON	6388.21	6388.0	$55.00	$351,351.73
6	No. 53 Aggregate Base	TON	3911.11	3911.0	$20.00	$78,222.22
7	Curb & Gutter	L.F.	8000.00	8000.0	$26.00	$208,000.00
8	HMA Trail Pavement	S.Y.	7111.11	7111.0	$32.00	$227,555.56
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	960.00	960.0	$30.00	$28,800.00
13	18" R.C.P.	L.F.	1333.33	1333.0	$40.00	$53,333.33
14	24" R.C.P.	L.F.	1333.33	1333.0	$45.00	$60,000.00
15	36" R.C.P.	L.F.	1333.33	1333.0	$61.00	$81,333.33
16	Inlet Type "B-15"	EA.	80.00	80.0	$2,500.00	$200,000.00
17	Manhole Type "C-4"	EA.	40.00	40.0	$3,000.00	$120,000.00
18	Structure Backfill	C.Y.	2385.19	2385.0	$20.00	$47,703.70
19	Underdrain**	L.F.	8000.00	8000.0	$9.00	$72,000.00
20	Earthfill and Topsoil	C.Y.	296.30	296.0	$25.00	$7,407.41
21	Seeding & Mulching	S.Y.	3555.56	3556.0	$3.00	$10,666.67
22	Erosion Control	L.S.	1.00	1.0	$18,600.00	$18,600.00
23	Traffic Control	L.S.	1.00	1.0	$37,300.00	$37,300.00
24	Construction Staking	L.S.	1.00	1.0	$88,700.00	$88,700.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$2,007,325.48**
				Contingency	15%	$301,098.82
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$2,308,400.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

202nd Street, US 31 to N. Union Extension

Widening Portion 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$8,000.00	$8,000.00
2	Excavation	C.Y.	501.18	501.0	$25.00	$12,529.61
3	HMA Surface	TON	45.82	46.0	$65.00	$2,978.45
4	HMA Intermediate	TON	76.37	76.0	$60.00	$4,582.23
5	HMA Base	TON	1654.92	1655.0	$55.00	$91,020.50
6	No. 53 Aggregate Base	TON	1380.09	1380.0	$20.00	$27,601.85
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	275.00	275.0	$65.00	$17,875.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	133.33	133.0	$25.00	$3,333.33
21	Seeding & Mulching	S.Y.	1600.00	1600.0	$3.00	$4,800.00
22	Erosion Control	L.S.	1.00	1.0	$1,700.00	$1,700.00
23	Traffic Control	L.S.	1.00	1.0	$3,500.00	$3,500.00
24	Construction Staking	L.S.	1.00	1.0	$8,200.00	$8,200.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$186,120.98**
					Contingency 15%	$27,918.15
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$214,000.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

202nd Street, US 31 to N. Union Extension

Resurfacing Portion 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$2,400.00	$2,400.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	256.04	256.0	$65.00	$16,642.58
4	HMA Intermediate	TON	426.73	427.0	$60.00	$25,603.97
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	192.59	193.0	$25.00	$4,814.81
21	Seeding & Mulching	S.Y.	2311.11	2311.0	$3.00	$6,933.33
22	Erosion Control	L.S.	1.00	1.0	$600.00	$600.00
23	Traffic Control	L.S.	1.00	1.0	$1,100.00	$1,100.00
24	Construction Staking	L.S.	1.00	1.0	$2,700.00	$2,700.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$60,794.69**
					Contingency 15%	$9,119.20
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$69,900.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Small Structure (2) $50,000.00

Total **$333,900.00**

202nd Street Extension, N. Union St. Extension to SR 38

Full Reconstruction Option 24 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$79,800.00	$79,800.00
2	Excavation	C.Y.	4189.48	4189.0	$25.00	$104,737.00
3	HMA Surface	TON	617.81	618.0	$65.00	$40,157.74
4	HMA Intermediate	TON	1029.69	1030.0	$60.00	$61,781.13
5	HMA Base	TON	5761.61	5762.0	$55.00	$316,888.78
6	No. 53 Aggregate Base	TON	3555.65	3556.0	$20.00	$71,112.96
7	Curb & Gutter	L.F.	7200.00	7200.0	$26.00	$187,200.00
8	HMA Trail Pavement	S.Y.	6400.00	6400.0	$32.00	$204,800.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	75.00	75.0	$65.00	$4,875.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	864.00	864.0	$30.00	$25,920.00
13	18" R.C.P.	L.F.	1200.00	1200.0	$40.00	$48,000.00
14	24" R.C.P.	L.F.	1200.00	1200.0	$45.00	$54,000.00
15	36" R.C.P.	L.F.	1200.00	1200.0	$61.00	$73,200.00
16	Inlet Type "B-15"	EA.	72.00	72.0	$2,500.00	$180,000.00
17	Manhole Type "C-4"	EA.	36.00	36.0	$3,000.00	$108,000.00
18	Structure Backfill	C.Y.	2146.67	2147.0	$20.00	$42,933.33
19	Underdrain**	L.F.	7200.00	7200.0	$9.00	$64,800.00
20	Earthfill and Topsoil	C.Y.	266.67	267.0	$25.00	$6,666.67
21	Seeding & Mulching	S.Y.	3200.00	3200.0	$3.00	$9,600.00
22	Erosion Control	L.S.	1.00	1.0	$16,800.00	$16,800.00
23	Traffic Control	L.S.	1.00	1.0	$33,700.00	$33,700.00
24	Construction Staking	L.S.	1.00	1.0	$80,200.00	$80,200.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$1,815,172.62**
				Contingency	15%	$272,275.89
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$2,087,400.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Carey Road from 146th to 161st

Widening Portion 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$29,900.00	$29,900.00
2	Excavation	C.Y.	2067.59	2068.0	$25.00	$51,689.81
3	HMA Surface	TON	183.29	183.0	$65.00	$11,913.69
4	HMA Intermediate	TON	305.48	305.0	$60.00	$18,328.75
5	HMA Base	TON	6844.57	6845.0	$55.00	$376,451.17
6	No. 53 Aggregate Base	TON	5397.13	5397.0	$20.00	$107,942.59
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	275.00	275.0	$65.00	$17,875.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	555.56	556.0	$25.00	$13,888.89
21	Seeding & Mulching	S.Y.	6666.67	6667.0	$3.00	$20,000.00
22	Erosion Control	L.S.	1.00	1.0	$6,500.00	$6,500.00
23	Traffic Control	L.S.	1.00	1.0	$13,000.00	$13,000.00
24	Construction Staking	L.S.	1.00	1.0	$30,900.00	$30,900.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$698,389.90**
					Contingency 15%	$104,758.49
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$803,100.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Carey Road from 146th to 161st

Resurfacing Portion 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$6,700.00	$6,700.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	733.29	733.0	$65.00	$47,663.69
4	HMA Intermediate	TON	1222.15	1222.0	$60.00	$73,328.75
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	555.56	556.0	$25.00	$13,888.89
21	Seeding & Mulching	S.Y.	6666.67	6667.0	$3.00	$20,000.00
22	Erosion Control	L.S.	1.00	1.0	$1,600.00	$1,600.00
23	Traffic Control	L.S.	1.00	1.0	$3,200.00	$3,200.00
24	Construction Staking	L.S.	1.00	1.0	$7,700.00	$7,700.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$174,081.33**
					Contingency 15%	$26,112.20
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$200,200.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2017 Construction Cost: Carey -146th to 161st

Total Widen & Resurface	$1,003,300.00
Small Structure (2)	$50,000.00
Subtract 161st & Carey mainline (500 ft)	($66,886.67)
Total	**$986,413.33**

161st & Carey Intersection - non curbed section

Widening Existing Lanes 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$7,700.00	$7,700.00
2	Excavation	C.Y.	551.36	551.0	$25.00	$13,783.95
3	HMA Surface	TON	48.88	49.0	$65.00	$3,176.98
4	HMA Intermediate	TON	81.46	81.0	$60.00	$4,887.67
5	HMA Base	TON	1825.22	1825.0	$55.00	$100,386.98
6	No. 53 Aggregate Base	TON	1412.35	1412.0	$20.00	$28,246.91
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	148.15	148.0	$25.00	$3,703.70
21	Seeding & Mulching	S.Y.	1777.78	1778.0	$3.00	$5,333.33
22	Erosion Control	L.S.	1.00	1.0	$1,700.00	$1,700.00
23	Traffic Control	L.S.	1.00	1.0	$3,300.00	$3,300.00
24	Construction Staking	L.S.	1.00	1.0	$8,000.00	$8,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$180,219.53**
					Contingency 15%	$27,032.93
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$207,300.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

161st & Carey Intersection - non curbed section

Resurfacing Existing Lanes 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$1,600.00	$1,600.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	195.54	196.0	$65.00	$12,710.32
4	HMA Intermediate	TON	325.91	326.0	$60.00	$19,554.33
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$300.00	$300.00
23	Traffic Control	L.S.	1.00	1.0	$700.00	$700.00
24	Construction Staking	L.S.	1.00	1.0	$1,600.00	$1,600.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$36,464.65**
					Contingency 15%	$5,469.70
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$41,900.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

2017 Construction Cost: INT-161st & Carey

Intersections (assume existing 2-10' travel lanes is for pvr		Total Length for all lanes (ft.)		
Road - Improvement	Turn Lanes	Storage	Entra. Tapers	Exit Tapers
Springmill & 169th	4	470	400	840

Assume taper is widening, DS =40mph (35:1 rate) DS = 60mph (65:1)

Springmill & 169th Intersection - non curbed section

New Turn Lanes 12 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$6,900.00	$6,900.00
2	Excavation	C.Y.	893.63	894.0	$25.00	$22,340.83
3	HMA Surface	TON	104.49	104.0	$65.00	$6,791.82
4	HMA Intermediate	TON	174.15	174.0	$60.00	$10,448.96
5	HMA Base	TON	1476.96	1477.0	$55.00	$81,232.87
6	No. 53 Aggregate Base	TON	836.00	836.0	$20.00	$16,720.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$1,400.00	$1,400.00
23	Traffic Control	L.S.	1.00	1.0	$2,900.00	$2,900.00
24	Construction Staking	L.S.	1.00	1.0	$6,900.00	$6,900.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$155,634.48**
				Contingency	15%	$23,345.17
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$179,000.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Widening and Resurface Existing	**$249,200.00**
Add New Turn Lanes	**$179,000.00**
Traffic Signal	**$160,000.00**
Total	**$588,200.00**

Grassy Branch, SR 32 to 186th St

Widening Portion 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$12,600.00	$12,600.00
2	Excavation	C.Y.	827.04	827.0	$25.00	$20,675.93
3	HMA Surface	TON	73.32	73.0	$65.00	$4,765.48
4	HMA Intermediate	TON	122.19	122.0	$60.00	$7,331.50
5	HMA Base	TON	2737.83	2738.0	$55.00	$150,580.47
6	No. 53 Aggregate Base	TON	2219.35	2219.0	$20.00	$44,387.04
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	275.00	275.0	$65.00	$17,875.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	222.22	222.0	$25.00	$5,555.56
21	Seeding & Mulching	S.Y.	2666.67	2667.0	$3.00	$8,000.00
22	Erosion Control	L.S.	1.00	1.0	$2,700.00	$2,700.00
23	Traffic Control	L.S.	1.00	1.0	$5,400.00	$5,400.00
24	Construction Staking	L.S.	1.00	1.0	$13,000.00	$13,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$292,870.96**
					Contingency 15%	$43,930.64
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$336,800.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Grassy Branch, SR 32 to 186th St

Resurfacing Portion 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$2,700.00	$2,700.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	293.32	293.0	$65.00	$19,065.48
4	HMA Intermediate	TON	488.86	489.0	$60.00	$29,331.50
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	222.22	222.0	$25.00	$5,555.56
21	Seeding & Mulching	S.Y.	2666.67	2667.0	$3.00	$8,000.00
22	Erosion Control	L.S.	1.00	1.0	$600.00	$600.00
23	Traffic Control	L.S.	1.00	1.0	$1,300.00	$1,300.00
24	Construction Staking	L.S.	1.00	1.0	$3,100.00	$3,100.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$69,652.53**
					Contingency 15%	$10,447.88
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$80,100.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Total **$416,900.00**

Grassy Branch Realignment, "T" into 202nd

Full Reconstruction Option 24 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$18,700.00	$18,700.00
2	Excavation	C.Y.	931.00	931.0	$25.00	$23,274.89
3	HMA Surface	TON	138.72	139.0	$65.00	$9,016.63
4	HMA Intermediate	TON	231.20	231.0	$60.00	$13,871.73
5	HMA Base	TON	1289.86	1290.0	$55.00	$70,942.57
6	No. 53 Aggregate Base	TON	891.20	891.0	$20.00	$17,824.07
7	Curb & Gutter	L.F.	1600.00	1600.0	$26.00	$41,600.00
8	HMA Trail Pavement	S.Y.	1422.22	1422.0	$32.00	$45,511.11
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	275.00	275.0	$65.00	$17,875.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	192.00	192.0	$30.00	$5,760.00
13	18" R.C.P.	L.F.	266.67	267.0	$40.00	$10,666.67
14	24" R.C.P.	L.F.	266.67	267.0	$45.00	$12,000.00
15	36" R.C.P.	L.F.	266.67	267.0	$61.00	$16,266.67
16	Inlet Type "B-15"	EA.	16.00	16.0	$2,500.00	$40,000.00
17	Manhole Type "C-4"	EA.	8.00	8.0	$3,000.00	$24,000.00
18	Structure Backfill	C.Y.	477.04	477.0	$20.00	$9,540.74
19	Underdrain**	L.F.	1600.00	1600.0	$9.00	$14,400.00
20	Earthfill and Topsoil	C.Y.	59.26	59.0	$25.00	$1,481.48
21	Seeding & Mulching	S.Y.	711.11	711.0	$3.00	$2,133.33
22	Erosion Control	L.S.	1.00	1.0	$3,900.00	$3,900.00
23	Traffic Control	L.S.	1.00	1.0	$7,900.00	$7,900.00
24	Construction Staking	L.S.	1.00	1.0	$18,800.00	$18,800.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$425,464.89**
				Contingency	15%	$63,819.73
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$489,300.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Gray Road from 156th to 161th

Widening Portion 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$11,100.00	$11,100.00
2	Excavation	C.Y.	731.10	731.0	$25.00	$18,277.52
3	HMA Surface	TON	67.21	67.0	$65.00	$4,368.41
4	HMA Intermediate	TON	112.01	112.0	$60.00	$6,720.63
5	HMA Base	TON	2397.23	2397.0	$55.00	$131,847.52
6	No. 53 Aggregate Base	TON	1944.01	1944.0	$20.00	$38,880.25
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	3.00	3.0	$32.00	$96.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	250.00	250.0	$65.00	$16,250.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	192.59	193.0	$25.00	$4,814.81
21	Seeding & Mulching	S.Y.	2311.11	2311.0	$3.00	$6,933.33
22	Erosion Control	L.S.	1.00	1.0	$2,400.00	$2,400.00
23	Traffic Control	L.S.	1.00	1.0	$4,800.00	$4,800.00
24	Construction Staking	L.S.	1.00	1.0	$11,400.00	$11,400.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$257,888.47**
					Contingency 15%	$38,683.27
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$296,600.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Gray Road from 156th to 161th

Resurfacing Portion 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$2,400.00	$2,400.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	257.87	258.0	$65.00	$16,761.75
4	HMA Intermediate	TON	429.79	430.0	$60.00	$25,787.30
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	192.59	193.0	$25.00	$4,814.81
21	Seeding & Mulching	S.Y.	2311.11	2311.0	$3.00	$6,933.33
22	Erosion Control	L.S.	1.00	1.0	$600.00	$600.00
23	Traffic Control	L.S.	1.00	1.0	$1,100.00	$1,100.00
24	Construction Staking	L.S.	1.00	1.0	$2,700.00	$2,700.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$61,097.19**
					Contingency 15%	$9,164.58
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$70,300.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Total **$366,900.00**

Intersection - 161st and Union St

Widening Existing Lanes 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$9,700.00	$9,700.00
2	Excavation	C.Y.	562.39	562.0	$25.00	$14,059.63
3	HMA Surface	TON	52.54	53.0	$65.00	$3,415.32
4	HMA Intermediate	TON	87.57	88.0	$60.00	$5,254.33
5	HMA Base	TON	1849.66	1850.0	$55.00	$101,731.42
6	No. 53 Aggregate Base	TON	1621.14	1621.0	$20.00	$32,422.84
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	3.00	3.0	$32.00	$96.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	525.00	525.0	$65.00	$34,125.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	148.15	148.0	$25.00	$3,703.70
21	Seeding & Mulching	S.Y.	1777.78	1778.0	$3.00	$5,333.33
22	Erosion Control	L.S.	1.00	1.0	$2,100.00	$2,100.00
23	Traffic Control	L.S.	1.00	1.0	$4,200.00	$4,200.00
24	Construction Staking	L.S.	1.00	1.0	$10,000.00	$10,000.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$226,141.58**
					Contingency 15%	$33,921.24
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$260,100.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Intersection - 161st and Union St

Resurfacing Existing Lanes 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$1,800.00	$1,800.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	195.54	196.0	$65.00	$12,710.32
4	HMA Intermediate	TON	325.91	326.0	$60.00	$19,554.33
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	148.15	148.0	$25.00	$3,703.70
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$400.00	$400.00
23	Traffic Control	L.S.	1.00	1.0	$800.00	$800.00
24	Construction Staking	L.S.	1.00	1.0	$1,800.00	$1,800.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$40,768.35**
					Contingency 15%	$6,115.25
					TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):	**$46,900.00**

2017 Construction Cost: Int -161 and Union

Intersection - 161st and Union Street.

Lane	Length	Width	Entra. Taper (ft)	Exist Taper (ft)
SB Right	150	12	100	210
EB Left	160	12	100	210
WB Left	100	12	100	210
Total	410		150	315

Widening of turn lanes — 8 ' Wide Street — 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$2,300.00	$2,300.00
2	Excavation	C.Y.	241.22	241.0	$25.00	$6,030.48
3	HMA Surface	TON	21.38	21.0	$65.00	$1,389.93
4	HMA Intermediate	TON	35.64	36.0	$60.00	$2,138.35
5	HMA Base	TON	541.87	542.0	$55.00	$29,802.64
6	No. 53 Aggregate Base	TON	285.19	285.0	$20.00	$5,703.70
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	3.00	3.0	$32.00	$96.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	64.81	65.0	$25.00	$1,620.37
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$500.00	$500.00
23	Traffic Control	L.S.	1.00	1.0	$1,000.00	$1,000.00
24	Construction Staking	L.S.	1.00	1.0	$2,300.00	$2,300.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$52,881.47**
				Contingency	15%	$7,932.22
	TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):					**$60,800.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Resurfacing of turn lanes — 16 ' Wide Street — 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$700.00	$700.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	85.55	86.0	$65.00	$5,560.76
4	HMA Intermediate	TON	142.58	143.0	$60.00	$8,555.02
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	0.00	0.0	$25.00	$0.00
21	Seeding & Mulching	S.Y.	0.00	0.0	$3.00	$0.00
22	Erosion Control	L.S.	1.00	1.0	$100.00	$100.00
23	Traffic Control	L.S.	1.00	1.0	$300.00	$300.00
24	Construction Staking	L.S.	1.00	1.0	$700.00	$700.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$15,915.78**
				Contingency	15%	$2,387.37
	TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):					**$18,300.00**

* Unit Price includes allowance for curb ramps
** Unit Price includes geotextiles & aggregate

Total	**$386,100.00**

191st, Tomlinson to US 31

Widening Portion 8 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$10,000.00	$10,000.00
2	Excavation	C.Y.	668.25	668.0	$25.00	$16,706.15
3	HMA Surface	TON	60.49	60.0	$65.00	$3,931.55
4	HMA Intermediate	TON	100.81	101.0	$60.00	$6,048.53
5	HMA Base	TON	2202.48	2202.0	$55.00	$121,136.60
6	No. 53 Aggregate Base	TON	1776.30	1776.0	$20.00	$35,525.93
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	3.00	3.0	$32.00	$96.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	200.00	200.0	$65.00	$13,000.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	177.78	178.0	$25.00	$4,444.44
21	Seeding & Mulching	S.Y.	2133.33	2133.0	$3.00	$6,400.00
22	Erosion Control	L.S.	1.00	1.0	$2,200.00	$2,200.00
23	Traffic Control	L.S.	1.00	1.0	$4,300.00	$4,300.00
24	Construction Staking	L.S.	1.00	1.0	$10,400.00	$10,400.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$234,189.19**
				Contingency	15%	$35,128.38
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$269,300.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

191st, Tomlinson to US 31

Resurfacing Portion 16 ' Wide Street 11/06/07

ITEM NO.	ITEM DESCRIPTION	UNIT	formula QUANTITY	QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1.00	1.0	$2,200.00	$2,200.00
2	Excavation	C.Y.	0.00	0.0	$25.00	$0.00
3	HMA Surface	TON	236.49	236.0	$65.00	$15,371.55
4	HMA Intermediate	TON	394.14	394.0	$60.00	$23,648.53
5	HMA Base	TON	0.00	0.0	$55.00	$0.00
6	No. 53 Aggregate Base	TON	0.00	0.0	$20.00	$0.00
7	Curb & Gutter	L.F.	0.00	0.0	$26.00	$0.00
8	HMA Trail Pavement	S.Y.	0.00	0.0	$32.00	$0.00
9	PCC Driveway Pavement	S.Y.	0.00	0.0	$50.00	$0.00
10	No. 11 HAC Driveway Pavement	S.Y.	0.00	0.0	$65.00	$0.00
11	PCC Sidewalk*	S.Y.	0.00	0.0	$90.00	$0.00
12	12" R.C.P.	L.F.	0.00	0.0	$30.00	$0.00
13	18" R.C.P.	L.F.	0.00	0.0	$40.00	$0.00
14	24" R.C.P.	L.F.	0.00	0.0	$45.00	$0.00
15	36" R.C.P.	L.F.	0.00	0.0	$61.00	$0.00
16	Inlet Type "B-15"	EA.	0.00	0.0	$2,500.00	$0.00
17	Manhole Type "C-4"	EA.	0.00	0.0	$3,000.00	$0.00
18	Structure Backfill	C.Y.	0.00	0.0	$20.00	$0.00
19	Underdrain**	L.F.	0.00	0.0	$9.00	$0.00
20	Earthfill and Topsoil	C.Y.	177.78	178.0	$25.00	$4,444.44
21	Seeding & Mulching	S.Y.	2133.33	2133.0	$3.00	$6,400.00
22	Erosion Control	L.S.	1.00	1.0	$500.00	$500.00
23	Traffic Control	L.S.	1.00	1.0	$1,000.00	$1,000.00
24	Construction Staking	L.S.	1.00	1.0	$2,500.00	$2,500.00
	TOTAL ESTIMATED CONSTRUCTION COST:					**$56,064.52**
				Contingency	15%	$8,409.68
				TOTAL ESTIMATED CONSTRUCTION COST (ROUNDED):		**$64,500.00**

* Unit Price includes allowance for curb ramps

** Unit Price includes geotextiles & aggregate

Total **$333,800.00**