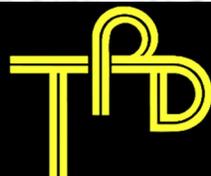


YORK TOWNSHIP

ROADWAY SUFFICIENCY ANALYSIS REPORT

For Submission To:
York Township
York County, Pennsylvania
June 22, 2012

TPD # YORT.A1.00001



TRAFFIC PLANNING AND DESIGN, INC.

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Respectfully Submitted,
Christina A. Staudt, P.E.

YORK TOWNSHIP BOARD OF COMMISSIONERS
York County, Pennsylvania

RESOLUTION NO. 2012 -- 13

WHEREAS, the York Township Board of Commissioners has formed a traffic impact fee advisory committee and intends to pursue the adoption of a traffic impact fee ordinance for the Township; and

WHEREAS, in preparation for the adoption of the traffic impact fee ordinance; the Township has had prepared for its review and approval a Roadway Sufficiency Analysis and Transportation Capital Improvements Plan.

NOW, THEREFORE, BE IT RESOLVED, by the Board of Commissioners of York Township, that the following documents are hereby approved and adopted by York Township:

1. The Roadway Sufficiency Analysis attached hereto, incorporated herein and marked Exhibit "A".
2. The Transportation Capital Improvements Plan attached hereto, incorporated herein and marked Exhibit "B".

ADOPTED this 10th day of July, 2012.

ATTEST:

YORK TOWNSHIP BOARD OF COMMISSIONERS

Elizabeth J. Heathcote
Secretary

By Robert D. Steele
President

**YORK TOWNSHIP
COUNTY OF YORK**

ORDINANCE 2012- 6

**AN ORDINANCE AMENDING ORDINANCE 2002-18
ESTABLISHING AND IMPOSING A TRANSPORTATION
IMPACT FEE UPON NEW DEVELOPMENT WITHIN DESIGNATED
TRANSPORTATION SERVICE AREAS IN THE TOWNSHIP
OF YORK, AND ESTABLISHING PROCEDURES AND
STANDARDS ANCILLARY THERETO**

WHEREAS, the Township of York, County of York, Commonwealth of Pennsylvania, (the “Township”) has experienced considerable growth in the form of residential, commercial, and industrial development in recent years, and it is anticipated that such development will continue into the future; and,

WHEREAS, it is anticipated that such future development will create a substantial impact upon the transportation facilities within one or more areas of the Township; and,

WHEREAS, §2013 of the First Class Township Code, 53 P.S. §57013 requires, *inter alia*, that the Board of Commissioners keep all township streets open, in repair, and reasonably clear of all impediments to easy and convenient traveling; and,

WHEREAS, fulfillment of this obligation by the Board of Commissioners will entail substantial costs directly attributable to the impact of such future development; and,

WHEREAS, ACT 209 of 1990, Article V-A, “Municipal Capital Improvement”, of the Pennsylvania Municipalities Planning Code, 53 P.S. §10501-A et seq., establishes a comprehensive legislative scheme for the imposition of transportation impact fees upon applicants for approval of such future development; and,

WHEREAS, §501-A of the Pennsylvania Municipalities Planning Code, 53 P.S. §10501-A, provides as follows: “To further the purposes of this act in an era of increasing development and of a corresponding demand for municipal capital improvements, to ensure that the cost of needed capital improvements be applied to new developments in a manner that will allocate equitably the cost of those improvements among property owners and to respond to the increasing difficulty which municipalities are experiencing in developing revenue sources to fund new capital infrastructure from the public sector, (certain) powers are granted to all municipalities, other than counties, which municipalities have adopted either a municipal or county comprehensive plan, subdivision and land development ordinance and zoning ordinance; and,

WHEREAS, §503-A (a), of the Pennsylvania Municipalities Planning Code, 53 P.S. §10503-A (a), provides as follows: “The governing body of each municipality other than a county, in accordance with the conditions and procedures set forth in this act, may enact, amend and repeal

impact fee ordinances and thereafter, may establish, at the time of municipal approval of any new development or subdivision, the amount of an impact fee for any of the off-site public transportation capital improvements authorized by this act as a condition precedent to final plat approval under the municipality's subdivision and land development ordinance; and,

WHEREAS, by its Resolution No. 2002-7, duly adopted at a regular public meeting held on the 9th day of April, 2002, the Board of Commissioners declared its intention to adopt a Transportation Impact Fee Ordinance; and,

WHEREAS, by its Ordinance No. 2002-18 duly adopted on December 10, 2002, the Board of Commissioners declared its intention to establish and impose a traffic impact fee; and

WHEREAS, by its Resolution No. 2011-14, duly adopted on November 8, 2011, the Board of Commissioners revised its Land Use Assumptions Report to reflect the current trends in development in York Township; and

WHEREAS, the Township desires to have the Roadway Sufficiency Analysis and Transportation Capital Improvements Plan amended to reflect the current trends in development in York Township; and

WHEREAS, public notice of the intention of the Township to adopt an amendment to Ordinance 2002-18 was duly advertised; and

WHEREAS, the Township hereby finds and declares that a Transportation Impact Fee imposed upon residential and non-residential, including commercial and industrial development in order to assist in the financing of specified major transportation capacity improvements in a transportation service area established pursuant hereto, the demand for which is uniquely created by such development is in the best interest of the Township and its residents, is equitable, and does not impose an unfair burden on such development, land owners, or the community.

NOW THEREFORE BE IT HEREBY ORDAINED AND ENACTED, by the Board of Commissioners for the Township of York as follows:

§ 1. Title

This ordinance shall be known as the "York Township Transportation Impact Fee Ordinance".

§ 2. Purpose

This purpose of this ordinance is to establish a Transportation Impact Fee to ensure that the transportation system is available and adequate to support new growth and development. To advance this objective, there is hereby created a Transportation Impact Fee payable to the Township at the time of building permit issuance.

§ 3. General Findings and Conditions

The Board of Commissioners hereby finds and declares that:

- (a) The conditions and standards for the determination and imposition of the Transportation Impact Fee set forth herein are those set forth in Act 209 of 1990, Article V-A , Municipal Capital Improvement of the Pennsylvania Municipalities Planning Code, 53 P.S. §10501-A et seq., and any and all amendments thereto (hereinafter the “Act”) and consists of:
 - (1) The recitals set forth above;
 - (2) The analysis, advice, and recommendations of the Transportation Impact Fee Advisory Commission;
 - (3) The Land Use Assumptions report as adopted by the Board of Commissioners;
 - (4) The Roadway Sufficiency Analysis as adopted by the Board of Commissioners;
 - (5) The Transportation Capital Improvements Plan, as adopted by the Board of Commissioners; and,
 - (6) Such other conditions and standards as the Board of Commissioners may, by resolution, identify from time to time as being relevant and material to the imposition of a Transportation Impact Fee and consistent with the provisions of the act and any amendments thereto.
- (b) The collection, disbursement, and accounting of Transportation Impact Fees shall be administered by the office of the Township Manager, subject to review, oversight, and control by the Board of Commissioners.
- (c) The amount of the per peak hour trip Transportation Impact Fees shall be as set forth in §13 of this Ordinance.
- (d) The time, method, and procedure for payment of Transportation Impact Fees shall be as set forth in §18 of this Ordinance.
- (e) The procedures for refunds for credits against Transportation Impact Fees shall be as set forth in §19 of the Ordinance.
- (f) The procedures for refunds of Transportation Impact Fees shall be as set forth in §20 of this Ordinance.
- (g) Such exemptions as the Board of Commissioners shall choose to enact shall

be set forth in §21 of this Ordinance.

§ 4. Definitions

The terms and definitions set forth in §502-A of the Act, 53 P.S. 10502-A, are hereby adopted and incorporated by reference in full in this ordinance as if they were attached hereto.

§ 5. Enactment and Imposition of Transportation Impact Fees.

There are hereby enacted Transportation Impact Fees to be imposed upon new development, as defined in the Act, for the purpose of off-site public transportation capital improvements authorized by the Act and as described by the Transportation Capital Improvements Plan adopted by the Board of Commissioners. Said Transportation Impact Fees shall apply to all new subdivisions and land developments within the Transportation Service Areas established pursuant hereto and the imposition and payment shall be a condition precedent to final approval of a subdivision or land development plan and issuance of a building permit.

§ 6. Uses

Transportation Impact Fees collected pursuant to this ordinance shall be expended for costs incurred for improvements attributable to new development and designated in the Transportation Capital Improvements Plan for improvements within the Transportation Service Areas in which the new development will be located. Additionally such fees may be used for the acquisition of land and rights-of-way, engineering, legal and planning costs, and all other costs, including debt service related to road improvements within the Transportation Service Area, and including such proportionate amount of the Roadway Sufficiency Analysis as is allowed under the provisions of the Act.

§ 7. Documents Adopted by the Board of Commissioners

The following documents, previously adopted by the Board of Commissioners, are hereby incorporated by reference in full in the ordinance, as if attached hereto:

- (a) Recommendations of the Transportation Impact Fee Advisory Committee, including those set forth in the documents identified below.
- (b) Land Use Assumptions Report as adopted by Resolution No. 2011-14.
- (c) Roadway Sufficiency Analysis to be adopted by Resolution No. 2012-13
- (d) Transportation Capital Improvements Plan to be adopted by Resolution No. 2012-13.
- (e) Transportation Service Areas Map attached as **Exhibit 1** to the Transportation Capital Improvements Plan, and incorporated by reference in full herein, as if attached hereto.

§ 8. Special Traffic Studies

Where intended to assist in determining the appropriate amount of traffic Transportation Impact Fees, the Township may require the preparation of a special transportation study to determine the traffic generation of circulation patterns in new non-residential developments only; provided, nevertheless, that no studies may be required where the proposed development will not require a deviation from the land use assumptions used to create the Transportation Capital Improvements Plan. Any such studies required by the Township shall be submitted prior to the imposition of the Transportation Impact Fee and shall be considered in the determination of the Fee.

§ 9. Uniform Applicability of Transportation Impact Fee

This ordinance shall be uniformly applicable to all developments that occur within the defined Transportation Service Areas.

§ 10. Imposition and Payment of Transportation Impact Fee as Condition to Issuance of Building Permit.

No building permit shall be issued for development in the Transportation Service Areas hereto, unless the applicant therefore has paid the Transportation Impact Fees imposed by and calculated pursuant to this ordinance.

§ 11. Method of Calculation of Transportation Impact Fees

- (a) The Transportation Impact Fees for transportation capital improvements shall be based upon the total costs of the road improvements included in the adopted Transportation Capital Improvements Plan within the transportation service areas, which are attributable to and necessitated by the new development within the Transportation Service Areas as calculated in accordance with the Act and herewith, divided by the number of anticipated peak hour trips generated by all new development consistent with the adopted Land Use Assumptions Report and calculated in accordance with the Trip Generation Manual published by the Institute of Transportation Engineers, 8th Edition or subsequent editions, as amended, which is hereby adopted by the Township, to equal a per trip cost for transportation improvements with the Transportation Service Areas.
- (b) The specific Transportation Impact Fee for a specific new subdivision or land development within a Transportation Service Area for road improvements shall be determined as of the date of preliminary subdivision or land development approval by multiplying the per trip cost established for the Transportation Service Area by the estimated number of PM peak hour trips to be generated by the new subdivision or land development using Trip Generation Manual published by the Institute of Transportation Engineers, 8th Edition or subsequent editions, as amended.
- (c) The Board of Commissioners may authorize or require the preparation of a special

- (2) **Transportation Service Area 2.** Total costs of Road Improvements in Service Area 2 included in the adopted Transportation Capital Improvements plan attributable to and necessitated by new development within the Transportation Service Area including 30% of the estimated costs of improvements to highways, roads, and streets qualifying as a State highway or portion of the rural highway system as provided in §102 of the State Highway Law.

Total Costs Attributable to Service Area 2 **\$3,046,200.00**

Total Costs Attributable to Service Area 1 & 2 **\$3,779,400.00**

§ 14. Large Subdivision and Land Developments

There is hereby imposed an additional Transportation Impact Fee upon new developments which generate 1,000 or more new peak hour trips, net of pass-by trips as defined by the Trip Generation Manual published by the Institute of Transportation Engineers, 8th Edition or subsequent editions, during the peak hour period designated in this ordinance. The applicant for such a development shall perform traffic analysis of development traffic impact on highways, roads, or streets outside the Transportation Service Area in which the development site is located but within the boundaries of the Township. Any such highways, roads or streets or parts thereof outside the Transportation Service Area which will accommodate 10% or more of development traffic and 100 or more new peak hour trips shall be studied, and the applicant shall mitigate the traffic impacts of the development on such highways, roads and streets to maintain the pre-development conditions after completion of the development.

§ 15. Projects not contained in the Transportation Capital Improvements Plan

Any other provisions of this ordinance to the contrary notwithstanding, in accordance with the provisions of Act, the Township may expend Transportation Impact Fees paid by an applicant on projects not contained in the Transportation Capital Improvement Plan or may provide credit against the Transportation Impact Fees for the value of any construction projects not contained in the Transportation Capital Improvement Plan or may provide credit against Transportation Impact Fees for the value of any construction projects not contained in the Transportation Capital Improvement Plan, which are performed at the applicant's expense if all of the following criteria are met:

- (a) The applicant has provided written consent to use of its Transportation Impact Fees or the provision of such credit against the applicant's Transportation Impact Fees for the specific transportation projects, which are not included in the Transportation Capital Improvement Plan.
- (b) The alternative transportation projects, whether highway or multi-modal, have as their purpose the reduction of traffic congestion or the removal of vehicle trips from the roadway work.

- (c) The Township amends its Transportation Capital Improvement Plan components required by section 504-A(e)(1)(vi) of the Act to provide replacement of the collected Transportation Impact Fees transferred to transportation projects outside the Transportation Capital Improvement Plan from sources other than Transportation Impact Fees or developer contributions within three years of completion of the alternative projects to which the transferred fees were applied or for which credit was provided. All interest earned on such funds shall become funds of that account. The Township shall make an accounting annually for any fund account containing Transportation Impact Fee proceeds and earned interest. Such accounting shall include, but not be limited to, the total funds collected, the source of the funds collected, the total amount of interest accruing on such funds and the amount of funds expended on specific transportation improvements. Notice of the availability of the results of the accounting shall be included and published as part of the annual audit required by the Township. A copy of the report shall also be provided to the Transportation Impact Fee Advisory Board.

§ 16. Non-binding Transportation Impact Fee Estimate

Prior to making an application for a building permit, an applicant may request a non-binding Transportation Impact Fee estimate from the Township, which shall be based upon the maximum development potential of the site pursuant to existing zoning regulations, unless the applicant specifies use of the development.

§ 17. Administration of Transportation Impact Fees

- (a) Collection of Transportation Impact Fees due pursuant to this ordinance shall be collected by the Township in the manner or manners prescribed herein prior to the issuance of a building permit.
- (b) Establishment of the Fund. Upon receipt of Transportation Impact Fees, the Township Manager shall be responsible for the separate and proper accounting of such fees. All such fees shall be deposited in interest-bearing accounts in a bank authorized to receive deposits of the Township funds. Interest earned by each account shall be credited to that account and shall be used solely for the purpose specified for funds of such account.
- (c) Establishment and Maintenance of Accounts. The Township Manager shall establish appropriate trust fund accounts and shall maintain records whereby Transportation Impact Fees collected can be segregated for each Transportation Service Area.
- (d) Maintenance of Records. The Township Manager shall maintain and keep adequate financial records for each such account which shall show the source and disbursement of all revenues, which shall account for all monies received, and which shall ensure that the disbursement of funds from each account shall be used solely and exclusively for the provision of projects specified in the Transportation Capital Improvements Plan for the particular Transportation Service Area.

§ 18. Time, Method and Procedure for Payment

The Transportation Impact Fee for a specific subdivision or land development shall be paid prior to the issuance of the building permit for the development. The Transportation Impact Fee shall be paid to the Township in cash, bank cashier's check, certified check, or electronic fund transfer approved by the Township Manager and shall be administered by the Township in accordance with the provisions of §17 hereof.

§ 19. Credit

Any applicant, who shall perform, at its own expense and the consent and agreement of the Board of Commissioners, off-site improvement, as herein defined, shall be eligible for a credit from a Transportation Impact Fee otherwise due. Such credit shall not exceed the amount of the Transportation Impact Fee that would have been charged if a credit was not due.

- (a) If the applicant makes such improvements he shall enter into an agreement with the Board of Commissioners prior to the issuance of any building permit. The agreement shall establish the estimated cost of the improvement, the schedule for initiation and completion of the improvement, a requirement that the improvement be completed to Township and Pennsylvania Department of Transportation standards and design criteria, as applicable, and such other terms and conditions as deemed necessary by the Board of Commissioners. The Board of Commissioners shall review the improvement plan, verify costs and time schedules, determine if the improvement is an eligible improvement, and determine the amount of the applicable credit for such improvement to be applied to the otherwise applicable Transportation Impact Fee prior to issuance of any building permit. The amount of such credit for any capital improvement constructed shall be the amount allocated in the Transportation Capital Improvement Plan, including contingency factors, for such improvement. In no event shall the Board of Commissioners provide a credit, which is greater than the applicable Transportation Impact Fee. If however, the amount of the credit is calculated to be greater than the amount of the Transportation Impact Fee due, the applicant may use such excess credit toward the Transportation Impact Fees imposed on other building permits for development on the same site and in the same ownership. Any such applicant shall be required to supply financial security sufficient, in the judgment of the Township, to cover the cost of any improvement installed by the applicant for whom credit is sought.
- (b) An applicant shall be entitled as a credit against Transportation Impact Fees an amount equal to fair market value of land dedicated by the applicant to the Township and accepted by the Township for future right-of-way, realignment or widening of existing roadways. The fair market value of any land dedicated to and accepted by the Township shall be determined as of the date of the submission of the subdivision or land development application to the Township.

§ 20. Refunds

Transportation Impact Fees collected pursuant to this ordinance shall be refunded, together with interest earned thereon, to the payor of the Transportation Impact Fees under the following circumstances:

- (a) In the event the Township terminates or completes the Transportation Capital Improvements Plan and there remains at the time of termination or completion un-disbursed funds, the respective payers shall be entitled to a share of the fund balance in the same proportion as the payers shall be entitled to a share of the fund balance in the same proportion as the payer's Transportation Impact Fee payment plus interest earned bears to the total Transportation Impact Fees collected plus interest. The Township shall provide written notice by certified mail to each person who previously paid the fees and remain un-disbursed, that such person's proportionate share of the fund balance is available for refund to such person. Such notice shall be provided to the last known address provided by the payer of the Transportation Impact Fees to the Township. In the event that any of the funds remain unclaimed following one year after the notice, the Township shall be authorized to transfer any funds so remaining to any other fund in the Township without any further obligation to refund said funds. It shall be the responsibility of the payer to provide the Township at all times with a current address for such notice.
- (b) In the event the Township fails to commence construction within three years of the scheduled construction dates of the project as set forth in the Transportation Capital Improvement Plan, the Township shall refund the portion of the Transportation Impact Fee paid by any payer making written request therefore, which is attributable to said project, with accumulated interest; provided, nevertheless, that no refund shall be payable or paid with respect to any project actually commenced prior to the receipt of such refund request and the failure of a payer to make such written request prior to the commencement of such project shall be deemed a waiver of any right to such refund.
- (c) In the event that, upon completion of any road improvements project, the actual expenditure for the project are less than 95% of the budgeted costs for such project, the Township shall refund the pro rata difference between the budgeted costs and the actual expenditures, including interest accumulated thereon from the date of payment, to the person or persons who paid the impact fees for such improvements.
- (d) In the event, the development for which Transportation Impact Fees were paid has not commenced prior to the expiration of the building permit issued therefore, the Transportation Impact Fees paid with accumulated interest shall be refunded to the payer. Further, if a building permit after issuance is altered in such a way as to reduce the amount of the Transportation Impact Fee due, the difference between such amount and the amount actually paid shall be refunded. The payer, at its option, may roll over the Transportation Impact Fees attributable to an expired building permit to cover fees incurred by a new permit.

§ 21. Exemptions (Reserved)

§ 22. Effect of Transportation Impact Fee on Zoning, Subdivision and Land Development, and Planned Residential Development Regulations

This ordinance shall not affect, in any manner, the permissible use of property, density or development, previously adopted design and improvement standards and requirements or any other aspect of the subdivision or land development or provision of public improvements which remain subject to applicable zoning, subdivision and land development, and planned residential development regulations of the Township, which shall be operative and remain in full force and effect without limitation with respect to such development.

§ 23. Transportation Impact Fee as Additional and Supplemental Requirement

The Transportation Impact Fee is additional and supplemental to, and not in substitution of any other requirements imposed by the Township on the development of land or the issuance of building permits. Nothing herein contained shall be deemed to alter or affect the Township's existing ordinances and regulations regarding on-site improvements. In no event shall a property owner be obligated to pay for transportation capital improvements in an amount in excess of the amount calculated pursuant to this Ordinance; provided, nevertheless, that a property owner may be required to pay, pursuant to Township ordinances, regulations or policies, for other public facilities in addition to the Transportation Impact Fee as provided herein.

§ 24. Liberal Construction

It is hereby found and declared to be the intention of the Township that the public health, safety, and welfare be protected and furthered by the provisions of this ordinance, and it shall be interpreted and construed liberally to effectively carry out its purposes and in such manner as to favor such public interest as opposed to any private interest.

§ 25. Repealer

Any ordinances, or parts of ordinances, in conflict herewith be and the same are hereby repealed.

§ 26. Severability

The provisions of this Ordinance are severable. If any sentence, clause or section of this Ordinance is for any reason found to be unconstitutional, illegal or invalid, such decision shall not affect the validity of any of the remaining provisions of this Ordinance. It is hereby declared as a legislative intent that this Ordinance would have been adopted had such unconstitutional, illegal or invalid provision been included herein.

§ 27. Retroactive Application

- (a) Notwithstanding § 28 herein, Transportation Impact Fees shall be imposed on those projects involving subdivisions, land developments, and planned residential developments for which an application has been filed on or after the first publication of notice of the intent of the Township to adopt this ordinance; provided, nevertheless, that such retroactivity does not exceed eighteen (18) months after the adoption of the resolution that created the Transportation Impact Fee Advisory Committee.
- (b) With respect to such retroactive applications, the per peak hour trip shall be \$914 for Transportation Service Area 1 and \$1,069 for Transportation Service Area 2, as established and set forth in Ordinance No. 2002-18, duly adopted by the Board of Commissioners of York Township at a regular public meeting held on the 10th of December, 2002.

§ 28. Effective Date

This Ordinance shall take effect five (5) days after adoption by the Board of Commissioners.

ORDAINED AND ENACTED, this 10th day of July 2012, at a regular public meeting after a public hearing thereon.

Attest:

YORK TOWNSHIP
BOARD OF COMMISSIONERS


Secretary


Chairman

DATE: July 10, 2012

YORK TOWNSHIP ROADWAY SUFFICIENCY ANALYSIS

YORK TOWNSHIP,
YORK COUNTY

TPD # YORT.A1.00001

June 22, 2012

Prepared by:



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Respectfully submitted,
TRAFFIC PLANNING AND DESIGN, INC.



**YORK TOWNSHIP
TRAFFIC IMPACT FEE ADVISORY COMMITTEE**

Timothy Kinsley, Chair

James Norton, Member

Michael Carew, Member

Thomas McCracken, Member

Jeffrey Henry, Member

Todd Bowser, Member

Ross Stanard, Member

**YORK TOWNSHIP
BOARD OF COMMISSIONERS**

Robert D. Steele, P.E., President

Paul D. Knepper, Vice President

Robert W. Kessler, Member

George W. W. Jones, Jr., Member

Albert Granholm, Member

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INTRODUCTION

Traffic Planning and Design, Inc. (TPD) has completed a Roadway Sufficiency Analysis Report for York Township in compliance with the Pennsylvania Impact Fee Law as defined in sections 501-A through 506-A of the Municipal Planning Code (MPC). Sections 501-A through 506-A of the MPC were added to the code on December 19, 1990, via Act 209 of 1990 and were amended via Act 68 of 2000. The MPC authorizes municipalities within the Commonwealth to enact, amend and repeal impact fee ordinances and to charge impact fees to cover the cost of off-site road improvements necessitated by new land development. This report is an update to the November 12, 2002 Roadway Sufficiency Analysis that TPD prepared for York Township.

York Township is located in York County. York Township is bordered by Spring Garden Township and Springettsbury Township to the north, Windsor Township and the Boroughs of Red Lion, Dallastown, and Yoe to the east, North Hopewell Township to the south, and North Codorus Township and Springfield Township to the west.

The growth projections for the Township are documented in the November 4, 2011 Land Use Assumptions Report. The York Township Board of Commissioners adopted the Land Use Assumptions Report, prepared by TPD, on November 7, 2011. The Roadway Sufficiency Analysis (RSA) and Capital Improvement Plan (CIP) have been completed to ensure that the Township is equipped to provide the necessary infrastructure to accommodate the expected growth as outlined in the Land Use Assumptions Report.

STUDY AREA

Transportation Service Area (TSA)

In compliance with the MPC (Section 504-A(b)(1)), York Township established two (2) Transportation Service Area (TSA) for the roadway sufficiency analysis. Section 501-A of the MPC stipulates that a TSA cannot exceed an area of seven square miles. Both TSAs for York Township, as shown in Figure 1, are less than seven square miles in size. Several areas were excluded from the TSAs. Excluding these areas helped maximize the TSA and still keep the TSA under the 7 square mile limit.

EXISTING CONDITIONS

Existing Road Network

A survey of the existing roadway system in the service area is as follows:

Acco Drive is a two-lane local road running in an east-west direction in the Township. The speed limit is not posted on Acco Drive.

Belle Road is a two-lane local road running in an east-west direction in the Township. The posted speed limit on Belle Road is 30 mph.

Camp Betty Washington Road (S.R. 2005) is a two-lane urban collector road from Springwood Road to Belle Road. From Belle Road to Chambers Road, Camp Betty Washington Road turns into a rural minor collector and from Chambers Road to Mount Rose Avenue, Camp Betty Washington



Road turns back to an urban collector road. The posted speed limit on Camp Betty Washington Road is 35 mph.

Cape Horn Road (S.R. 0024) is a two-lane urban collector road running in a north-south direction in the Township. The posted speed limit of Cape Horn Road is 45 mph.

Chambers Road is a two-lane local road running in a north-south direction in the Township. The posted speed limit on Chambers Road is 35 mph.

Chapel Church Road is a two-lane local road running in an east-west direction in the Township. The posted speed limit on Chapel Church Road is 35 mph.

Cherry Street is a two-lane local road running in an east-west direction through the Township. The posted speed limit on Cherry Street is 25 mph.

Chestnut Hill Road (S.R. 2064) is a two-lane local road running in a north-south direction in the Township. The posted speed limit on Chestnut Hill Road is 35 mph.

Country Club Road is a two-lane local road running in an east-west direction in the Township. The posted speed limit on Country Club Road is 35 mph.

Coventry Road is a two-lane local road running in a north-south direction in the Township. The posted speed limit on Coventry Road is 35 mph.

Dallas Road is a two-lane local road running in a north-south direction in the Township. The posted speed limit on Dallas Road is 25 mph.

Dewdrop Road is a two-lane local road running in an east-west direction through the Township. The posted speed limit on Dewdrop Road is 35 mph east of Queen Street and 25 mph west of Queen Street.

Duquesne Road is a two-lane local road running in a north-south direction in the Township. The posted speed limit on Duquesne Road is 35 mph.

Farm Lane is a two-lane local road running in an east-west direction in the Township. The posted speed limit on Farm Lane is 25 mph.

Fruitlyn Drive is a two-lane local road running in a north-south direction through the Township. The posted speed limit on Fruitlyn Drive is 35 mph north of Queen Street and 25 mph south of Oak Road.

Gateway Road is a two-lane local road running in an east-west direction in the Township. The posted speed limit on Gateway Road is 25 mph.

George Street (S.R. 3001) is a two-lane minor arterial road running in a north-south direction in the Township. The posted speed limit on George Street is 35 mph in the vicinity of Powder Mill Road. Further south, in the vicinity of the intersections with Joppa Road and Grantley Drive, the posted speed limit is 40 mph.



Grantley Road (S.R. 4001) is a two-lane urban collector road running in a north-south direction in the Township. The posted speed limit on Grantley Drive is 40 mph.

Joppa Road is a two-lane local road running in a north-south direction in the Township. The posted speed limit on Joppa Road is 25 mph in the vicinity of Leaders Heights Road. The posted speed limit elsewhere along Joppa Road is 40 mph.

Leaders Heights Road (S.R. 0182) is a two-lane minor arterial road to the east of George Street and an urban collector road to the west of George Street. Leaders Heights Road runs in an east-west direction in the Township with a posted speed limit of 35 mph.

Locust Hill Road is a two-lane local road running in a north-south direction through the Township. The posted speed limit on Locust Hill Road is 25 mph.

Locust Street is a two-lane local road running in a north-south direction in the Township. The posted speed limit on Locust Street is 25 mph.

Lombard Road (S.R. 2007) is a two-lane local road running in a north-south direction in the Township. The posted speed limit on Lombard Drive is 40 mph. South of Yoe Drive, the speed limit drops to 25 mph.

McDowell Drive is a two-lane local road running in a north-south direction through the Township. The posted speed limit on McDowell Drive is 30 mph.

Monument Road is a two-lane local road running in an east-west direction in the Township. There is no posted speed limit on Monument Road.

Oak Road is a two-lane local road running in an east-west direction through the Township. The posted speed limit on Oak Street is 35 mph.

Old Baltimore Pike (S.R. 3003) is a two-lane local road running in a north-south direction through the Township. The posted speed limit on Old Baltimore Pike is 35 mph.

Old Dutch Lane is a two-lane local road running in a north-south direction in the Township. The posted speed limit on Old Dutch Lane is 35 mph.

Pauline Drive/Saint Charles Way is a two-lane local road running in an east-west direction through the Township. The road to the west of Queen Street, designated Saint Charles Way, has a posted speed limit of 35 mph and the road to the east of Queen Street, designated Pauline Drive, has a posted speed limit of 35 mph.

Pine Grove Road is a two-lane local road running in a north-south direction in the Township. The posted speed limit on Pine Grove Road is 35 mph.

Powder Mill Road is a two-lane local road running in a north-south direction in the Township. The posted speed limit on Powder Mill Road is 40 mph.



Queen Street (S.R. 0074) is a two-lane principal arterial road running in a north-south direction through the Township. In the vicinity of the interchange with Interstate 83, Queen Street widens to a four-lane roadway. Queen Street has a posted speed limit of 35 mph.

Queenswood Drive is a two-lane local road running in a north-south direction in the Township. The posted speed limit on Queenswood Road is 35 mph.

School Street is a two-lane local road running in a north-south direction in the Township. The posted speed limit on School Street is 25 mph.

Springwood Road (S.R. 2002) is a two-lane urban collector road running in a north-south direction in the Township. The posted speed limit of Springwood Road is 35 mph.

Tyler Run Road (S.R. 3056)/Donna Lane is a two-lane urban collector road running in an east-west direction through the Township. The road to the west of Queen Street, designated Tyler Run Road, has a posted speed limit of 35 mph and the road to the east of Queen Street, designated Donna Lane, has a posted speed limit of 35 mph.

Veterans of Foreign Wars of the United States Memorial Highway (S.R. 0083) is a four lane limited access interstate running in a north-south direction through the Township. The posted speed limit of the interstate is 55 mph.

Vireo Road is a two-lane local road running in a north-south direction in the Township. The posted speed limit on Vireo Road is 35 mph.

Walnut Street is a two-lane local road running in a north-south direction in the Township. The posted speed limit on Walnut Street is 30 mph.

Yoe Drive is a two-lane local road running in an east-west direction in the Township. The posted speed limit on Yoe Drive is 30 mph.

Existing lane configurations and intersection control within the study area are shown in Figure 2.

Transportation Service Area Intersections

The study area intersections are shown in Table 1.

Existing Traffic Volumes

Manual turning movement counts were either conducted by TPD or obtained from traffic studies that were completed for developments in the Township. The manual counts were conducted from 4:00 P.M. to 6:00 P.M., or what is commonly referred to as the afternoon peak travel time period. Tables 1 and 2 below list the dates of the manual traffic counts for TSA 1 and TSA 2, respectively.



TABLE 1
TSA 1 MANUAL TRAFFIC COUNTS

Intersection	Control¹	Date Counted	Source²
Camp Betty Washington & Chestnut Hill Road	U	Tues., 2/21/12	TPD
Springwood Road & Duquense Road	U	Thurs., 11/19/2009	TPD
Springwood Road & Chestnut Hill Road	S	Thurs., 10/29/2009	TPD
Springwood Road & Camp Betty Washington Road	U	Thurs., 10/29/2009	TPD
Springwood Road & Chapel Church Road	U	Wed., 11/04/2009	TPD
Springwood Road & Walnut Street	U	Tues., 10/27/2009	TPD
Springwood Road & Locust Street	U	Tues., 10/27/2009	TPD
Lombard Street & Yoe Drive	U	Thurs., 10/22/2009	TPD
Yoe Drive & Chapel Church Road	U	Thurs., 10/22/2009	TPD
Cape Horn Road & Belle Drive	S	Wed., 4/14/2010	TPD
Cape Horn Road & Old Dutch Lane	U	Thurs., 10/08/09	TPD
Camp Betty Washington Road & Chambers Road	U	Tues., 10/20/09	TPD
Camp Betty Washington Road & Belle Road	U	Tues., 10/20/2009	TPD
Queen Street & Country Club Road	S	Tues., 2/21/2012	TPD

1. Intersection Control: S = Signalized Intersection, U = unsignalized Intersection (Two-Way Stop Control), A = unsignalized Intersection (All-Way Stop Control)
2. TPD = Traffic Planning and Design, Inc., TRG = Transportation Resource Group, Inc.



TABLE 2
TSA 2 MANUAL TRAFFIC COUNTS

Intersection	Control¹	Date Counted	Source²
Powder Mill Road & Tyler Run Road	U	Tues., 10/13/09	TPD
George Street & Powder Mill Road	S	Tues., 10/13/09	TPD
George Street & Monument Road/Old Baltimore Pike	S	Tues., 3/11/2008	TRG
Monument Road & Grantley Road	U	Tues., 3/11/08	TRG
George Street & Grantley Road/Joppa Road	U	Thurs., 10/07/10	TPD
George Street & Leaders Heights Road	S	Thur., 10/07/10	TPD
Leaders Heights Road & Joppa Road	U	Thurs., 10/7/10	TPD
Dew Drop Road & Pine Grove Road	U	Wed., 10/14/09	TPD
Dew Drop Road & Powder Mill Road	A	Wed., 10/14/09	TPD
Leaders Heights Road & Powder Mill Road	S	Wed., 10/28/09	TPD
Leaders Heights Road & Vireo Road	U	Wed., 10/28/09	TPD
Springwood Road & Queenswood Drive	U	Thurs., 10/15/09	TPD
Queen Street & Springwood Road	S	Wed., 11/28/07	TRG
Queen Street & Tyler Run Rd/Donna Lane	S	Thurs., 11/05/09	TPD
Queen Street & I-83 South Ramps/Gateway Road	U	Tues., 11/10/09	TPD
Queen Street & I-83 North Ramps	U	Tues., 11/10/09	TPD
Queen Street & Pauline Dr./St. Charles Way	S	Wed., 11/16/11	TPD
Queen Street & Acco Drive	S	Tues., 12/11/07	TPD
Queen Street & Dew Drop Road	S	Thurs., 11/29/07	TPD
Queen Street & Cherry Street	U	Thurs., 11/05/09	TPD
Queen Street & Leaders Heights Road/Farm Lane	S	Thurs., 9/13/07	TRG
Queen Street & Locust Hill Road	U	Wed., 11/18/09	TPD
Queen Street & McDowell Drive	U	Wed., 11/18/09	TPD
Queen Street & Fruitlyn Drive/Dallas Road	U	Wed., 11/18/09	TPD
Oak Road & Fruitlyn Drive	U	Wed., 11/18/09	TPD
Oak Road & Chestnut Hill Road	U	Wed., 11/18/09	TPD
Oak Road & McDowell Drive	U	Thurs., 11/19/09	TPD
Oak Road & Coventry Road	U	Thurs., 11/19/09	TPD
Oak Road & School Street	U	Tues., 11/17/09	TPD
Springwood Road & Pauline Drive	S	Wed., 11/16/11	TPD
Springwood & Donna Lane	U	Tues., 2/21/012	TPD

1. Intersection Control: S = Signalized Intersection, U = unsignalized Intersection (Two-Way Stop Control), A = unsignalized Intersection (All-Way Stop Control)
2. TPD = Traffic Planning and Design, Inc., TRG = Transportation Resource Group, Inc.



The traffic counts conducted before 2010 were adjusted to represent 2010 conditions by using a background growth factor of 1.69% per year, which was obtained from the PennDOT Bureau of Planning and Research. No adjustment factors were applied to counts conducted in 2010 or later.

The 2010 Existing Condition P.M. peak hour traffic volumes are shown in Figure 3. The manual traffic count sheets are included in Appendix A.

PLANNED IMPROVEMENTS

Planned Improvements on the PennDOT Twelve Year Transportation Program

Based on a review of the Pennsylvania Transportation Improvement Program (TIP), there are no programmed roadway improvements that will impact the capacity at the intersections in this study.

Other Planned Improvements

Based on conversations with Township staff, there are no planned roadway improvements in the Township that will impact the study area.

VOLUME DEVELOPMENT METHODOLOGY

Study Year

Section 504-A(c)(2)(ii) of the MPC stipulates that the Land Use Assumptions Report and Roadway Sufficiency Analysis report should analyze projected growth in the Township “over a period of at least the next five years”. In compliance with the legislation, a study year of 2020, 10 years from 2010 existing conditions, was selected.

Volume Development Overview

As stipulated in the MPC, the calculation of a traffic impact fee for a municipality can only be based on improvements needed to accommodate future development in the TSA. This means that the costs associated with improvements which are necessary to remedy deficiencies due to the following traffic *cannot be included* in the calculation of the traffic impact fee:

- Existing traffic;
- Future growth due to increased traffic passing thru the municipality (pass-thru traffic);
- Traffic due to growth in the municipality that is not within the specific TSA being studied;
- Traffic due to developments that had preliminary or tentative applications for land development, subdivision or PRD with the municipality on or before the first publication of the municipality’s intention to adopt an impact fee ordinance (MPC Section 505-A(c)(2)).



In order to determine the improvements, which are necessary to remedy LOS deficiencies due to each scenario separately, it was necessary to develop volumes in the following order:

1. Existing Conditions;
2. 2020 Base Conditions which include the following:
 - Future growth due to increased traffic passing thru the municipality (pass-thru traffic);
 - Traffic due to growth in the municipality that is not within each TSA;
 - Traffic due to developments that had preliminary or tentative applications for land development, subdivision or PRD with the municipality on or before the first publication of the municipality's intention to adopt an impact fee ordinance (MPC Section 505-A(c)(2));
3. 2020 Projected Conditions that are equal to the 2020 Base Conditions plus traffic from all "new" projected developments in each TSA.

2020 BASE CONDITIONS

Pass Through Traffic

The PennDOT Bureau of Planning and Research (BPR) recommends utilizing an annual growth percentage of 1.56% per year for urban non-interstate roads and 1.97% for urban interstate roads in York County. These rates account for growth in traffic passing thru an area plus growth due to nearby future developments. Since the Roadway Sufficiency Analysis includes traffic for approximately 170 developments, using a background growth rate of 1.56% or 1.97% per year would represent an over estimate of future traffic due to double counting. Therefore, a background growth rate of 1.0% per year was used for pass-through traffic.

Base Development Trip Generation

Table 10 from the Land Use Assumptions Report (included in Appendix B), summarizes all development that is projected to occur in the TSA 1 and TSA 2 over the next ten years. Because York Township has an existing traffic impact fee ordinance, all proposed developments are categorized as projected developments if they fall within one of the two proposed Transportation Service Areas.

Developments that do not fall within either TSA, including several developments presented in Appendix B, are considered "base" developments. These developments, summarized in Table 3, were included in the Base Condition analysis.

Trip generation rates for these base developments were obtained from the Trip Generation manual, Eighth Edition, 2008, an Institute of Transportation Engineers (ITE) Informational Report. The statistics in Trip Generation are empirical data based on more than 4,800 trip generation studies. The data are categorized by Land Use Codes, with total vehicular trips for a given land use estimated using an independent variable and statistically generated rates or equations. Trip generation calculations are summarized in Appendix C.



**TABLE 3
BASE DEVELOPMENT P.M. PEAK HOUR TRIP GENERATION**

LAND USE CODE	LAND USE	TOTAL UNITS/SIZE	P.M. PEAK HOUR		
			ENTER	EXIT	TOTAL
RESIDENTIAL					
210	Single Family Detached	29 units	21	13	34
230	Townhouse/Condominium	37 units	18	9	27
<i>Total Residential Trips</i>			39	22	61
NON-RESIDENTIAL					
412	Park	18.8 acres	4	7	11
610	Hospital	150,000 s.f.	72	99	171
820	Shopping Center	56,000 s.f.	128	130	258
881	Pharmacy/Drugstore w/ Drive-Thru	13,225 s.f.	69	69	138
912	Drive-In Bank	3,000 s.f.	14	12	26
932	High-Turnover (Sit-Down) Restaurant	6,000 s.f.	13	10	23
<i>Total Non-Residential Trips</i>			300	327	627
TOTAL PROJECTED DEVELOPMENT TRIPS			339	349	688

Base Development Trip Distribution

Trips generated by the base developments were distributed according to the methodology described in the section “2020 Projected Development Trip Distribution”. The trip distributions for the base developments were entered into the volume development worksheets, which are included in Appendix D.

2020 Base Condition Volume Development

In order to develop 2020 Base Condition traffic volumes, the trips due to pass-thru traffic and the base developments were added to the Existing Condition traffic volumes. Additionally, trips generated by all projected developments outside of the Transportation Service Area being evaluated were included in 2020 Base Condition traffic volumes. For example, if an intersection is located in TSA 1, then any traffic at the intersection generated by developments in TSA 2 was included in 2020 Base Condition traffic volumes at the intersection. The 2020 Base Condition P.M. peak hour traffic volumes are shown in Figure 4, and the volume worksheets are included in Appendix D.

2020 PROJECTED CONDITIONS

2020 Projected Development Trip Generation

Table 10 from the Land Use Assumptions Report (included in Appendix B), summarizes all of the projected development that is expected to occur in the Township through 2020. From the list of developments presented in Appendix B, those that are considered “new” or “projected” developments are summarized in Tables 4 and 5. These developments were included in the Projected Condition analysis. More detailed trip generation is contained in Appendix C.



Trip generation rates for these projected developments were obtained from the Trip Generation manual, 8th Edition, 2008, an Institute of Transportation Engineers (ITE) informational report. For the purposes of this study, only new trips were considered unless a proposed development that typically has pass-by trips is located on a corner of an intersection that is included in the study. Pass-by trips were included for the corner sites because pass-by trips can affect turning volumes at intersections by providing a means for vehicles to “cut-through” the site. Pass-by trips were not treated as new trips for sites located mid-block or at intersections that were not included in the study, because volumes at the study intersections will not be affected by these trips. Table 4 and 5 summarize the trip generation for the projected developments. Pass-by trips are shown in Table 4 and 5 for land uses in which pass-by trips were considered.



**TABLE 4
PROJECTED DEVELOPMENT P.M. PEAK HOUR TRIP GENERATION
TRANSPORTATION SERVICE AREA 1**

LAND USE CODE	LAND USE	TOTAL UNITS/SIZE	P.M. PEAK HOUR		
			ENTER (Pass-By)	EXIT (Pass-By)	TOTAL (Pass-By)
RESIDENTIAL					
210	Single Family Detached	123 units	88	50	138
220	Apartment	47 units	29	15	44
230	Townhouse/Condominium	289 units	109	53	162
<i>Total Residential Trips</i>			226	118	344
NON-RESIDENTIAL					
820	Retail	145,000 s.f.	175 (44)	186 (44)	361 (88)
<i>Total Non-Residential Trips</i>			175 (44)	186 (44)	361 (88)
TOTAL PROJECTED DEVELOPMENT TRIPS			401 (44)	304 (44)	705 (88)

**TABLE 5
PROJECTED DEVELOPMENT P.M. PEAK HOUR TRIP GENERATION
TRANSPORTATION SERVICE AREA 2**

LAND USE CODE	LAND USE	TOTAL UNITS/SIZE	P.M. PEAK HOUR		
			ENTER (Pass-By)	EXIT (Pass-By)	TOTAL (Pass-By)
RESIDENTIAL					
210	Single Family Detached	103 units	82	45	127
220	Apartment	363 units	164	89	253
230	Townhouse/Condominium	44 units	23	12	35
<i>Total Residential Trips</i>			269	146	415
NON-RESIDENTIAL					
310	Hotel	100 rooms	31	28	59
710	General Office	349,000 s.f.	94	450	544
720	Medical/Dental Office	110,000 s.f.	93	251	344
820	Shopping Center	487,000 s.f.	755 (25)	805 (25)	1,560 (50)
912	Drive-In Bank	3,000 s.f.	39	38	77
<i>Total Non-Residential Trips</i>			1,012 (25)	1,572 (25)	2,584 (50)
TOTAL PROJECTED DEVELOPMENT TRIPS			1,281 (25)	1,718 (25)	2,999 (50)



2020 Projected Development Trip Distribution

The distribution of trips generated by each of the proposed developments was based on the existing traffic patterns on the local road network. Major traffic routes into and out of the Township were identified and each route was evaluated to determine the percentage of existing traffic utilizing that roadway. The result of this analysis was the directional distribution chart shown in Table 6, which was used for the distribution of primary trips to/from the future developments. The assignment of trips within the local roadway network was based upon the proposed use of the site and driveway locations.

**TABLE 6
 PRIMARY TRIP DISTRIBUTION PERCENTAGES**

Direction To/From	Trip Distribution Rates
West via Leaders Heights Road (S.R. 0182)	4%
North via Grantley Road (S.R. 4001)	2%
North via Old Baltimore Pike (S.R. 3003)	1%
North via George Street (S.R. 3001)	3%
North via I-83 Business (S.R. 3036)	4%
North via Queen Street (S.R. 0074)	8%
North via Hollywood Drive (S.R. 3023)	3%
North via Veterans of Foreign Wars Memorial Highway (S.R. 0083)	24%
North via Camp Betty Washington Road (S.R. 2005)	3%
North via Cape Horn Road (S.R. 0024)	10%
East via Lombard Road (S.R. 2007)	3%
East via Cape Horn Road (S.R. 0024)	6%
East via Springwood Road (S.R. 2002)	3%
East via Queen Street (S.R. 0074)	5%
South via Veterans of Foreign Wars Memorial Highway (S.R. 0083)	18%
South via George Street (S.R. 3001)	3%
Total	100%

The trip distributions for the projected developments were entered into the volume development worksheets, which are included in Appendix D.

2020 Projected Condition Volume Development

In order to simplify the trip distributions, trips were distributed to the road network assuming that all traffic originated from or was destined to locations outside of York Township. Therefore, it was assumed that no one who lives in York Township would work or shop in York Township. Although this assumption may seem impractical, it was necessary to simplify the distributions since traffic had to be distributed for approximately 170 developments. Also, it would be impossible to determine the exact locations where commuters would live and work in York Township. However, trips were overestimated as a result of this assumption. Therefore, in order to account for commuters living and



working or shopping in York Township, reduction percentages were applied to the trip distributions in the volume worksheets in Appendix D. The reduction percentages were based on diverted-linked percentages contained in the Trip Generation manual. Based on the diverted-linked percentages, the office/industrial trips were reduced by 12%, the retail trips were reduced by 22%, and the office/mixed use developments were reduced by 10%.

The trip distributions were also adjusted to account for the lag that typically exists from the time that a development receives approval to the time that a development is constructed. Since it generally takes two years from the time that a development receives approval until it is constructed, the developments that receive approval in the years 2018 and 2019 will not be completed until after the study year, 2020. Therefore, the number of trips generated by all development was reduced by 20%.

In order to develop 2020 Projected Condition traffic volumes, the trips generated by the projected developments with adjustments were added to the 2020 Base Condition traffic volumes. The 2020 Projected Condition P.M. peak hour traffic volumes are shown in Figure 5 and the volume worksheets in Appendix D.

LEVELS OF SERVICE (LOS) FOR AN INTERSECTION

For analysis of intersections, level of service is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. Level of service criteria is stated in terms of control delay per vehicle for a one-hour analysis period. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The criteria are shown in Table 7. Delay, as it relates to level of service, is a complex measure and is dependent upon a number of variables. For signalized intersections, these variables include the quality of vehicle progression, the cycle length, the green time ratio, and the volume/capacity ratio for the lane group in question. For unsignalized intersections, delay is related to the availability of gaps in the flow of traffic on the major street and the driver’s discretion in selecting an appropriate gap for a particular movement from the minor street (straight across, left or right turn).

**TABLE 7
LEVEL OF SERVICE CRITERIA**

Level of Service	Control Delay Per Vehicle (Seconds)	
	Signalized	Unsignalized
A	< 10	< 10
B	> 10 and < 20	> 10 and < 15
C	> 20 and < 35	> 15 and < 25
D	> 35 and < 55	> 25 and < 35
E	> 55 and < 80	> 35 and < 50
F	>80	>50

Source: The Transportation Research Board’s Highway Capacity Manual (HCM), 2000 Edition

It is important to understand that the level of service criteria outlined in Table 7 represent merely a guideline for quantifying the acceptability of delay to drivers, which is highly subjective and varies from region to region, usually according to the intensity of development in an area. A more universal



measure of acceptability to drivers is the number of cycles (the time it takes for the signal to go through all of its phases one time) through which they must wait before proceeding through an intersection. In general, if a driver is able to proceed through a signalized intersection within one complete cycle of the signal, the delay experienced is usually considered acceptable.

PREFERRED LEVEL OF SERVICE (LOS)

The MPC requires that the traffic impact fee advisory committee adopt a preferred LOS for the TSA. A preferred LOS C was established for the York Township TSA 1, and a preferred LOS E was established for the York Township TSA 2.

In each of the conditions, each intersection approach, each lane group and the overall intersection that is analyzed must operate at the preferred LOS or better. If an intersection approach, lane group or the overall intersection does not operate at the preferred LOS or better, improvements were identified in order to return the intersection approach, lane group or the preferred LOS. Improvements necessary to bring the Existing Conditions and 2020 Base Conditions to the preferred LOS are the responsibility of the Township. Impact fees in a TSA can be used only for improvements needed to accommodate the 2020 Projected Conditions traffic volumes within the TSA.

CAPACITY ANALYSIS METHODOLOGY

The goal of the Roadway Sufficiency Analysis Report is to determine what roadway improvements will be needed in the next ten years in order to accommodate the level of growth that was projected in the Land Use Assumptions report. In order to determine the level of improvements due to “new” development, capacity analyses were conducted for the P.M. peak hour conditions at the study area intersections.

The capacity analyses were conducted according to the methodologies contained in the 2000 Highway Capacity Manual (HCM) for the following conditions:

- Existing Conditions – Figure 6;
- Existing Conditions with Improvements – Figure 7;
- 2020 Base Conditions – Figure 8;
- 2020 Base Conditions with Improvements – Figure 9;
- 2020 Projected Conditions – Figure 10;
- 2020 Projected Conditions with Improvements – Figure 11.

The capacity analysis worksheets are included in Appendix E.

CAPACITY ANALYSIS RESULTS

Existing Conditions

The results of the existing conditions capacity analyses are shown in Figure 6. As shown in Figure 6, several movements do not operate at the preferred level of service.



Existing Conditions with Improvements

A detailed description of the improvements needed to bring these deficient movements up to the preferred LOS or better are listed in Tables 8 and 9 for TSA 1 and TSA 2, respectively. The new LOS with improvements are shown in Figure 7.

2020 Base Conditions

The results of the 2020 Base Conditions capacity analyses are shown in Figure 8. Note that the improvements that were identified in Existing Conditions with improvements are assumed to be completed and are included in the 2020 Base Conditions analyses. As shown in Figure 8, several movements do not operate at the preferred level of service.

2020 Base Conditions w/ Improvements

A detailed description of the improvements needed to bring these deficient movements up to the preferred LOS or better are listed in Tables 8 and 9 for TSA 1 and TSA 2, respectively. The new LOS with improvements are shown in Figure 9.

2020 Projected Conditions

The results of the 2020 Projected Conditions capacity analyses are shown in Figure 10. Note that the improvements that were identified in 2020 Base Conditions with improvements are assumed to be completed and are included in the 2020 Projected Condition analyses. As shown in Figure 10, several movements do not operate at the preferred level of service.

2020 Projected Condition w/ Improvements

A detailed description of the improvements needed to bring these deficient movements up to the preferred level of service or better are listed in Tables 8 and 9 for TSA 1 and TSA 2, respectively. The new LOS with improvements are shown in Figure 11.

IMPROVEMENTS

Based on the results of the Roadway Sufficiency Analysis, many improvements have been identified.

The next step in adopting a traffic impact fee ordinance is to develop a Capital Improvement Plan (CIP), which will provide cost estimates and list the potential funding sources for the improvements identified in this roadway sufficiency analysis and provide a schedule of implementation.

The funding collected through traffic impact fees cannot be used to fund improvements that have been identified to maintain the preferred level of service for each intersection approach, each lane group and the overall intersection for existing conditions and for 2020 Base Conditions. The fees will, however, be utilized to fund the improvements which are necessary to maintain the preferred level of service for 2020 Projected Conditions, which includes the traffic that will be generated by “new” development within York Township in the next ten years.

The improvements that will be necessary to maintain the preferred LOS for Existing Conditions, 2020 Base Conditions, and 2020 Projected Conditions are listed in Table 8 and 9 for TSA 1 and TSA



2, respectively. Note that only the improvements needed for 2020 Projected Conditions can be funded by the traffic impact fees collected.

The next step that will be taken in order to adopt the traffic impact fee is the preparation of the CIP. Cost estimates, a list of recommended funding sources, and an implementation schedule will be provided in the CIP. The traffic impact fee to be collected for each new P.M. peak hour trip generated by new developments in the York Township TSA will also be calculated in the CIP.

**TABLE 8
IMPROVEMENTS REQUIRED TO MAINTAIN PREFERRED LEVEL OF SERVICE
TRANSPORTATION SERVICE AREA 1**

Intersection	Existing Improvements	2020 Base Improvements	2020 Projected Improvements
Camp Betty Washington Road (S.R. 2005) & Chestnut Hill Road	150' WB Left-Turn Lane w/ Acceleration Lane	100' NB Right-Turn Lane	Traffic Signal
Springwood Road (S.R. 2002) & Duquesne Road	---	---	75' EB Left-Turn Lane w/ Acceleration Lane
Springwood Road (S.R. 2002) & Chestnut Hill Road	Traffic Signal	---	Traffic Signal Retiming
Springwood Road (S.R. 2002) & Camp Betty Washington Rd. (S.R. 2005)	---	325' EB Left-Turn Lane w/ Acceleration Lane	---
Springwood Road (S.R. 2002) & Chapel Church Road	---	---	---
Springwood Road (S.R. 2002) & Walnut Street	---	---	---
Springwood Road (S.R. 2002) & Locust Street	---	---	---
Yoe Drive & Lombard Road (S.R. 2007)	---	---	---
Chapel Church Road & Yoe Drive	---	---	---
Cape Horn Road (S.R. 0024) & Belle Road	---	Traffic Signal Retiming	100' SB Right-Turn Lane
Cape Horn Road (S.R. 0024) & Old Dutch Lane	Traffic Signal	75' NB Left-Turn Lane 75' SB Right-Turn Lane	Convert SB Right-Turn Lane to Second SB Thru-Lane
Camp Betty Washington Road (S.R. 2005) & Chambers Road	---	---	75' EB Left-Turn Lane w/ Acceleration Lane
Camp Betty Washington Road (S.R. 2005) & Belle Road	---	---	150' SB Left-Turn Lane w/ Acceleration Lane
Queen Street (S.R. 0074) & Country Club Road (S.R. 2064)	---	---	Traffic Signal Retiming



**TABLE 9
IMPROVEMENTS REQUIRED TO MAINTAIN PREFERRED LEVEL OF SERVICE
TRANSPORTATION SERVICE AREA 2**

Intersection	Existing Improvements	2020 Base Improvements	2020 Projected Improvements
Powder Mill Road & Tyler Run Road (S.R. 3056) (S.R. 3056)	---	425' SB Left-Turn Lane w/ Acceleration Lane	Traffic Signal
George Street (S.R. 3001) & Powder Mill Road	Traffic Signal Retiming	Traffic Signal Retiming	150' SB Left-Turn Lane SB Protected Left-Turn Phase
George Street (S.R. 3001) & Monument Road/ Susquehanna Trail	---	---	250' SB Right-Turn Lane
Monument Road & Grantley Road (S.R. 4001)	---	---	---
George Street (S.R. 3001) & Joppa Road/Grantley Road (S.R. 4001)	---	225' NB Left-Turn Lane 75' SB Left-Turn Lane	Traffic Signal
Leaders Heights Road (S.R. 0182) & George Street (S.R. 3001)	---	Traffic Signal Retiming	100' WB Right-Turn Lane 75' NB Right-Turn Lane
Leaders Heights Road (S.R. 0182) & Joppa Road	Traffic Signal	Traffic Signal Retiming	75' WB Left-Turn Lane WB Protected Left-Turn Phase
Dewdrop Road & Pine Grove Road	---	---	---
Powder Mill Road & Dewdrop Road	---	---	---
Leaders Heights Rd. (S.R. 0182) & Powder Mill Road	---	---	---
Leaders Heights Rd. (S.R. 0182) & Vireo Road	---	---	Two Way Left-Turn Lane New 75' EB Right-Turn Lane
Springwood Road (S.R. 2002) & Queenswood Road	---	75' EB Left-Turn Lane w/ Acceleration Lane	---
Queen Street (S.R. 0074) & Springwood Road (S.R. 2002)	---	260' WB Right-Turn Lane	Remove Second SB Left-Turn Lane Add Second NB Thru Lane Re-Phase Signal Create Left-Turn Lane from SB Queen to Springwood Road (S.R. 2002) (800' in advance of intersection, to the north)
Queen Street (S.R. 0074) & Tyler Run Road (S.R. 3056) (S.R. 3056)/Donna Lane	---	---	Traffic Signal Retiming
Gateway Road & Queen Street (S.R. 0074)/ Rt. 83 SB Ramps	---	---	Traffic Signal Second EB Right-Turn Lane (275')
Queen Street (S.R. 0074) & SB Rt. 83 Off-Ramps	Traffic Signal (NB/WB Movements Only)	Traffic Signal Retiming	2nd WB Right-Turn Lane (225') Incorporate Signal w/ Queen Street (S.R. 0074) & Gateway Road



Intersection	Existing Improvements	2020 Base Improvements	2020 Projected Improvements
Queen Street (S.R. 0074) & NB Rt. 83 On/ Off-Ramps	---	---	---
Queen Street (S.R. 0074) & St. Charles Way/Pauline Drive	---	---	Second 325' SB Left-Turn Lane
Queen Street (S.R. 0074) & Acco Drive	---	---	---
Queen Street (S.R. 0074) & Dewdrop Road	---	---	---
Queen Street (S.R. 0074) & Cherry Street	---	---	Traffic Signal
Queen Street (S.R. 0074) & Leaders Heights Rd. (S.R. 0182)/ Farm Lane	---	Traffic Signal Retiming	Add Second SB Thru Lane
Queen Street (S.R. 0074) & Locust Hill Road	---	---	---
Queen Street (S.R. 0074) & McDowell Drive	---	---	---
Queen Street (S.R. 0074) & Fruitlyn Drive	Realign to Form One Intersection 75' EB Left-Turn Lane w/ Acceleration Lane	---	Traffic Signal
Oak Road & Fruitlyn Drive	---	---	---
Oak Road & Chestnut Hill Road	---	---	---
Oak Road & McDowell Drive	---	---	---
Oak Road & Coventry Road	---	---	---
Oak Road & School Street	---	---	---
Springwood Road (S.R. 2002) & Pauline Drive	---	Traffic Signal Retiming	Traffic Signal Retiming
Springwood Road (S.R. 2002) & Donna Lane	Traffic Signal	---	175' WB Left-Turn Lane WB Protected Left-Turn Phase

York Township

Land to Develop By 2020 With Transportation Service Areas (TSA)

Legend

 Assumed Development by 2020

 Urban Growth Boundary

 Township Boundry

Land Classification

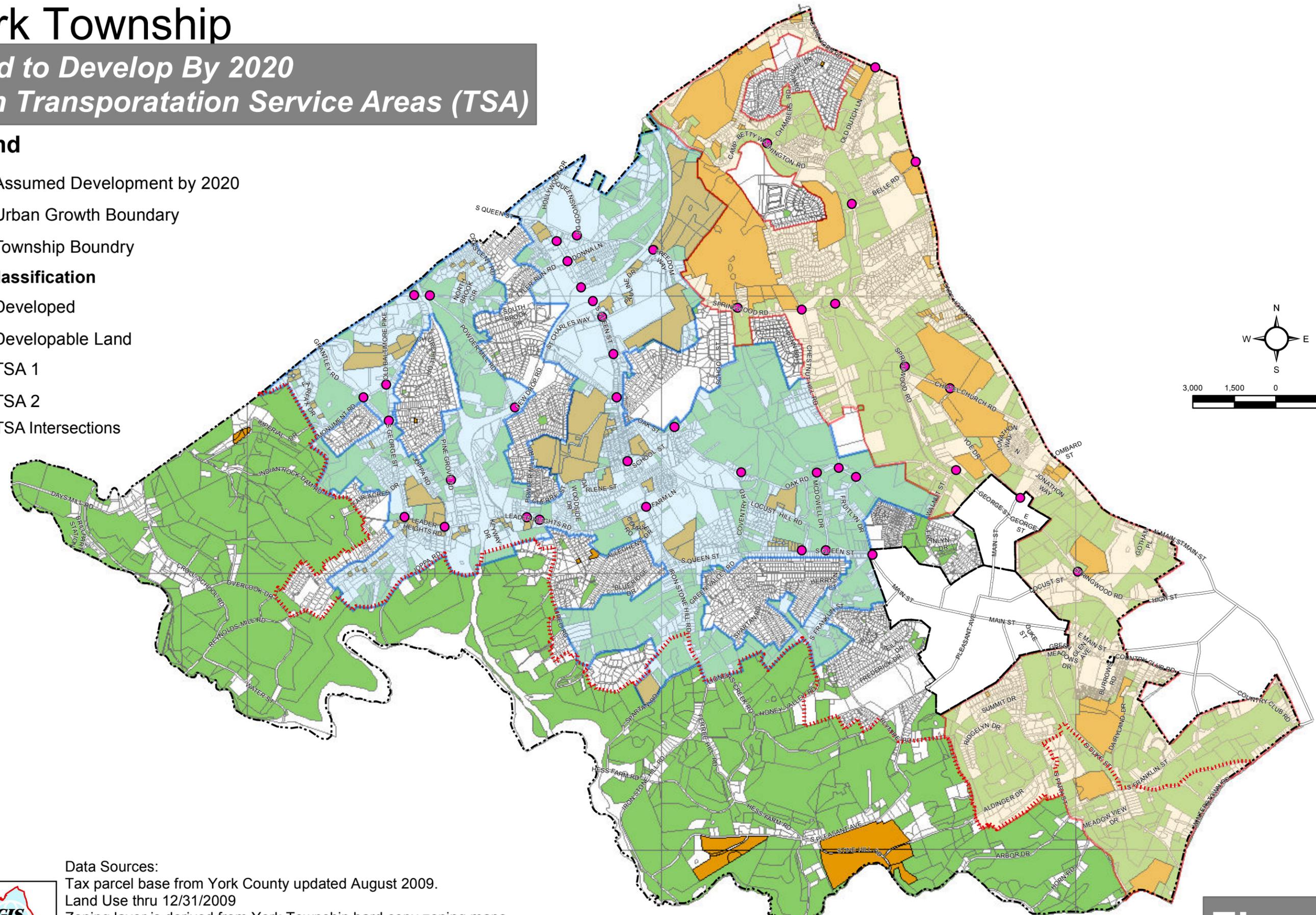
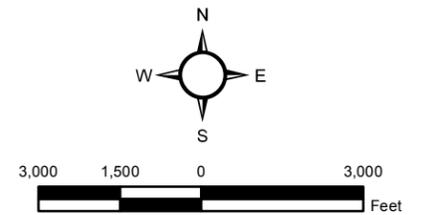
 Developed

 Developable Land

 TSA 1

 TSA 2

 TSA Intersections



Data Sources:

Tax parcel base from York County updated August 2009.

Land Use thru 12/31/2009

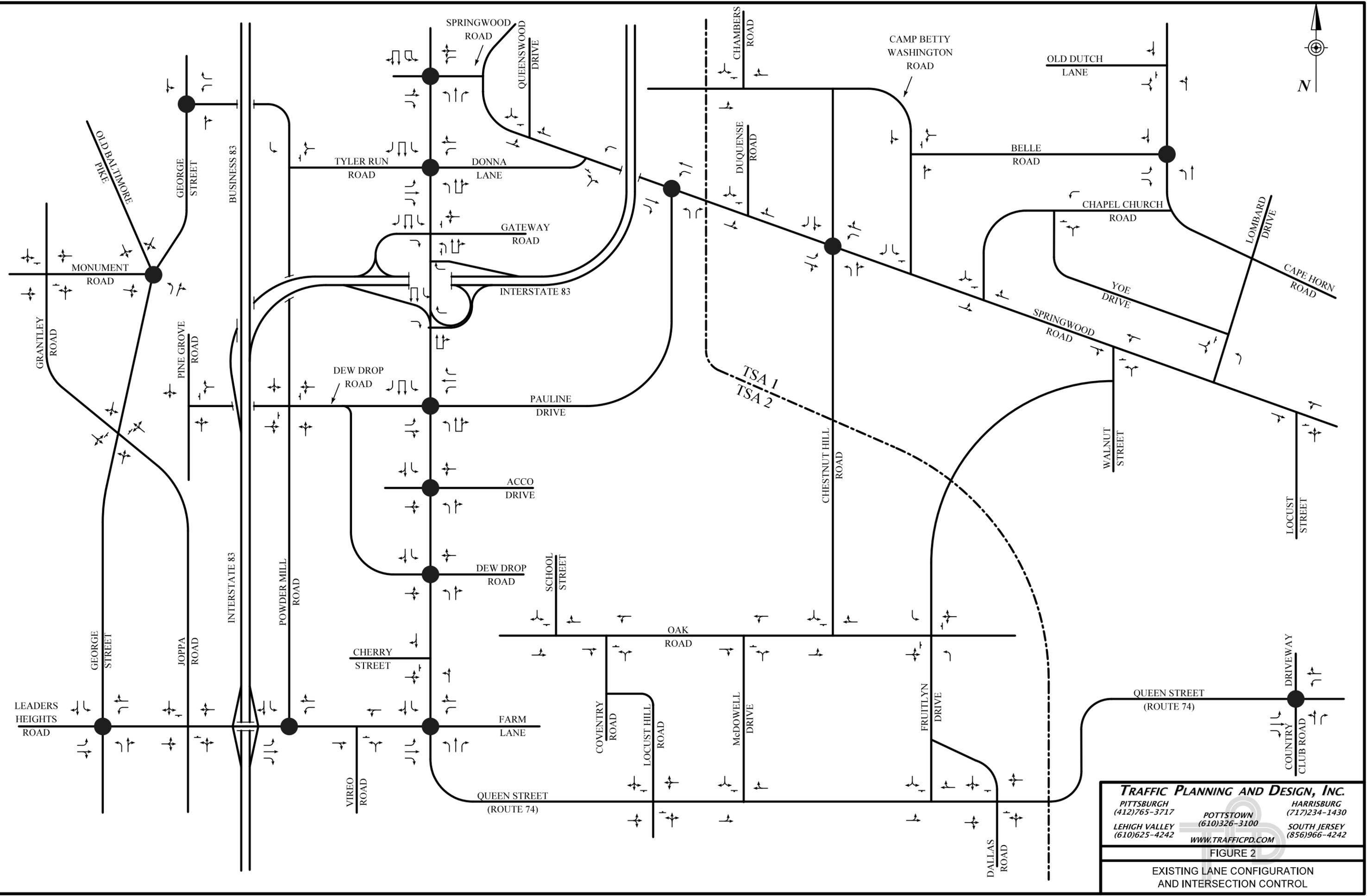
Zoning layer is derived from York Township hard copy zoning maps.

Growth Boundary developed by York Planning Commission and modified by York Township - 2000.



Figure 1

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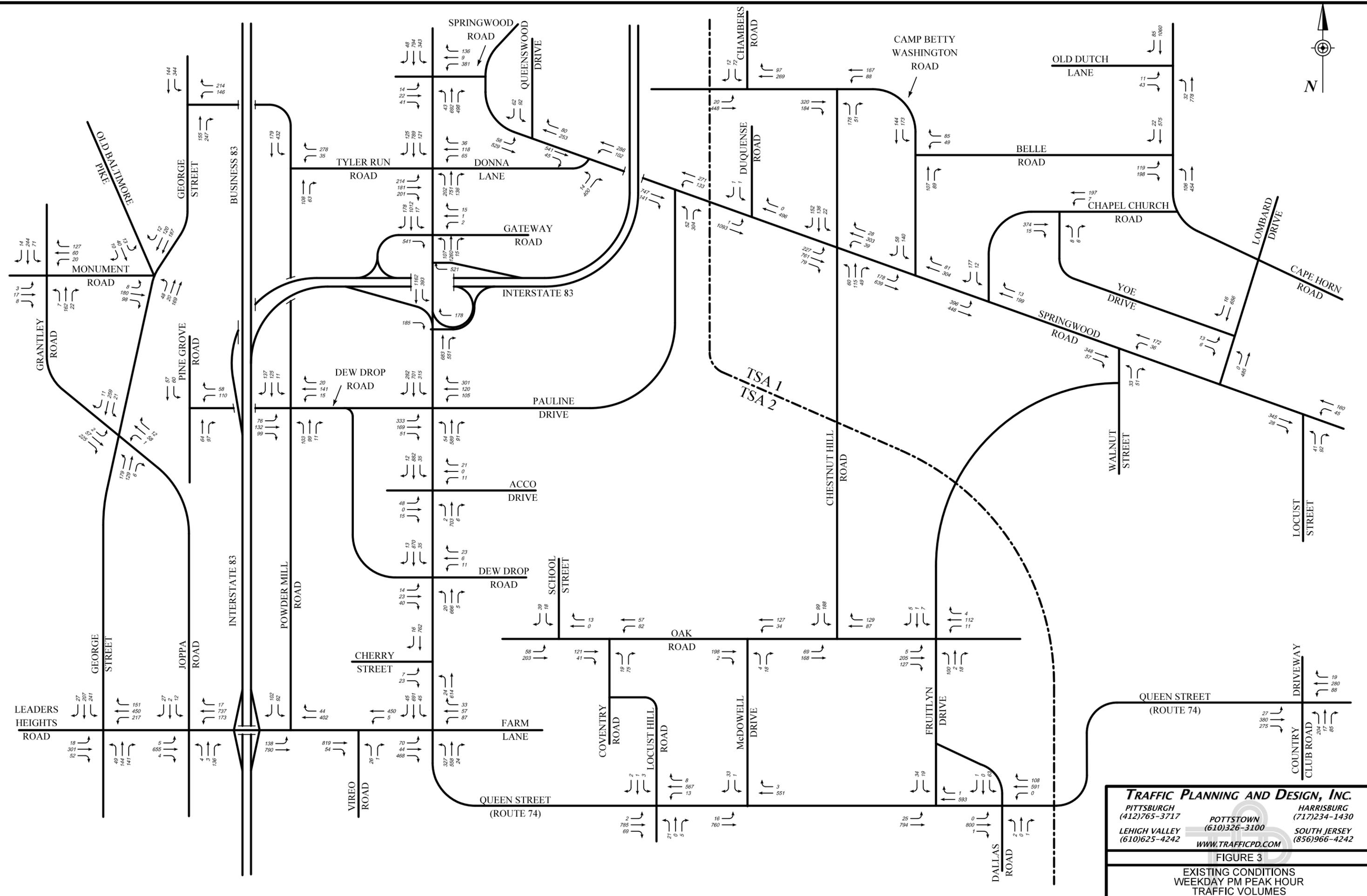


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FIGURE 2

EXISTING LANE CONFIGURATION AND INTERSECTION CONTROL

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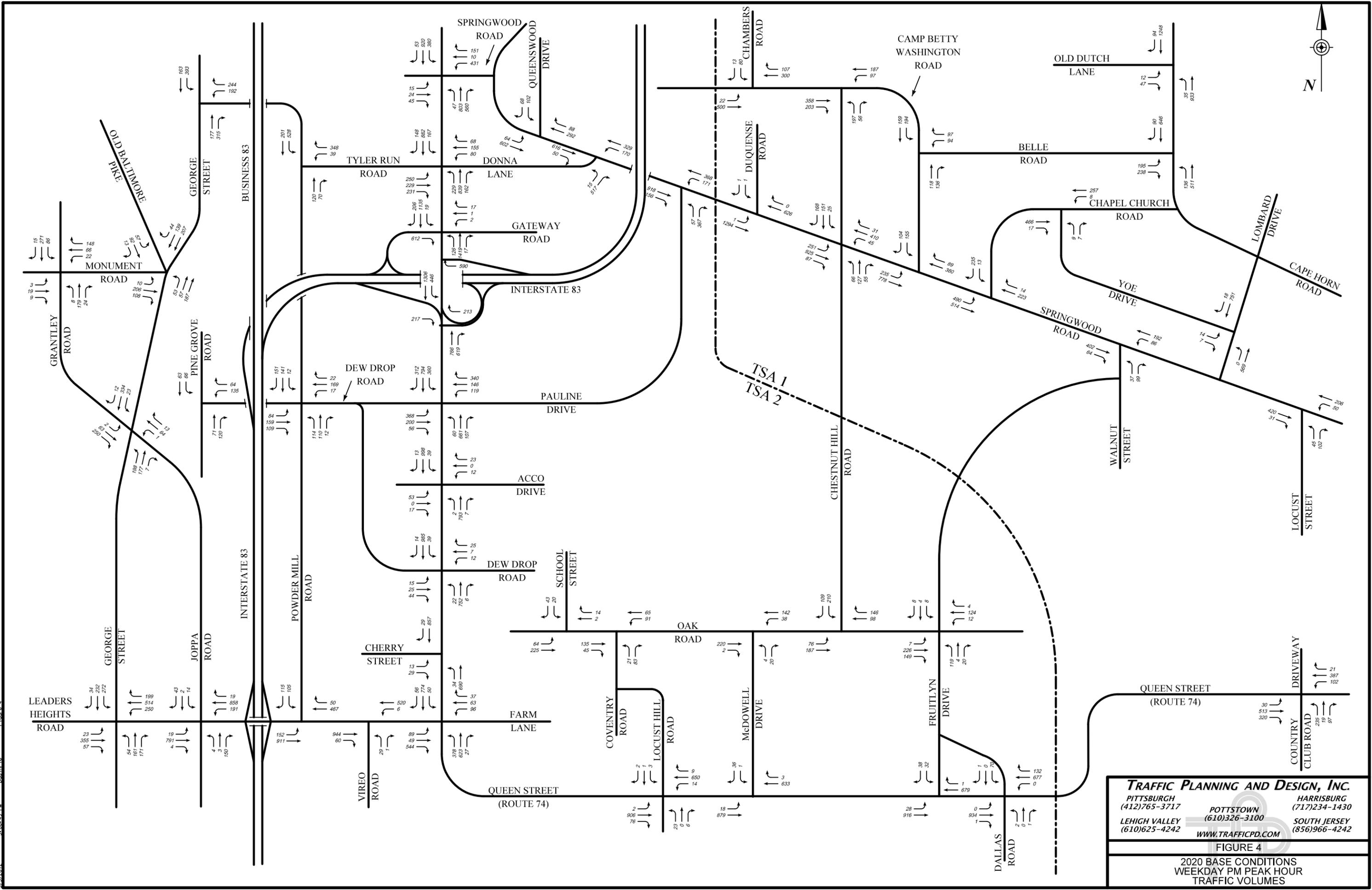


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FIGURE 3
 EXISTING CONDITIONS
 WEEKDAY PM PEAK HOUR
 TRAFFIC VOLUMES

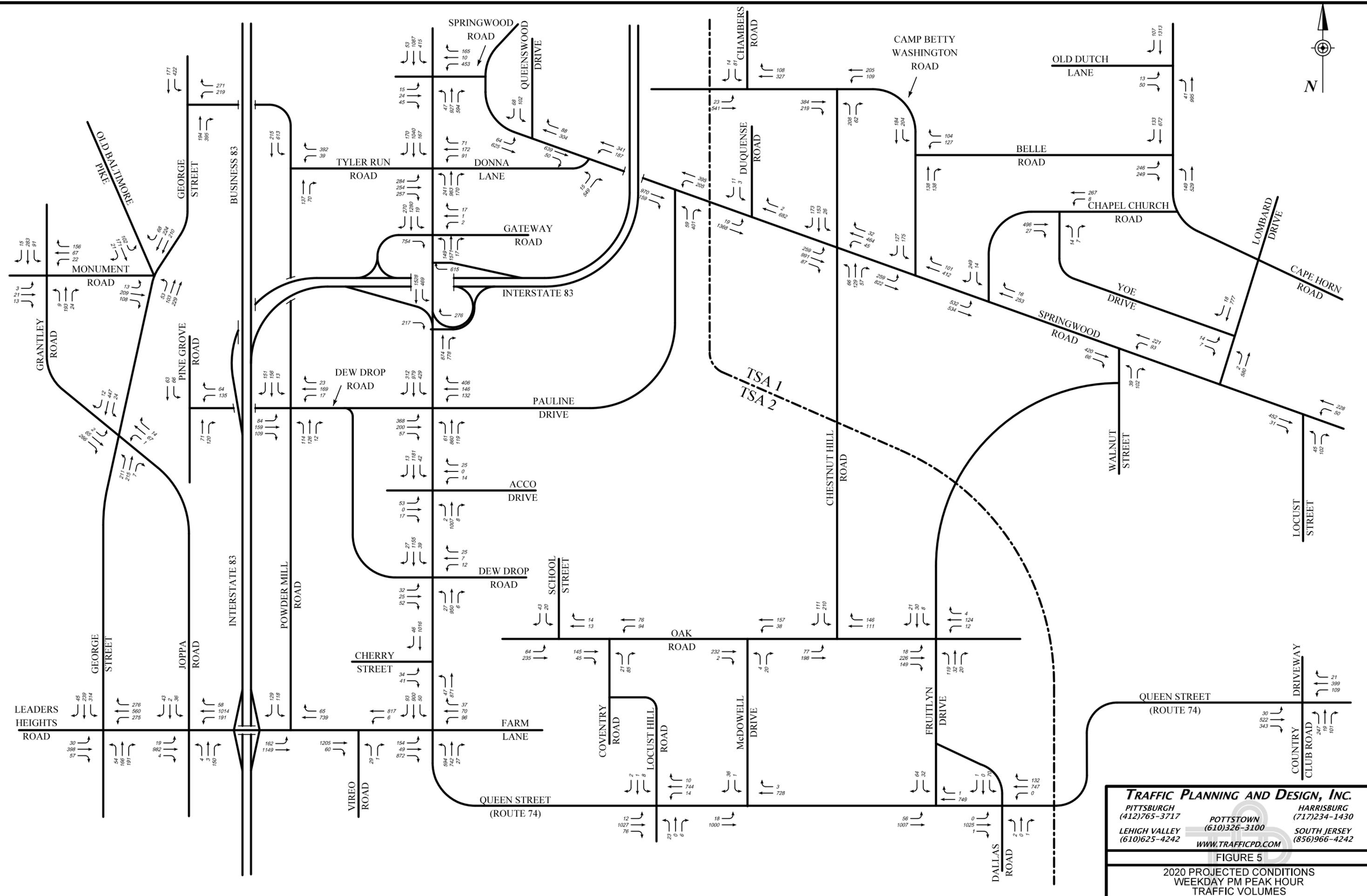
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FIGURE 4
2020 BASE CONDITIONS
WEEKDAY PM PEAK HOUR
TRAFFIC VOLUMES

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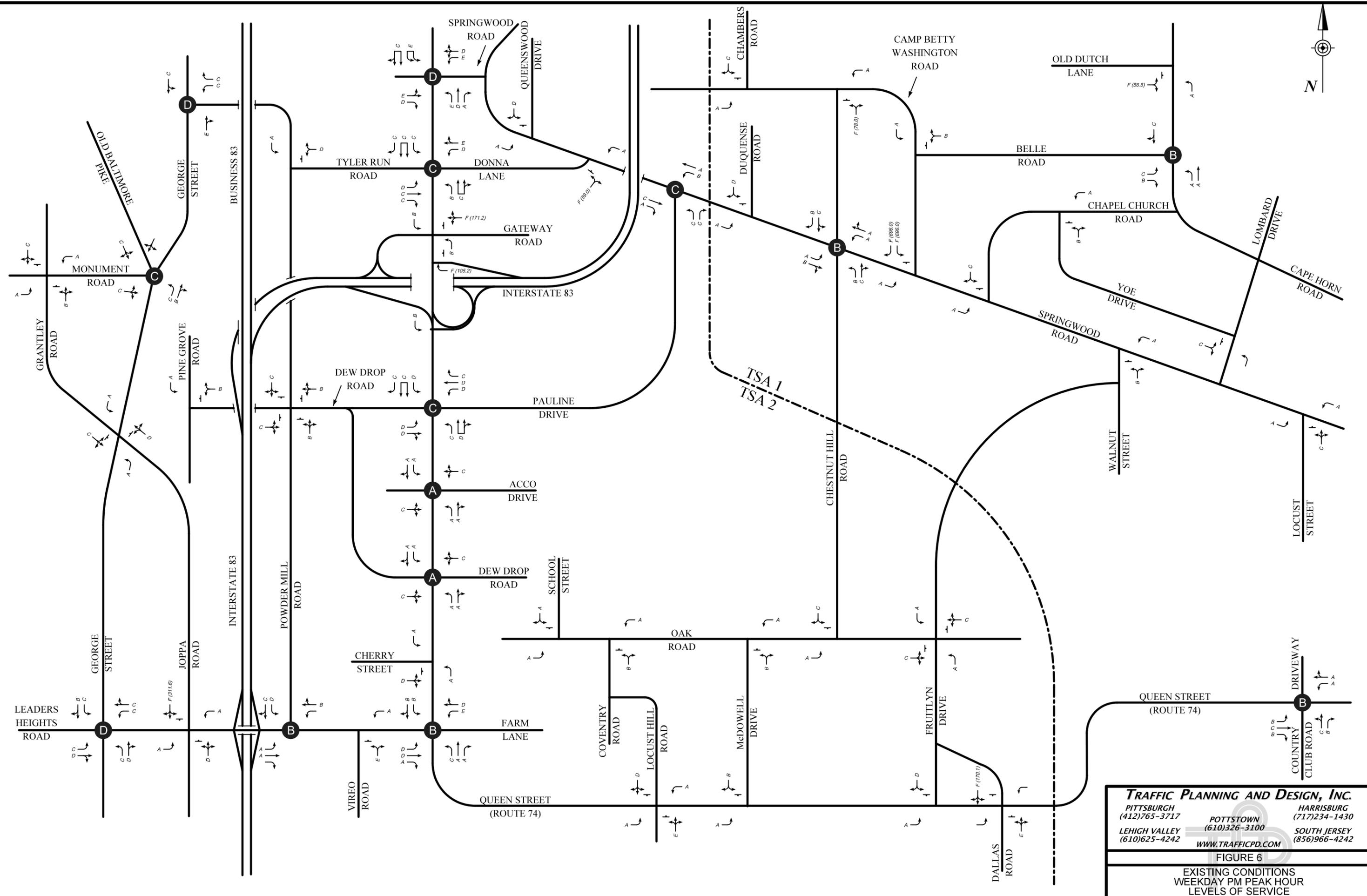
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FIGURE 5

2020 PROJECTED CONDITIONS
WEEKDAY PM PEAK HOUR
TRAFFIC VOLUMES

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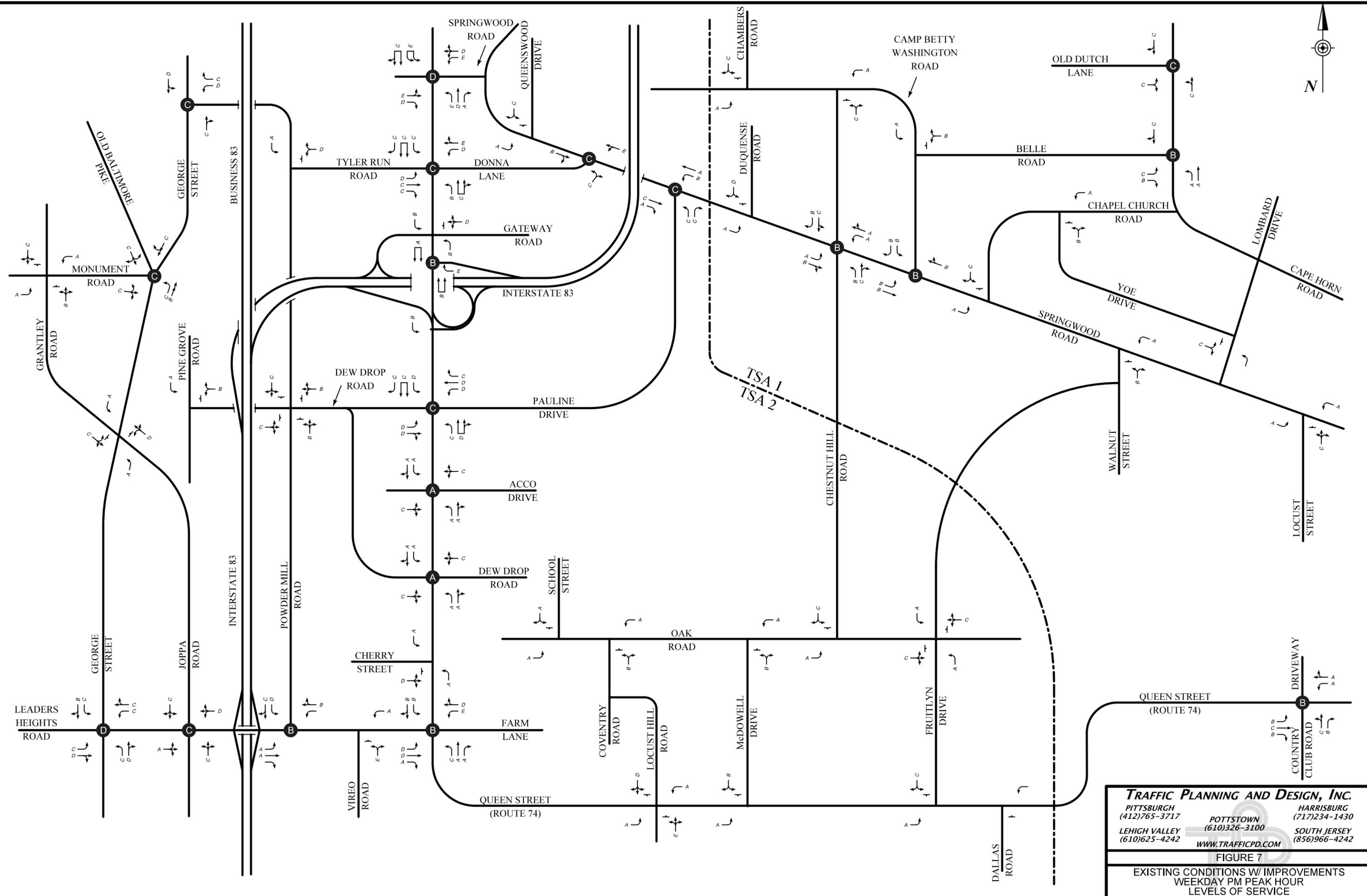


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FIGURE 6

EXISTING CONDITIONS
 WEEKDAY PM PEAK HOUR
 LEVELS OF SERVICE

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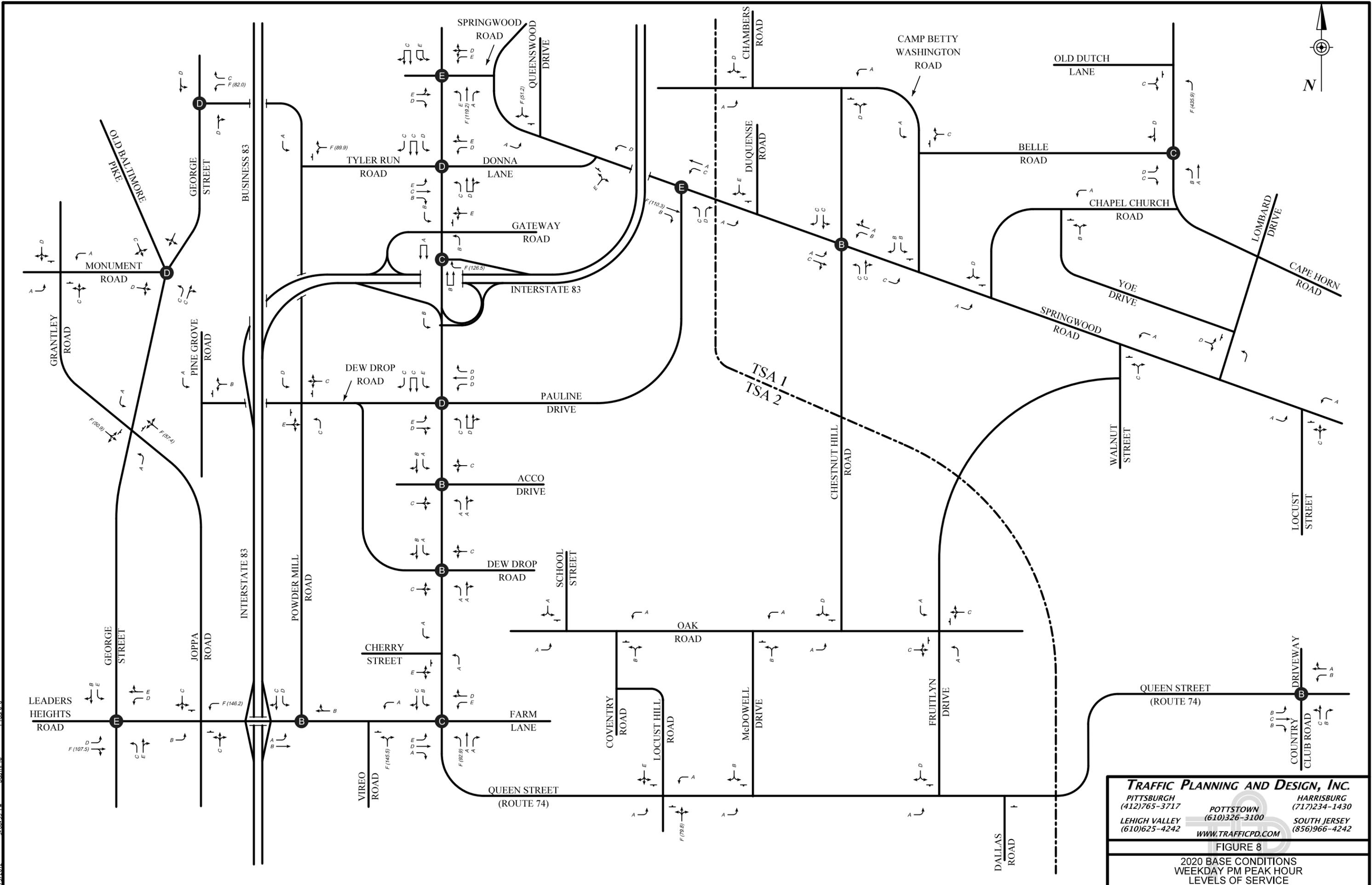


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FIGURE 7

EXISTING CONDITIONS W/ IMPROVEMENTS
WEEKDAY PM PEAK HOUR
LEVELS OF SERVICE

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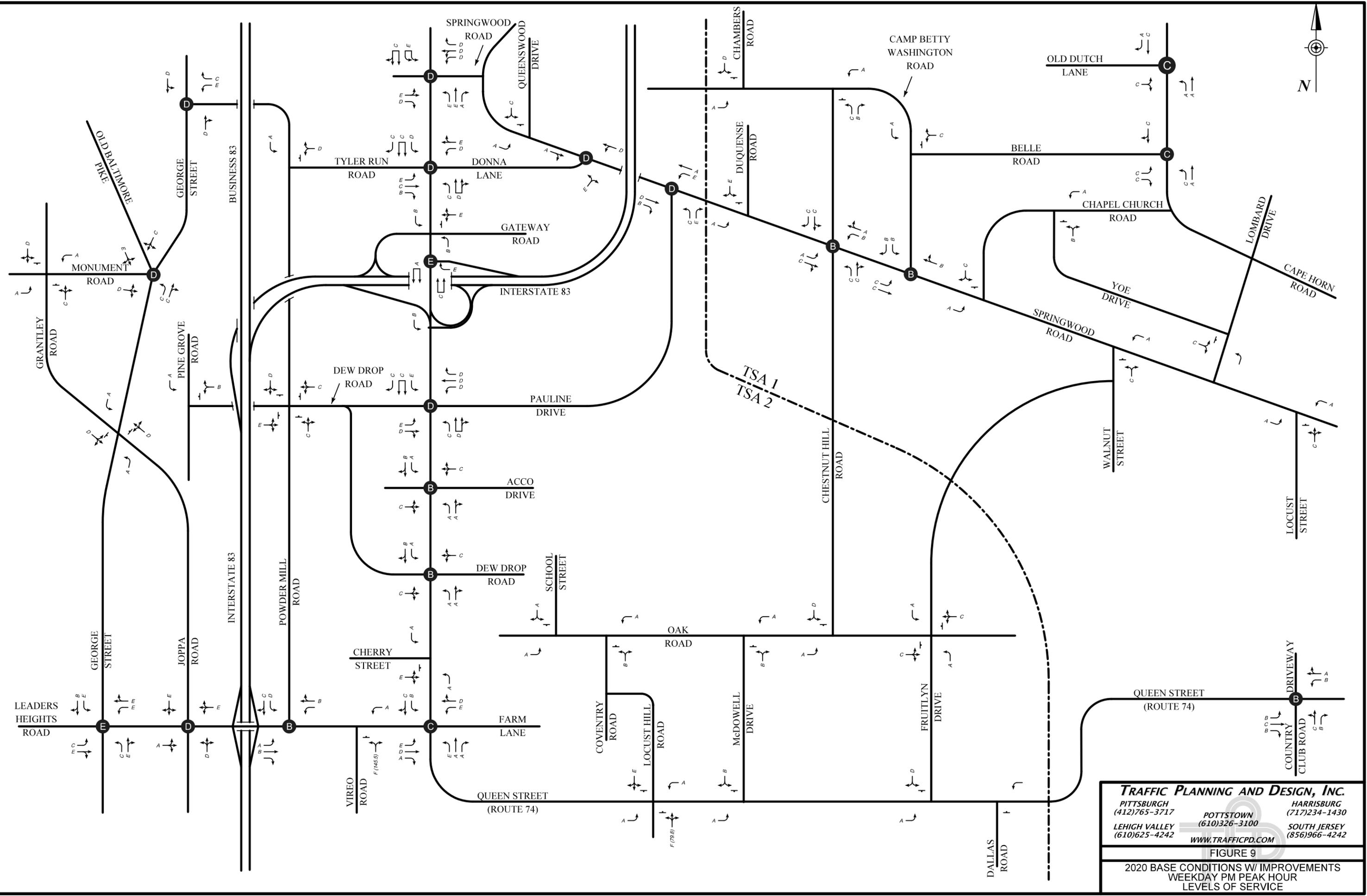


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FIGURE 8

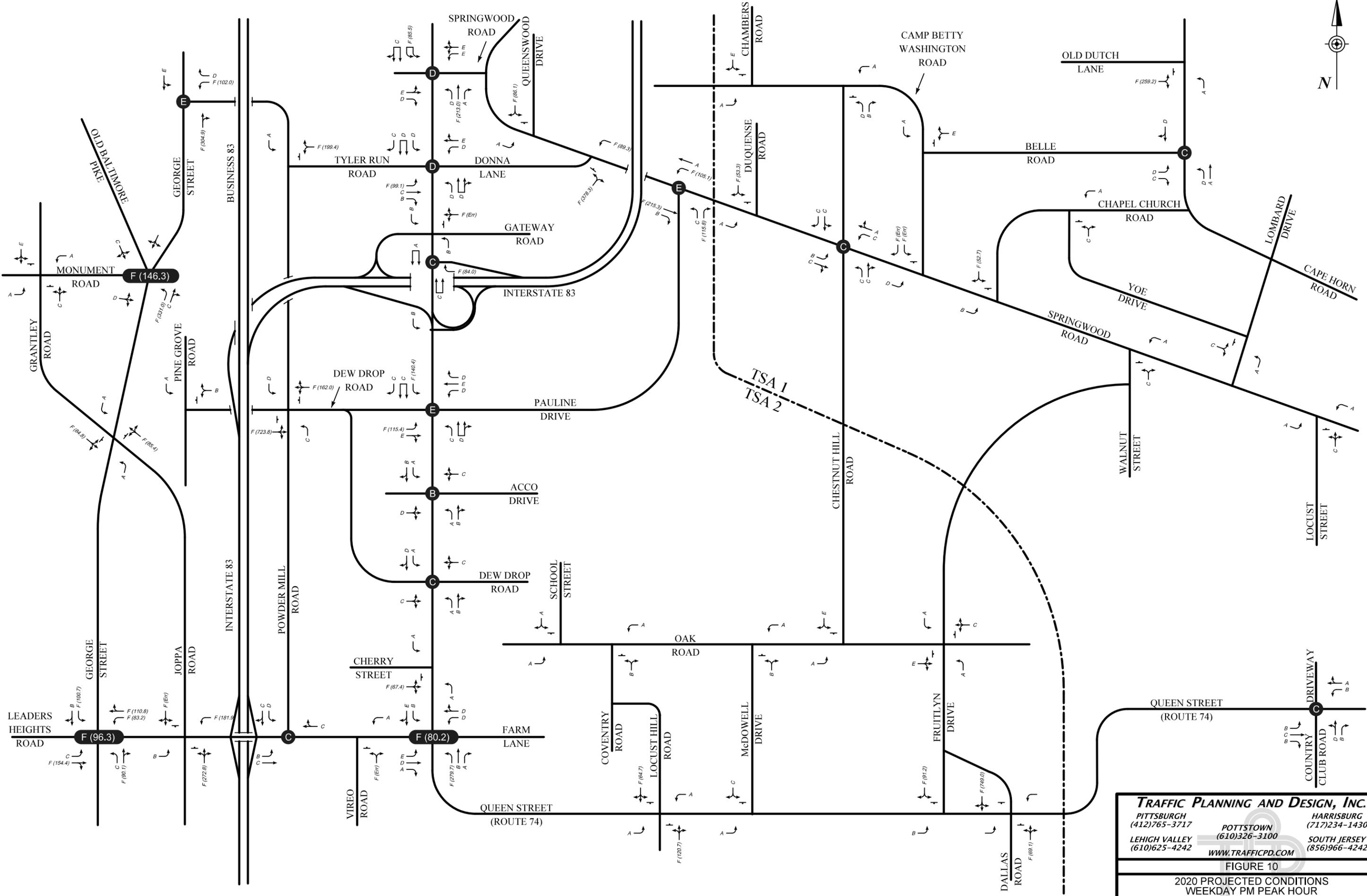
2020 BASE CONDITIONS
WEEKDAY PM PEAK HOUR
LEVELS OF SERVICE

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FIGURE 9
2020 BASE CONDITIONS W/ IMPROVEMENTS
WEEKDAY PM PEAK HOUR
LEVELS OF SERVICE



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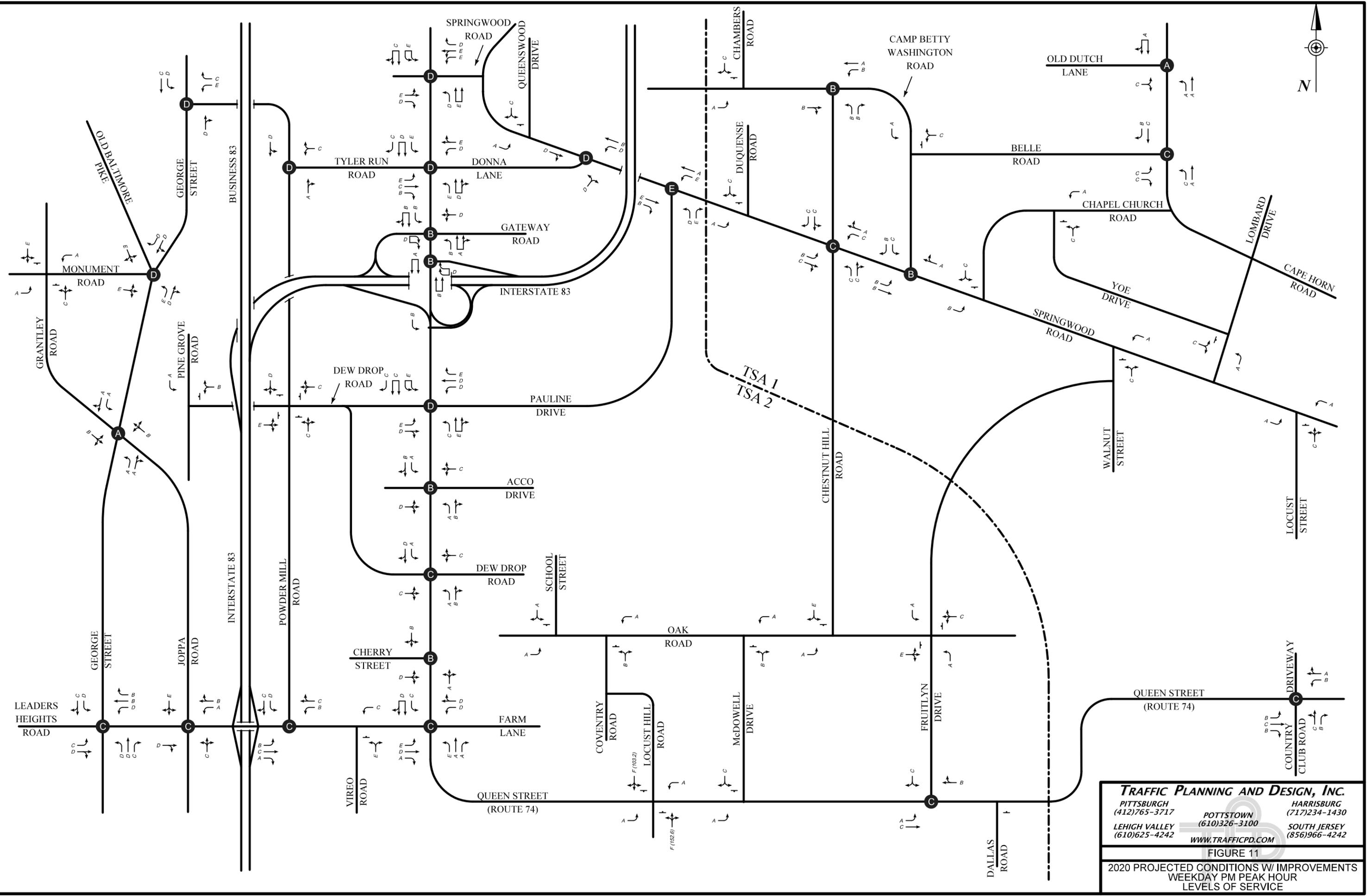
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FIGURE 10

2020 PROJECTED CONDITIONS
WEEKDAY PM PEAK HOUR
LEVELS OF SERVICE

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FIGURE 11
2020 PROJECTED CONDITIONS W/ IMPROVEMENTS
WEEKDAY PM PEAK HOUR
LEVELS OF SERVICE