TRAFFIC IMPACT STUDY

STATE STREET AREA IMPACT STUDY

Township of Teaneck
Bergen County, New Jersey

Prepared For:
Township of Teaneck

Stonefield Engineering & Design, LLC
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EXECUTIVE SUMMARY

Stonefield Engineering & Design, LLC ("Stonefield") has prepared this State Street Area Impact Study per the request of the Township of Teaneck in response to concerns raised by the Township's residents regarding recently approved and future development projects in the vicinity of State Street and their impacts on the surrounding transportation network. Stonefield has prepared this report in conjunction with the Township of Teaneck's planning consultants, Phillips Preiss Grygiel Leheny Hughes LLC, whose report has been provided under separate cover. Specifically, the study incorporates the area of interest bounded by Palisade Avenue to the west, Teaneck Road to the east, Queen Anne Road/Tryon Avenue to the north, and West Englewood Avenue to the south.

The six (6) development projects located within the area of interest would consist of approximately 600 residential units and have either been recently completed, under construction, approved by the Zoning Board of Adjustment, currently before the Zoning Board of Adjustment for approval, or rezoned for development. The results of this study indicate that the following impacts either currently exist or are anticipated to exacerbate as a result of the proposed projects:

1. Increased vehicular delay and capacity constraints associated with unsignalized and signalized intersections within the study network. Vehicles attempting to access Teaneck Road from unsignalized intersections experience hesitation due to the number of travel lanes and limited gaps along the roadway.

2. Occurrence of illegal turning movements and mid-block U-turn movements. Vehicles parked on-street along Queen Anne Road near State Street perform these illegal U-turns in the vicinity of pedestrian crossings.

3. Available sight lines for drivers at stop-controlled intersections. The intersection of Queen Anne Road and Ayers Court currently experiences sight line impacts at the eastbound approach creating driver uncertainty in available gaps.

4. Pedestrian activity, safety, and condition of pedestrian facilities at unsignalized and signalized intersections. Pedestrians were observed crossing mid-block at non-designated crossings.

5. Public transit usage and condition of transit facilities. Daily multi-modal transit occupants are anticipated to experience approximately a 49% increase in usage as a result of the proposed developments.

6. On-street parking provided. The proposed development projects are anticipated to increase the overnight on-street parking demand within the study area.

As part of the State Street Area Impact Study, opportunities for mitigation were investigated within the study area. The mitigation options recommended include traffic signal timing optimization, traffic signal phase modifications, lead pedestrian intervals, geometric improvements, the implementation of pedestrian rectangular

rapid flashing beacons, and the restriction of left-turn egress movements out of the intersection of Teaneck Road and Englewood Avenue. It is recommended that the signal timing be optimized by allocating green time from approaches at signalized intersections operating at acceptable Levels of Service to approaches that experience extensive delays. Traffic signal phasing is recommended to be modified by providing a northbound lead phase for left turns along Teaneck which would coincide with right-turns at the side street approaches in an attempt to alleviate the delays experience. Geometric improvements are recommended at the intersection of Queen Anne Road and Ayers Court to provide an option for vehicles to perform a U-turn movement along the westerly portion of Ayers Court. It is recommended that lead pedestrian phases be provided at signalized intersections in order to protect pedestrians and provide them with exclusive time to cross prior to the vehicular travel in the same direction. The lead pedestrian phase would limit conflicts with left-turning and right-turning vehicles. The implementation of pedestrian rectangular rapid flashing beacons is recommended to provide additional warning signs that alert drivers that a pedestrian is crossing. Pedestrians would have the ability to actuate the flashing beacons via push-button and the beacons would be implemented at crosswalks mid-block and unsignalized intersections. The left-turn egress restriction at the unsignalized intersection of Teaneck Road and Englewood Avenue is recommended to limit the "do not block the box" infringements that presently exist and result in driver safety concerns at this location.

A thorough investigation of the mitigation opportunities along the extents of Teaneck Road will be conducted as part of a future Teaneck Road Corridor Study. The Teaneck Road Corridor Study will consist of an investigation of pedestrian facilities and crossings, public transit routes and stop locations, traffic flow and traffic signal coordination, accident history, access management plans, and on-street parking provided in the vicinity of the Teaneck Road corridor extending from Route 4 to the Teaneck municipal border.

INTRODUCTION

Stonefield has prepared this State Street Area Impact Study to examine the cumulative impact of six (6) development projects in the vicinity of State Street in the Township of Teaneck. As per the Teaneck Development Forum's request, this Area Impact Study was prepared to investigate the potential impacts of various proposed and approved developments, inclusive of six (6) residential developments, on the adjacent roadway network. The area of interest is located within the Township of Teaneck, Bergen County, New Jersey and is bounded by Palisade Avenue to the east, Teaneck Road to the west, Queen Anne Road/Tryon Avenue to the north, and West Englewood Avenue to the south. The subject area and location of the proposed development projects is shown on appended **Figure A1**.

METHODOLOGY

Stonefield Engineering & Design, LLC has prepared this Area Impact Study in accordance with the recommended guidelines and practices outlined by the Institute of Transportation Engineers (ITE) within Transportation Impact Analyses for Site Development. In response to concerns from the Township, a detailed field investigation was performed to assess the existing conditions of the adjacent roadway network with particular attention focused on existing traffic volumes and travel patterns, pedestrian activity and facilities, public transit usage and inventory, and off-site parking availability. A data collection effort was completed to identify the existing traffic volumes, pedestrian activity, and public transit usage within the study area by utilizing drone aerial photography and field observations to serve as a base for the traffic analyses. Capacity analysis, a procedure used to estimate the traffic-carrying ability of roadway facilities over a range of defined operating conditions, was performed using the Highway Capacity Manual, 6th Edition (HCM) and the Synchro 10 Software for all study conditions to assess the roadway operations.

For an unsignalized intersection, Level of Service (LOS) A indicates operations with delay of less than 10 seconds per vehicle, while LOS F describes operations with delay in excess of 50 seconds per vehicle. For a signalized intersection, LOS A indicates operations with delay of less than 10 seconds per vehicle, while LOS F describes operations with delay in excess of 80 seconds per vehicle. The Technical Appendix contains the Highway Capacity Analysis Detail Sheets for the study intersections analyzed in this assessment. The traffic signal timing utilized within the signalized analysis is based on timing directives provided by the Bergen County Department of Planning & Engineering and the Township of Teaneck.

EXISTING CONDITION

EXISTING ROADWAY CONDITIONS

The area of interest is located within the Township of Teaneck, Bergen County, New Jersey and is bounded by Palisade Avenue to the east, Teaneck Road to the west, Queen Anne Road/Tryon Avenue to the north, and West Englewood Avenue to the south. Land uses in the area are a mix of commercial, residential, and educational.

Teaneck Road (CR 39) is classified as an Urban Principal Arterial roadway with a general north-south orientation and is under the jurisdiction of Bergen County. The roadway provides two (2) lanes of travel in each direction and has a posted speed limit of 30 mph. Curb and sidewalk are provided along both sides of the roadway, shoulders are not provided, and on-street parking is permitted along portions of the westerly side of the roadway. Teaneck Road provides north-south mobility within the Township of Teaneck and

neighboring municipalities and provides access to NJSH Route 4, Interstate 80, and U.S. Route 46 to the south for a mix of commercial, educational, and residential uses.

Englewood Avenue is classified as an Urban Minor Arterial roadway with a general east-west orientation and is under the jurisdiction of the Township of Teaneck. The roadway provides one (1) lane of travel in each direction and has a posted speed limit of 35 mph. Curb and sidewalk are provided along both sides of the roadway, shoulders are not provided, and on-street parking is permitted along the southerly side of the roadway.

Queen Anne Road is classified as an Urban Minor Arterial roadway with a general north-south orientation and is under the jurisdiction of the Township of Teaneck. The roadway provides one (1) lane of travel in each direction and has a posted speed limit of 25 mph. Curb and sidewalk are provided along both sides of the roadway, shoulders are not provided, and on-street parking is periodically permitted along both sides of the roadway. Queen Anne Road provides north-south mobility within the township of Teaneck and neighboring municipalities and provides access to NJSH Route 4, Interstate 80, and U.S. Route 46 to the south for a mix of commercial, educational, and residential uses along its length.

State Street is classified as an Urban Minor Arterial roadway with a general east-west orientation and is under the jurisdiction of the Township of Teaneck. Along the site frontage, the roadway generally provides one (1) lane of travel in each direction. Curb and sidewalk are provided along both sides of the roadway, shoulders are not provided, and on-street parking is permitted along both sides of the roadway. State Street provides east-west mobility within the Township of Teaneck from Teaneck Road at its eastern terminus to Windsor Road at its western terminus for a mix of commercial and residential uses along its length.

Tryon Avenue is classified as an Urban Major Collector roadway with a general east-west orientation and is under the jurisdiction of the Township of Teaneck. The roadway provides one (1) lane of travel in each direction. Curb and sidewalk are provided along both sides of the roadway, shoulders are not provided, and on-street parking is not permitted along the roadway. Tryon Avenue provides east-west mobility within the Township of Teaneck and neighboring municipalities from Tenafly Road at its eastern terminus to Palisade Avenue at its western terminus for a mix of educational, commercial, and residential uses along its length.

Palisade Avenue is classified as an Urban Major Collector roadway with a general north-south orientation and is under the jurisdiction of the Township of Teaneck. The roadway provides one (1) lane of travel in each direction. Curb is provided along both sides of the roadway, sidewalk is provided along the easterly side of the roadway and along portions of the westerly side of the roadway, shoulders are not provided, and on-street parking is not permitted. Palisade Avenue provides north-south mobility within the Township of Teaneck and

neighboring municipalities and provides access to Interstate 80 to the south for a mix of educational, residential, and commercial uses along its length.

Amsterdam Avenue is a local roadway with a general east-west orientation and is under the jurisdiction of the Township of Teaneck. The roadway provides one (1) lane of travel in each direction. Curb and sidewalk are provided along both sides of the roadway, shoulders are not provided, and on-street parking is permitted along both sides of the roadway to the east of Queen Anne Road. Amsterdam Avenue provides east-west mobility from Palisade Avenue to Teaneck Road for access to educational, commercial, and residential uses.

Ayers Court is a local roadway with a general east-west orientation and is under the jurisdiction of the Township of Teaneck. The roadway provides one (1) lane of travel in each direction separated by municipal parking spaces. Curb and sidewalk are provided along both sides of the roadway and shoulders are not provided. Ayers Court provides east-west mobility from Palisade Avenue to Lozier Place for access to commercial and residential uses.

West Englewood Avenue is a local roadway with a general east-west orientation and is under the jurisdiction of the Township of Teaneck. The roadway provides one (1) lane of travel in each direction. Curb and sidewalk are provided along both sides of the roadway, shoulders are not provided, and on-street parking is permitted along both sides of the roadway. West Englewood Avenue provides east-west mobility for access to commercial and residential uses.

Tryon Avenue and Palisade Avenue intersect to form an unsignalized T-intersection with the Tryon Avenue approach operating under stop control. The westbound approach of Tryon Avenue provides one (1) shared left-turn/right-turn lane. The northbound approach of Palisade Avenue provides one (1) shared through/right-turn lane and the southbound approach provides one (1) shared left-turn/through lane. Crosswalks are provided across the westbound and northbound approaches of the intersection.

Tryon Avenue and Teaneck Road intersect to form a four (4)-leg intersection controlled by a two (2)-phase traffic signal operating on a 90-second fixed background. The eastbound and westbound approaches of Tryon Avenue each provide one (1) exclusive left-turn lane and one (1) shared through/right-turn lane. The northbound and southbound approaches of Teaneck Road each provide one (1) shared left-turn/through lane and one (1) shared through/right-turn lane. Crosswalks and pedestrian signals are provided across all four (4) approaches of the intersection.

State Street and Queen Anne Road intersect to form a four (4)-leg intersection controlled by a three (3)-phase traffic signal operating on a 90-second background cycle. The eastbound and westbound approaches of State Street each provide one (1) exclusive left-turn lane, one (1) exclusive through lane, and one (1) shared through/right-turn lane. The northbound and southbound approaches of Queen Anne Road each provide one

(1) shared left-turn/through lane and one (1) shared through/right-turn lane. Crosswalks and pedestrian signals are provided across all four (4) approaches of the intersection.

State Street and Teaneck Road intersect to form a T-intersection controlled by a two (2)-phase traffic signal operating on a 70-second fixed background. The eastbound approach of State Street provides one (1) exclusive left-turn lane and one (1) exclusive right-turn lane. The northbound approach of Teaneck Road provides one (1) shared left-turn/through lane and one (1) exclusive through lane and the southbound approach provides one (1) exclusive through lane and one (1) through/right-turn lane. Crosswalks and pedestrian signals are provided across all three (3) approaches of the intersection.

West Englewood Avenue and Palisade Avenue intersect to form an unsignalized T-intersection with the westbound approach of West Englewood Avenue operating under stop control. The westbound approach of West Englewood Avenue provides one (1) shared left-turn/right-turn lane. The northbound approach of Palisade Avenue provides one (1) shared through/right-turn lane and the southbound approach provides one (1) shared left-turn/through lane. Crosswalks are provided across the westbound and southbound approaches of the intersection.

West Englewood Avenue and Queen Anne Road intersect to form a four (4)-leg intersection controlled by a two (2)-phase traffic signal operating on a 90 second background cycle. The eastbound and westbound approaches of West Englewood Avenue each provide one (1) full-movement lane. The northbound and southbound approaches of Queen Anne Road each provide one (1) full-movement lane. Crosswalks and pedestrian signals are provided across all four (4) approaches of the intersection.

West Englewood Avenue and Teaneck Road intersect to form a T-intersection controlled by a two (2)-phase traffic signal. The eastbound approach of West Englewood Avenue provides one (1) shared left-turn/right-turn lane. The northbound approach of Teaneck Road provides one (1) shared left-turn/through lane and the southbound approach provides one (1) shared through/right-turn lane. Crosswalks and pedestrian signals are provided across all three (3) approaches of the intersection.

EXISTING TRAFFIC VOLUMES

Existing traffic volumes were established via traffic studies previously submitted to the Township of Teaneck and manual turning movement spot counts and observations conducted during the typical weekday morning, weekday evening, and Saturday midday time periods to identify the specific hours when traffic activity on the adjacent roadways is at a maximum. Turning movement spot counts were collected at the following intersections:

- Teaneck Road & West Tryon Avenue/East Tryon Avenue
- Teaneck Road & Amsterdam Avenue

- Queen Anne Road & Amsterdam Avenue
- Palisade Avenue & Amsterdam Avenue
- Teaneck Road & East Englewood Avenue
- State Street & Queen Anne Road
- Teaneck Road & State Street
- Queen Anne Road & Ayers Court
- Palisade Avenue & Ayers Court
- West Englewood Avenue & Palisade Avenue
- West Englewood Avenue & Queen Anne Road
- West Englewood Avenue & Teaneck Road

Specifically, manual turning movement spot counts and observations were conducted on the following dates and during the following times:

- Saturday, June 1, 2019, from 11:00 a.m. to 12:00 p.m.;
- Tuesday, June 4, 2019, from 7:30 a.m. to 8:30 a.m. and from 4:45 p.m. to 5:45 p.m.; and
- Wednesday, June 12, 2019, from 7:30 a.m. to 8:30 a.m.

The 2019 Existing weekday morning, weekday evening, and Saturday midday peak-hour volumes are summarized on appended **Figure A3**.

EXISTING LOS/CAPACITY ANALYSIS

A Level of Service and Volume/Capacity analysis was conducted for the 2019 Existing Condition during the weekday morning, weekday evening, and Saturday midday peak hours at the study intersections. Under the existing condition, the signalized intersection of West Tryon Avenue/East Tryon Avenue and Teaneck Road is calculated to operate at overall Level of Service E or better during the peak hours studied. The northbound approach of Teaneck Road is calculated to operate at capacity constraints during the weekday morning peak hour and the eastbound left-turn approach of Queen Anne Road is calculated to operate at capacity constraints during the weekday evening peak hour. The signalized intersection of State Street and Queen Anne Road is calculated to operate at overall Level of Service C or better during the peak hours studied. The signalized intersection of State Street and Teaneck Road is calculated to operate at overall Level of Service B or better during the peak hours studied. The signalized intersection of West Englewood Avenue and Queen Anne Road is calculated to operate at overall Level of Service B during each of the peak hours studied. The signalized intersection of West Englewood Avenue and Teaneck Road is calculated to operate at overall Level of Service A during each of the peak hours studied.

The approaches at the unsignalized intersection of Amsterdam Avenue and Palisade Avenue are calculated to operate at Level of Service B or better during the peak hours studied. The approaches at the unsignalized intersection of Amsterdam Avenue and Queen Anne Road are calculated to operate at Level of Service D or better during the peak hours studied. The approaches at the unsignalized intersection of Amsterdam Avenue and Teaneck Road are calculated to operate at Level of Service D or better during the peak hours studied. The approaches at the unsignalized intersection of Ayers Court and Palisade Avenue are calculated to operate at Level of Service B or better during the peak hours studied. The approaches at the unsignalized intersection of Ayers Court and Queen Anne Road are calculated to operate at Level of Service D or better during the peak hours studied. The approaches at the unsignalized intersection of West Englewood Avenue and Palisade Avenue are calculated to operate at Level of Service C or better during the peak hours studied.

At the unsignalized intersections along Teaneck Road in the study area, hesitation of vehicles intending to perform a left-turn maneuver was common. As Teaneck Road provides two (2) lanes of travel in each direction, during these occurrences, vehicles were observed progressing into the first two (2) travel lanes of Teaneck Road and essentially perform a two (2)-stage left-turn maneuver while waiting for a gap in traffic to complete their turn. **Figure 1** below illustrates an example of this condition. The anticipated increase in traffic along Teaneck Road due to the proposed development projects would further negatively impact this condition.

Figure 1: Left-turn hesitation from Beveridge Street onto Teaneck Road

PEDESTRIAN ACTIVITY & FACILITIES

Based on the projection of increased population in the Township of Teaneck due to the proposed developments, increased pedestrian activity is anticipated and particular attention was focused on pedestrian activity and safety within the subject area. Specifically, observations were made regarding the volume and location of pedestrian activity and the quality of pedestrian facilities at mid-block crossings, unsignalized intersections, and signalized intersections.

During the weekday morning peak period, a total of 58 pedestrians were observed within the study area. Pedestrians were primarily observed utilizing the sidewalk along Teaneck Road and State Street to access local bus stops. Additionally, a large portion of pedestrians were observed utilizing the crosswalk at the intersection of State Street & Queen Anne Road.

During the weekday evening peak period, a total of 46 pedestrians were observed within the study area. Pedestrians were primarily observed utilizing the sidewalk along State Street, Teaneck Road, and Queen Anne Road to access local commercial uses. The intersection of State Street and Teaneck Road experienced the most activity with 15 pedestrians observed utilizing the crosswalk with minimal delay. No conflicts were observed for pedestrians crossing at intersections or walking along the sidewalk during the weekday evening peak period.

During the Saturday midday peak period, a total of 52 pedestrians were observed within the study area. Pedestrians were primarily observed utilizing the sidewalk along Queen Anne Road, Teaneck Road, State Street, and Tryon Avenue. The intersection of State Street and Teaneck Road experienced the most activity with 17 pedestrians observed utilizing the crosswalk.

Potentially hazardous conditions were observed in the vicinity of the intersection of Queen Anne Road and State Street. Specifically, pedestrians were frequently observed crossing at the mid-block of Queen Anne Road between State Street and Ayers Court. In addition, illegal U-turns conducted by vehicles in on-street parking spaces along Queen Anne Road were observed. These conditions have the potential to conflict as shown in **Figure 2**. With the anticipated increase in pedestrian and vehicular traffic in the vicinity of Queen Anne Road and State Street, this condition creates a safety concern that would be further impacted by the proposed development projects.

Figure 2: Pedestrian crossing Queen Anne Road between State Street and Ayers Court & vehicle performing U-turn movement

It is noted that construction is currently active along portions of Teaneck Road within the subject area to improve the streetscape of the corridor. The streetscape improvement project involves the implementation of new curb and sidewalk along Teaneck Road along both sides of the roadway.

PUBLIC TRANSIT USAGE & FACILITIES

The portion of the Township of Teaneck included within the study area is particularly suited to foster public transit usage as a total of 18 bus stops serving seven (7) NJ Transit Bus Routes are located within the subject area. **Table 1** provides a detailed list of the available transit options within the study area and their associated destinations. The locations of bus stops and transit facilities within the study network are shown in appended **Figure A2**.

TABLE 1 – TRANSIT OPTIONS

Bus Route	Location(s)	Destinations
NJ Transit Bus Route 167	Along Queen Anne Road & Teaneck Road	Harrington Park, Haworth, New Milford, Dumont, Bergenfield, Teaneck, Ridgefield Park, Union City, New York
NJ Transit Bus Route 177	Along Teaneck Road	Harrington Park, Haworth, New Milford, Dumont, Bergenfield, Teaneck, New York
NJ Transit Bus Route 178	Along State Street & Teaneck Road	Hackensack, Teaneck, Englewood, Fort Lee, New York
NJ Transit Bus Route 186	At the intersection of Tryon Avenue & Teaneck Road	Dumont, Bergenfield, West Englewood, Teaneck, Englewood, Englewood Cliffs, Coytesville, Fort Lee, New York
NJ Transit Bus Route 753	Along Teaneck Road	New Milford, Cresskill, Dumont, Bergenfield, Teaneck, Hackensack, Maywood, Paramus, Bergen Mall
NJ Transit Bus Route 756	Along Teaneck Road	Fort Lee, Englewood, Englewood Cliffs, Teaneck, West Englewood, New Milford, North Hackensack, Paramus
NJ Transit Bus Route 772	Along Teaneck Road	Paramus, Oradell, New Milford, Dumont, Bergenfield, Teaneck, Hackensack, South Hackensack, Little Ferry, Teterboro, Moonachie, Carlstadt, East Rutherford

During the observations conducted, particular attention was focused on the availability and usage of local public transit options. Specifically, the quantity of bus patrons was collected at each of the bus stops and bus shelters located within the subject area. Based on the counts, the weekday morning peak period experienced the maximum volume of public transit usage with a total of 92 pedestrians observed boarding and waiting at bus stops. The bus stop located along the westerly side of Teaneck Road at its intersection with Westervelt Place fostered the most usage with 35 pedestrians and 16 pedestrians observed boarding on separate occasions.

During the weekday evening peak period, a total of seven (7) pedestrians were observed waiting at bus stops. Pedestrians were primarily observed waiting to board at bus stops located along Teaneck Road near its intersections with Tryon Avenue and State Street.

During the Saturday midday peak period, a total of eight (8) pedestrians were observed waiting at bus stops. Pedestrians were primarily observed waiting to board at bus stops located along State Street. No issues with bus capacity were observed during the study time periods.

It is noted that NJ Transit installed bus shelters in 2015 within the study area. As part of the streetscape improvement project, it is understood that new bus shelters are proposed and would replace the previously installed bus shelters.

SIGHT DISTANCE

Particular attention to driver sight lines were taken into account during the study observations. Currently, driver sight lines at the intersection of Queen Anne Road and Ayers Court conflict with the existing Chase Bank building located at 170 The Plaza. **Figure 3** and **Figure 4** below illustrate the sight line conflicts associated with the eastbound approach of the intersection of Queen Anne Road and Ayers Court. These sight line conflicts create driver uncertainty and impact the decision time of drivers to safely proceed into the intersection when a gap in vehicle and pedestrian travel occurs. Also, vehicles traveling along eastbound Ayers Court are not given the ability to perform a legal U-turn when searching for an unoccupied parking space. The current lack of sight distance at this approach creates a further safety concern when drivers perform this illegal movement.

Figure 3: Sight distance looking right at the intersection of Queen Anne Road and Ayers Court

Figure 4: Sight distance looking left at the intersection of Queen Anne Road and Ayers Court

ON-STREET PARKING

In order to assess the existing on-site parking provided within the study area, an inventory of the on-street parking supply was conducted, and the on-street parking utilization of the study area was collected. Based on the inventory of on-street parking availability, a minimum of 61 spaces were available during the weekday morning peak period, a minimum of 34 spaces were available during the weekday evening peak period, and a minimum of 105 spaces were available during the Saturday midday peak period. However, it is noted that the peak parking utilization associated with a residential use occurs during the overnight time period and, during overnight time period, minimal on-street parking is available in the study area. The parking demand for on-street parking during the overnight time period would notably increase as a result of the proposed development projects.

NO-BUILD CONDITION

The 2019 Existing Condition traffic volume data was grown to a future horizon year of 2021, which is a conservative estimate for when the proposed development projects are expected to be fully constructed. In accordance with industry guidelines, the existing traffic volumes at the study intersections were increased by 2.0% annually for two (2) years. These volumes are summarized on appended **Figure A4**. The 2.0% background growth rate was obtained from the New Jersey Department of Transportation (NJDOT) Annual Background Growth Rate Table.

NO-BUILD LOS/CAPACITY ANALYSIS

A Level of Service and Volume/Capacity analysis was conducted for the 2021 No-Build Condition during the weekday morning, weekday evening, and Saturday midday peak hours at the study intersections. Under the No-Build Condition, the signalized intersection of West Tryon Avenue/East Tryon Avenue and Teaneck Road is calculated to operate at overall Level of Service F or better during the peak hours studied. The northbound approach of Teaneck Road and the eastbound left-turn approach of West Tryon Avenue would continue to operate under capacity constraints during the weekday morning and weekday evening peak hours, respectively. The eastbound approach of the unsignalized intersection of Teaneck Road and Amsterdam Avenue is calculated to operate at Level of Service E or better during the peak hours studied. The eastbound approach of the unsignalized intersection of Ayers Court and Queen Anne Road is calculated to operate under capacity constraints during the weekday evening condition. The remaining study intersections are anticipated to operate generally consistently with the Existing Condition during the peak hours studied.

BUILD CONDITION

An analysis of the future condition was conducted to determine the impact of future developments on the adjacent roadway network. For the purposes of this analysis, the full build-out for the six (6) residential developments was assumed to be within two (2) years.

PROPOSED DEVELOPMENTS

Six (6) residential developments are anticipated to increase traffic volumes in the future condition. **Table 2** below provides a summary of the future developments including the location, size, and current status.

TABLE 2 – FUTURE DEVELOPMENTS

Location	Type	Size	Status
1475 Palisade Avenue	Seven (7)-Story Residential Building	128 Units	Completed
189 The Plaza	13-Story Residential Building	123 Units	Before Zoning Board of Adjustment
140 State Street	Six (6)-Story Mixed-Use Building	42 Units/8,600 SF Retail Space	Approved by Zoning Board of Adjustment
100 State Street	Five (5)-Story Residential Building	64 Units	Before Zoning Board of Adjustment
1500 Teaneck Road	Five (5)-Story Residential Building	228 Units	Under Construction
1425 Teaneck Road	Senior Adult Housing	20 Units	Rezoned

1475 PALISADE AVENUE

The seven (7)-story residential development located at 1475 Palisade Avenue has been fully constructed and consists of 128 units inclusive of 31 one-bedroom units, 89 two-bedroom units, and eight (8) three-bedroom units. Access to the site is provided via one (1) driveway along Queen Anne Road and one (1) driveway along Palisade Avenue. The site is supported by 251 parking spaces.

189 THE PLAZA

The proposed 13-story residential development located at 189 The Plaza is currently before the Zoning Board of Adjustment and would consist of 123 units inclusive of 46 one-bedroom units, 59 two-bedroom units, and 18 three-bedroom units. Access to the site would be provided via one (1) driveway along Ayers Court. The site would be supported by 155 parking spaces.

140 STATE STREET

The proposed six (6)-story mixed use development located at 140 State Street has been approved by the Zoning Board of Adjustment. The development would consist of 8,170 square feet of retail space and 36 residential units consisting of six (6) one-bedroom units, 26 two-bedroom units, and two (2) three-bedroom units. Access to the site would be provided via one (1) driveway along State Street. The site would be supported by 76 parking spaces. Construction has not commenced on the project.

100 STATE STREET

The proposed five (5)-story residential development located at 100 State Street is currently before the Zoning Board of Adjustment and would consist of 64 residential units inclusive of 32 one-bedroom units, 30 two-bedroom units, and two (2) three-bedroom units. Access to the site would be provided via two (2) full-movement driveways along State Street. The site would be supported by 100 parking spaces. **Figure 5** below shows the location of the developments along the westerly portion of the study area.

Figure 5: Developments in the vicinity of the intersection of Queen Anne Road and State Street

1500 TEANECK ROAD

The proposed five (5)-story residential development located at 1500 Teaneck Road has been approved by the Zoning Board of Adjustment and is currently under construction. The development would consist of 228 residential units inclusive of 122 one-bedroom units, 97 two-bedroom units, and five (5) three-bedroom units. Access to the site would be provided via two (2) driveways along Teaneck Road and one (1) driveway along State Street. The site would be supported by 435 parking spaces.

1425 TEANECK ROAD

The property located at 1425 Teaneck Road has been recently rezoned to create the R-SCII Residential Senior Housing II District which permits age-restricted and senior multifamily apartments as well as retail and restaurant uses on the first floor. As a proposed development plan has not been established, it was assumed that the site would provide 20 age-restricted affordable housing units inclusive of 16 one-bedroom units and four (4) two-bedroom units for the purposes of this study. In addition, access is assumed to be provided via two (2) driveways along Westervelt Place and the site would be supported by 21 parking spaces. **Figure 6** below illustrates the location of the developments located in the easterly portion of the study area.

Figure 6: Developments in the vicinity of the intersection of Teaneck Road and State Street

TRIP GENERATION

Trip generation projections for the six (6) residential developments were prepared utilizing the ITE's Trip Generation Manual, 10th Edition. Trip generation rates associated with Land Use 221 "Multifamily Housing (Mid-Rise)", Land Use 222 "Multifamily Housing (High-Rise)", and Land Use 820 "Shopping Center" were cited for the future developments. **Table 3** provides the weekday morning, weekday evening, and Saturday midday trip generation volumes associated with the future developments.

TABLE 3 – TOTAL TRIP GENERATION

	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Saturday Midday Peak Hour		
Land Use	**Enter**	**Exit**	**Total**	**Enter**	**Exit**	**Total**	**Enter**	**Exit**	**Total**
1475 Palisade Avenue 125-Unit Multifamily Housing (Mid-Rise) *ITE Land Use 221*	12	33	45	34	21	55	28	27	55
189 The Plaza 123-Unit Multifamily Housing (High-Rise) *ITE Land Use 222*	9	29	38	27	17	44	27	27	54
140 State Street 42-Unit Multifamily Housing (Mid-Rise) *ITE Land Use 221*	4	11	15	11	7	18	9	9	18
140 State Street 8,600 SF Shopping Center *ITE Land Use 820*	5	3	8	16	17	33	20	19	39
100 State Street 68-Unit Multifamily Housing (Mid-Rise) *ITE Land Use 221*	6	18	24	18	12	30	15	15	30
1500 Teaneck Road 228-Unit Multifamily Housing (Mid-Rise) *ITE Land Use 221*	21	61	82	61	39	100	50	50	100
1425 Teaneck Road 20-Unit Senior Adult Housing (Attached) *ITE Land Use 221*	1	3	4	3	2	5	4	3	7
Total Trip Generation	**60**	**162**	**222**	**176**	**119**	**295**	**153**	**150**	**303**

Commuting to and from work is one of the highest correlations as it relates to car ownership. According to the 2013-2017 American Community Survey 5-Year Estimates published by the U.S. Census Bureau, approximately 19% of residents within Census Tract 542 (where the sites within the study area are located) utilize public transportation to commute to work. To account for the portion of trips accessing the six (6) residential developments via public transit usage, a 19% transit trip credit was applied to the total trip generation. **Table 4** provides a summary of the total trip generation in terms of vehicular trips and transit trips during the peak hours studied.

TABLE 4 – VEHICULAR & TRANSIT TRIPS

	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Saturday Midday Peak Hour		
Land Use	**Enter**	**Exit**	**Total**	**Enter**	**Exit**	**Total**	**Enter**	**Exit**	**Total**
Vehicular Trips	49	131	180	143	96	239	124	121	245
Transit Trips (19%)	11	31	42	33	23	56	29	29	58
Total Trips	**60**	**162**	**222**	**176**	**119**	**295**	**153**	**150**	**303**

According to the report prepared by Phillips Preiss Grygiel Leheny Hughes LLC, the six (6) proposed development projects would generate 1,231 persons inclusive of 59 schoolchildren. Assuming the remaining 1,172 additional persons would travel to work, a 49% increase in total commuters within Census Tract 542 is anticipated. The commuting characteristics and the means of transportation to work were analyzed to determine the measurable impact of the increase to commuters to each mode of transportation. **Table 5** below summarizes the existing, anticipated increase, and total future occupants for each mode of transportation for commuting to work.

TABLE 5 – INCREASE IN MULTI-MODAL TRANSIT OCCUPANTS

		Existing	Increase	Future
Working Population		2,411	1,172	3,583
Car	66%	1,591	774	2,365
Carpool	5%	121	59	180
Public Transportation	19%	458	223	681
Walk	10%	241	117	358

TRIP ASSIGNMENT/DISTRIBUTION

The trips generated by the proposed development were distributed according to the existing travel pattern along the adjacent roadway network, the location of major arterial roadways, and the access management plans of each of the proposed sites. The Site-Generated Traffic Volumes are illustrated on **Figure A5**.

BUILD TRAFFIC VOLUMES

The site-generated trips were added to the 2021 No-Build Traffic Volumes to calculate the 2021 Build Traffic Volumes and are shown on appended **Figure A6**.

BUILD PEDESTRIAN VOLUMES

It is important to note that the additional transit trips generated by the six (6) residential developments would result in an increased volume of pedestrians traversing the study area. Based on the total amount of transit trips as summarized in Table 4, 42 transit trips are anticipated during the weekday morning peak period, 56 transit trips are anticipated during the weekday evening peak period, and 58 transit trips are anticipated during the Saturday midday peak period would be comprised of transit trips. Therefore, it is assumed that each transit trip generated equates to an additional pedestrian traversing the pedestrian facilities within the study area and ultimately accessing public transit options in the future condition. As such, an increased public transit demand is anticipated during the peak hours studied.

BUILD LOS/CAPACITY ANALYSIS

A Level of Service and Volume/Capacity analysis was also conducted for the 2021 Build Condition during the weekday morning, weekday evening, and Saturday midday peak hours at the study intersections. Under the Build Condition, the approaches of the unsignalized intersection of Amsterdam Avenue and Queen Anne Road are calculated to operate at Level of Service E or better during the peak hours studied. The remaining study intersections are anticipated to operate generally consistently with the No-Build Condition during the peak hours studied. The northbound approach of Teaneck Road and the eastbound left-turn approach of West Tryon Avenue would continue to operate under capacity constraints during the weekday morning and weekday evening peak hours, respectively. The eastbound approach of Ayers Court would continue to operate under capacity constraints during the weekday evening peak hour at its intersection with Queen Anne Road. Appended **Table A1** compares the Existing, No-Build, and Build Conditions Level of Service and delay values.

MITIGATION OPPORTUNITIES

It is noted that there is potential for mitigation to the capacity constraints experienced at the signalized intersections along Teaneck Road by optimizing the signal timing directive and modifying the phasing at the intersection. Specifically, it is recommended that a northbound left-turn lead phase with a right-turn overlap phase be implemented at the intersections of Teaneck Road with Tryon Avenue, State Street and West Englewood Avenue. Further, a pedestrian lead interval is recommended at each of these signalized intersections. A leading pedestrian interval would protect pedestrians prior to vehicles entering an intersection with a corresponding green signal in the same travel direction. This allows for a decrease in conflicts between pedestrians and vehicles performing left-turn and right-turn movements. As the signals are under Bergen County jurisdiction, the potential mitigation would be subject to County review and approval.

In order to mitigate the delay experienced and to facilitate U-turn movements at the eastbound approach of the intersection of Queen Anne Road and Ayers Court, a similar geometric design as the westbound approach to the intersection is recommended. This recommendation would also encourage drivers to perform a U-turn movement instead of entering Queen Anne Road as the eastbound approach of the intersection currently has sight distance concerns. This geometric design is highlighted in **Figure 7** below. As part of this geometric modification, it is likely that parking spaces would be removed along the westerly portion of Ayers Court. However, it is important to note that there is opportunity to provide additional parking spaces within the greenspace located at the westerly terminus of the roadway.

Figure 7: Formal U-turn geometric design on Ayers Court

In order to improve pedestrian safety and increase driver yield behavior, rectangular rapid flashing beacons (RRFB) are recommended within applicable locations of the study area. RRFBs are amber LED warning signs with irregular flash patterns that can be implemented to increase driver yielding behavior to pedestrians. The device is supplemented with standard pedestrian crossing warning signs and markings. RRFBs are activated by manual push buttons and should be unlit when not activated. The RRFBs receive power typically from standalone solar panel units but can also be wired to traditional power sources. RRFBs should be implemented along both sides of the roadway at crosswalks located midblock and at unsignalized intersections.

The restriction of left-turn egress movements out of the westbound approach of the intersection of Teaneck Road and Englewood Avenue is recommended to limit the "do not block the box" infringements that

presently exist that result in driver safety concerns at this location. **Figure 8** below illustrates the location of this restriction and the recommended permitted traffic flow for the westbound approach of the intersection.

Figure 8: Westbound left-turn restriction at the intersection of Teaneck Road and Englewood Avenue

Further mitigation opportunities along Teaneck Road extending from Route 4 to the south to the Teaneck municipal border to the north will be conducted as part of a future Teaneck Road Corridor Study. The Teaneck Road Corridor Study will consist of an investigation of pedestrian facilities and crossings, public transit routes and stop locations, traffic flow and traffic signal coordination, accident history, access management plans, and on-street parking provided in the vicinity of the Teaneck Road corridor.

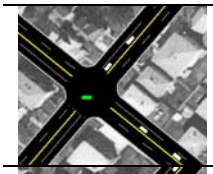
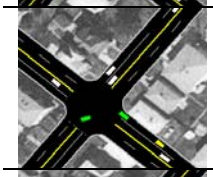
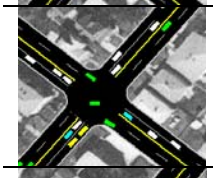
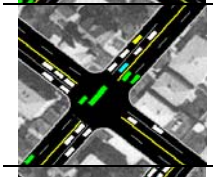
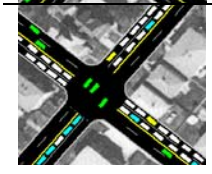
TECHNICAL APPENDIX

LEVEL OF SERVICE/AVERAGE CONTROL DELAY CRITERIA

LEVEL OF SERVICE /AVERAGE CONTROL DELAY CRITERIA

The ability of a roadway to effectively accommodate traffic demand is determined through an assessment of the volume-to-capacity ratio, delay and Level of Service of the lane group and/or intersection. The volume-to-capacity ratio is the ratio of traffic flow rate to capacity for a given transportation facility. As defined within the Highway Capacity Manual, 6th Edition (HCM), intersection delay is the total additional travel time experienced by drivers, passengers, or pedestrians as a result of control measures and interaction with other users of the facility, divided by the volume departing from the corresponding cross section of the facility. Level of service is a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience.

For an unsignalized intersection, LOS A indicates operations with delay less than 10 seconds per vehicle, while LOS F describes operations with delay in excess of 50 seconds per vehicle. For a signalized intersection, LOS A indicates operations with delay less than 10 seconds per vehicle and LOS F denotes operations with delay in excess of 80 seconds per vehicle.

	Level Of Service (LOS)	Signalized Delay Range (average control delay in sec/veh)	Unsignalized Delay Range (average control delay in sec/veh)
	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

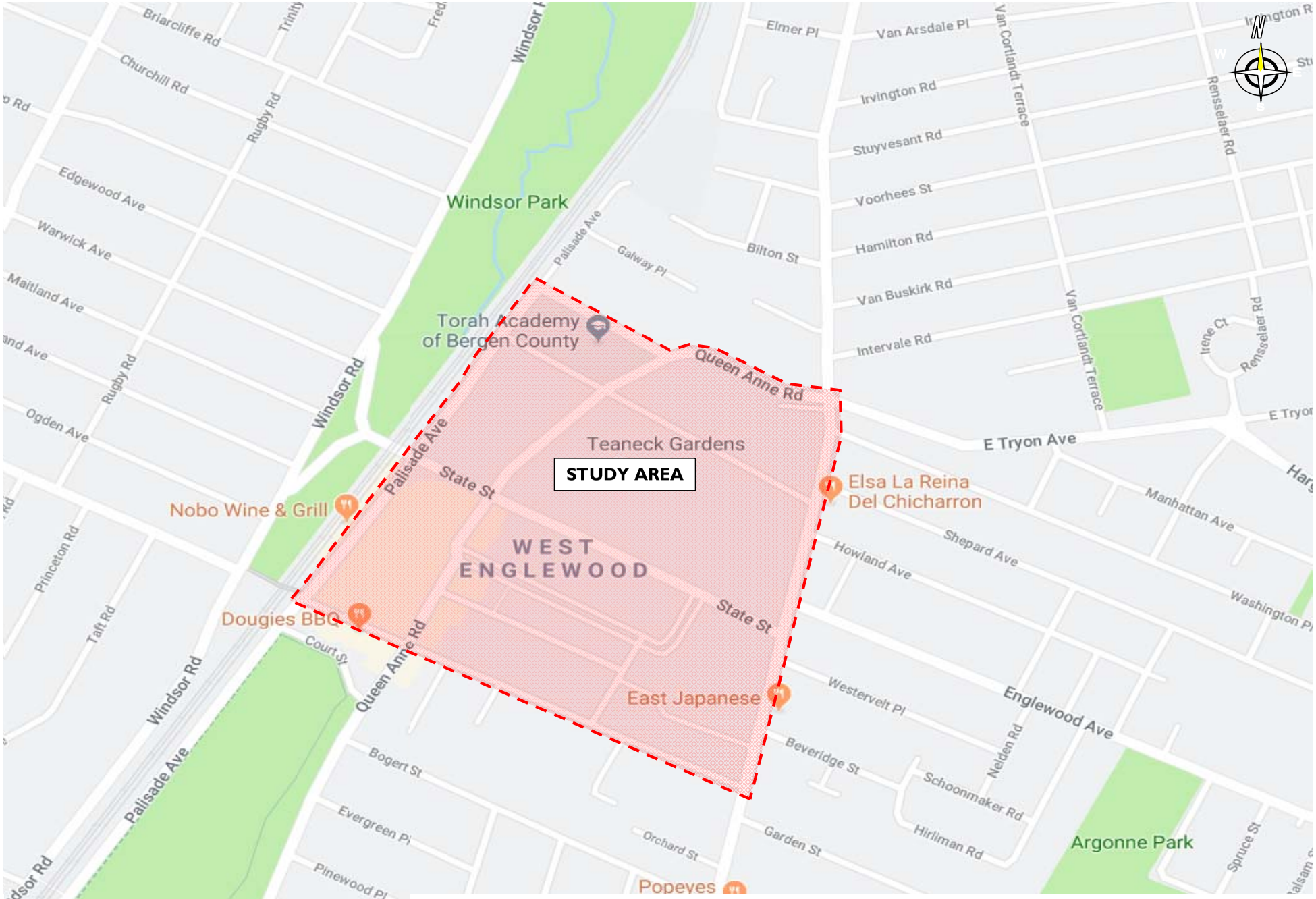
Source: Highway Capacity Manual, 6th Edition

STONEFIELD

Table A1
Comparative Level of Service (Delay) Tables
X (n) = Level of Service (seconds of delay)

		Weekday Morning Peak Hour			Weekday Evening Peak Hour			Saturday Midday Peak Hour		
Intersection	**Lane Group**	**2019 Existing Condition**	**2021 No-Build Condition**	**2021 Build Condition**	**2019 Existing Condition**	**2021 No-Build Condition**	**2021 Build Condition**	**2019 Existing Condition**	**2021 No-Build Condition**	**2021 Build Condition**
Queen Anne Road/Tryon Avenue & Teaneck Road	EB Left	D (40.1)	D (52.7)	E (66.5)	F (143.1)	F (180.1)	F (194.4)	B (17.9)	B (18.2)	B (18.6)
	EB Through/Right	C (20.8)	C (20.9)	C (20.9)	C (24.7)	C (25.1)	C (25.1)	C (20.8)	C (21.0)	C (21.0)
	WB Left	C (21.1)	C (22.1)	C (22.1)	C (20.3)	C (21.8)	C (21.8)	B (17.7)	B (18.0)	B (18.0)
	WB Through/Right	C (24.5)	C (25.1)	C (25.1)	C (24.7)	C (25.2)	C (25.2)	B (19.6)	B (19.7)	B (19.7)
	NB Left/Through/Right	F (150.3)	F (186.8)	F (194.7)	D (36.4)	D (40.9)	D (41.5)	C (22.1)	C (22.3)	C (22.4)
	SB Left/Through/Right	D (37.8)	D (46.7)	D (49.1)	D (46.6)	E (62.3)	E (71.6)	C (26.1)	C (26.8)	C (27.3)
	Overall	**E (65.8)**	**F (80.5)**	**F (84.9)**	**D (49.2)**	**E (59.4)**	**E (64.1)**	**C (22.2)**	**C (22.6)**	**C (22.9)**
Amsterdam Avenue & Palisade Avenue	WB Left/Right	B (10.7)	B (10.8)	B (10.9)	B (12.3)	B (12.5)	B (12.5)	B (10.3)	B (10.5)	B (10.5)
	SB Left/Through	A (7.8)	A (7.8)	A (7.8)	A (7.9)	A (8.0)	A (8.0)	A (7.6)	A (7.7)	A (7.7)
Amsterdam Avenue & Queen Anne Road	EB Left/Through/Right	C (24.5)	D (26.5)	D (27.5)	D (30.2)	D (34.7)	E (37.7)	B (14.1)	B (14.5)	C (15.0)
	WB Left/Through/Right	C (22.6)	C (24.2)	C (24.9)	C (18.5)	C (19.3)	C (19.9)	B (12.7)	B (12.9)	B (13.3)
	NB Left/Through/Right	A (8.1)	A (8.2)	A (8.2)	A (8.1)	A (8.1)	A (8.2)	A (7.7)	A (7.7)	A (7.8)
	SB Left/Through/Right	A (8.3)	A (8.3)	A (8.3)	A (8.3)	A (8.4)	A (8.4)	A (7.7)	A (7.7)	A (7.7)
Amsterdam Avenue & Teaneck Road	EB Left/Right	C (24.7)	D (26.3)	D (26.5)	D (31.9)	E (35.1)	E (35.8)	C (21.6)	C (22.9)	C (23.2)
	NB Left/Through	B (11.0)	B (11.3)	B (11.3)	B (10.0)	B (10.2)	B (10.2)	A (9.8)	A (9.9)	A (9.9)
State Street & Queen Anne Road	EB Left	C (26.8)	C (27.5)	C (28.1)	C (28.6)	C (29.8)	C (30.8)	C (22.5)	C (22.7)	C (23.1)
	EB Through/Right	B (19.4)	B (19.5)	B (19.6)	C (20.3)	C (20.4)	C (20.5)	B (18.9)	B (18.9)	B (19.0)
	WB Left	C (22.0)	C (22.5)	C (22.9)	B (20.0)	C (20.2)	C (20.5)	B (19.1)	B (19.1)	B (19.3)
	WB Through/Right	B (18.1)	B (18.1)	B (18.2)	B (19.5)	B (19.6)	B (19.7)	B (18.1)	B (18.1)	B (18.2)
	NB Left/Through/Right	B (13.5)	B (13.7)	B (13.9)	B (17.6)	B (18.2)	B (19.1)	B (13.8)	B (14.0)	B (14.3)
	SB Left/Through/Right	C (21.3)	C (21.5)	C (21.9)	C (21.2)	C (21.3)	C (21.7)	C (20.1)	C (20.2)	C (20.5)
	Overall	**B (19.9)**	**C (20.1)**	**C (20.4)**	**C (20.5)**	**C (20.9)**	**C (21.4)**	**B (18.0)**	**B (18.1)**	**B (18.4)**
State Street & Teaneck Road	EB Left	D (35.1)	D (36.6)	D (37.3)	C (33.8)	C (34.9)	D (36.5)	C (24.6)	C (24.7)	C (25.1)
	EB Right	C (26.1)	C (26.3)	C (27.4)	C (24.1)	C (24.2)	C (24.8)	C (24.1)	C (24.2)	C (24.9)
	NB Left/Through	A (6.8)	A (7.5)	A (8.4)	A (6.2)	A (6.4)	A (6.8)	A (4.6)	A (4.7)	A (4.9)
	NB Through	A (5.5)	A (5.7)	A (5.8)	A (6.7)	A (7.0)	A (7.4)	A (4.8)	A (4.9)	A (5.0)
	SB Through	A (6.3)	A (6.5)	A (6.7)	A (5.5)	A (5.6)	A (5.7)	A (5.0)	A (5.1)	A (5.2)
	SB Through/Right	A (6.4)	A (6.6)	A (6.8)	A (5.5)	A (5.6)	A (5.8)	A (5.0)	A (5.0)	A (5.2)
	Overall	**B (10.9)**	**B (11.3)**	**B (11.8)**	**A (9.8)**	**B (10.1)**	**B (10.6)**	**A (7.2)**	**A (7.3)**	**A (7.7)**
Ayers Court & Palisade Avenue	WB Left/Right	B (11.7)	B (12.0)	B (12.0)	B (12.2)	B (12.6)	B (12.6)	A (9.8)	A (9.9)	A (9.8)
	SB Left/Through	A (8.0)	A (8.1)	A (8.1)	A (8.0)	A (8.0)	A (8.0)	A (7.6)	A (7.6)	A (7.6)
Ayers Court & Queen Anne Road	EB Left/Through/Right	D (29.5)	D (32.7)	E (41.9)	E (45.9)	F (56.3)	F (92.8)	C (19.6)	C (20.8)	D (25.5)
	WB Left/Through/Right	C (22.4)	C (24.1)	D (26.9)	D (25.8)	D (28.3)	D (34.5)	C (17.9)	C (18.8)	C (21.7)
	NB Left/Through/Right	A (8.9)	A (9.0)	A (9.1)	A (8.2)	A (8.2)	A (8.3)	A (7.9)	A (8.0)	A (8.1)
	SB Left/Through/Right	A (8.2)	A (8.2)	A (8.3)	A (8.6)	A (8.7)	A (8.8)	A (8.1)	A (8.1)	A (8.2)
West Englewood Avenue & Palisade Avenue	WB Left/Right	C (15.2)	C (15.8)	C (15.9)	C (19.3)	C (20.5)	C (20.9)	B (12.5)	B (12.9)	B (13.0)
	SB Left/Through	A (8.3)	A (8.3)	A (8.3)	A (8.6)	A (8.7)	A (8.7)	A (8.0)	A (8.0)	A (8.1)
West Englewood Avenue & Queen Anne Road	EB Left/Through/Right	B (13.8)	B (13.9)	B (13.9)	B (14.7)	B (14.7)	B (14.7)	B (14.6)	B (14.7)	B (14.7)
	WB Left/Through/Right	B (14.1)	B (14.1)	B (14.1)	B (13.9)	B (14.0)	B (14.0)	B (13.9)	B (13.9)	B (13.9)
	NB Left/Through/Right	B (12.9)	B (13.1)	B (13.3)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
	SB Left/Through/Right	B (15.9)	B (16.3)	B (17.1)	B (13.7)	B (13.9)	B (14.3)	B (12.5)	B (12.6)	B (13.0)
	Overall	**B (14.6)**	**B (14.9)**	**B (15.5)**	**B (14.5)**	**B (14.7)**	**B (15.3)**	**B (12.9)**	**B (13.1)**	**B (13.4)**
West Englewood Avenue & Teaneck Road	EB Left/Right	C (24.0)	C (23.9)	C (23.9)	C (22.5)	C (22.6)	C (22.6)	C (22.0)	C (22.0)	C (22.0)
	NB Left/Through	A (2.9)	A (3.0)	A (3.0)	A (6.7)	A (6.9)	A (7.2)	A (4.4)	A (4.5)	A (4.6)
	NB Through	A (3.1)	A (3.2)	A (3.3)	A (7.2)	A (7.5)	A (7.8)	A (4.6)	A (4.7)	A (4.8)
	SB Through	A (3.6)	A (3.8)	A (3.9)	A (5.6)	A (5.8)	A (5.9)	A (5.0)	A (5.1)	A (5.2)
	SB Through/Right	A (3.6)	A (3.7)	A (3.9)	A (5.6)	A (5.8)	A (5.9)	A (4.9)	A (5.1)	A (5.2)
	Overall	**A (3.5)**	**A (3.7)**	**A (3.8)**	**A (7.4)**	**A (7.7)**	**A (7.8)**	**A (6.0)**	**A (6.1)**	**A (6.2)**

FIGURES



STONEFIELD	**State Street Area Impact Study** **Vicinity of State Street & Teaneck Road** **Township of Teaneck, Bergen County, New Jersey** **Traffic Impact Study**	**FIGURE A1** **Study Area Map**

LEGEND

- - - - Study Area Boundary

● Bus Stop

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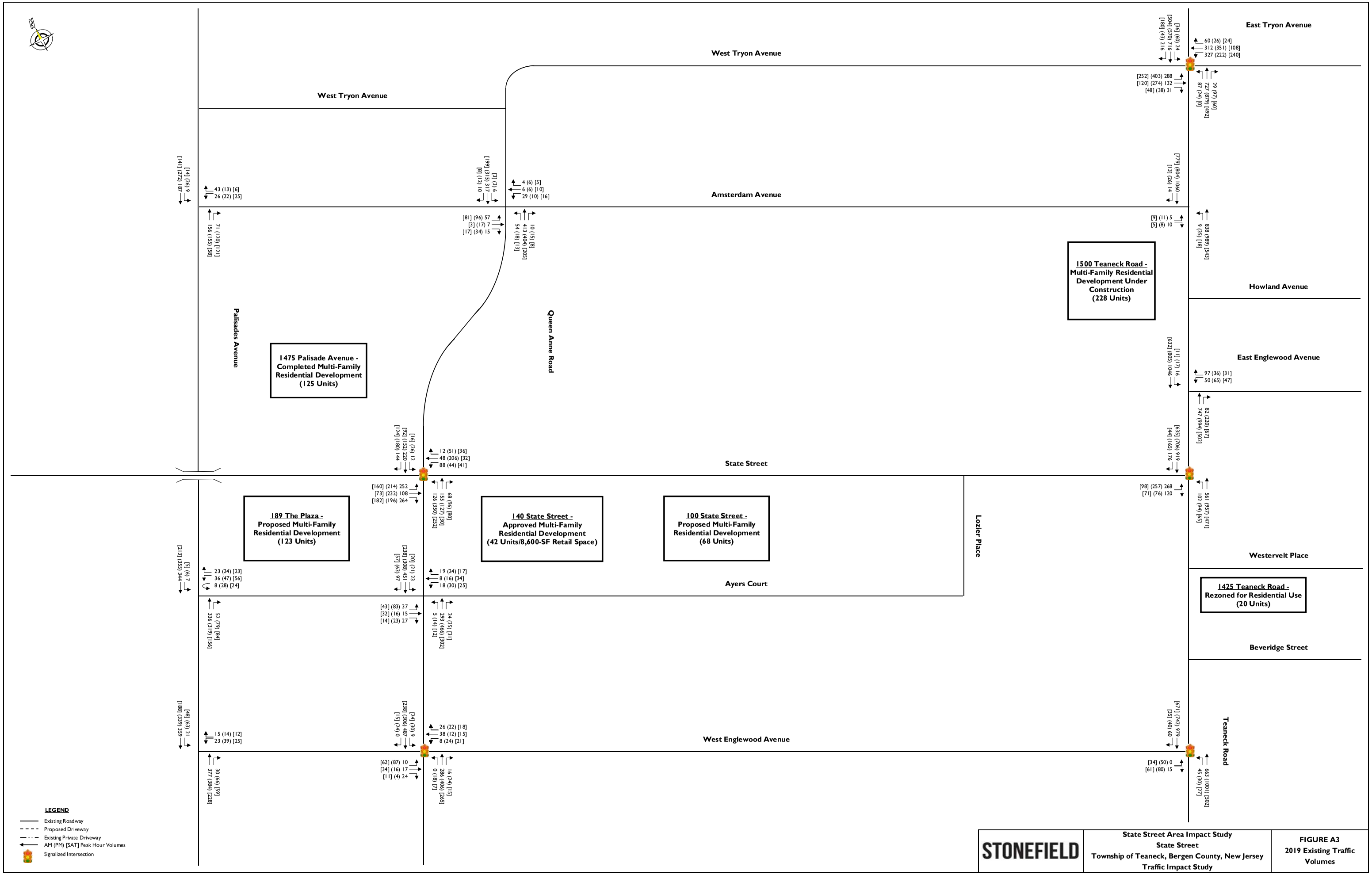
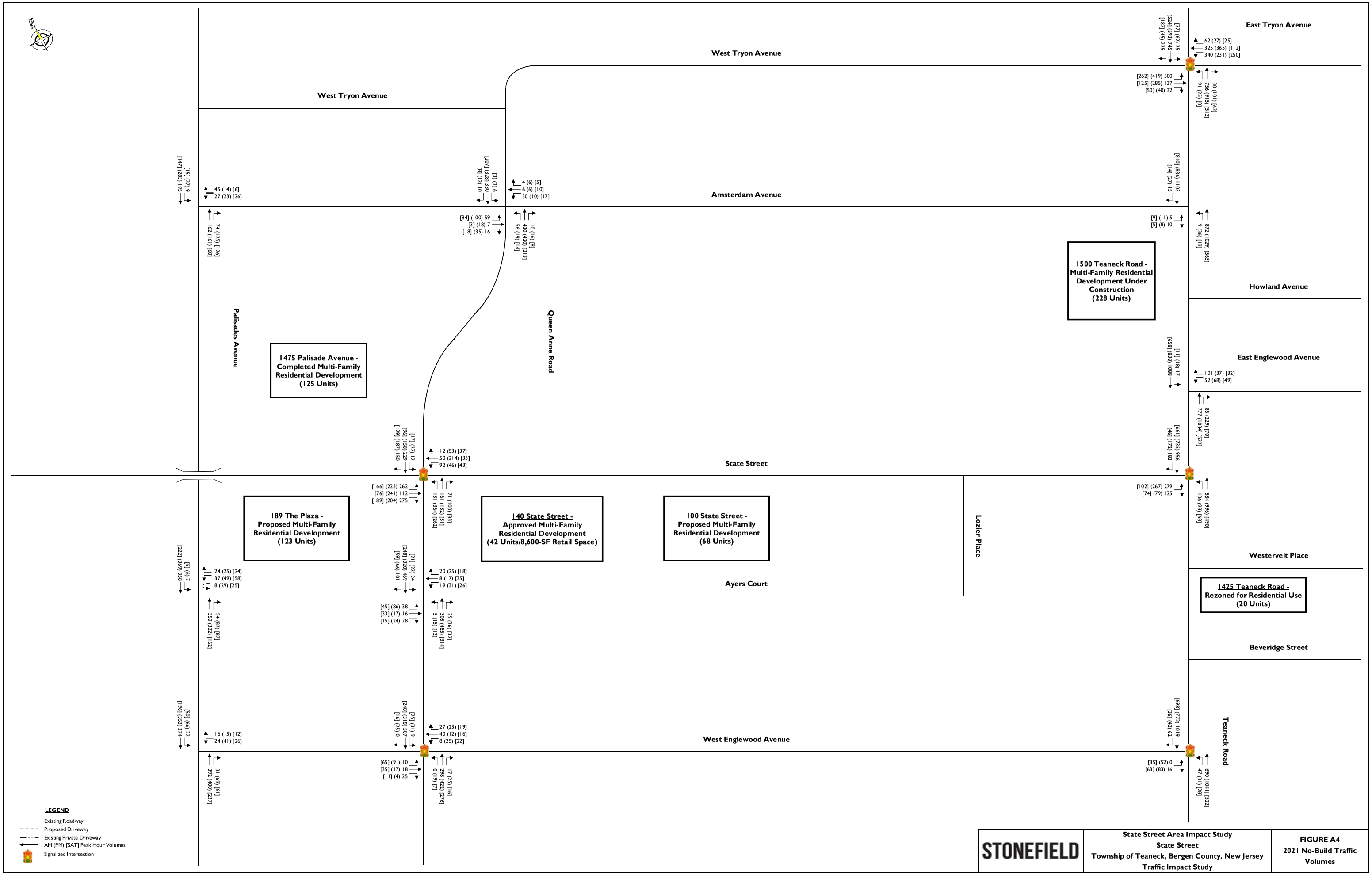
State Street Area Impact Study
Vicinity of State Street & Teaneck Road
Township of Teaneck, Bergen County, New Jersey
Traffic Impact Study

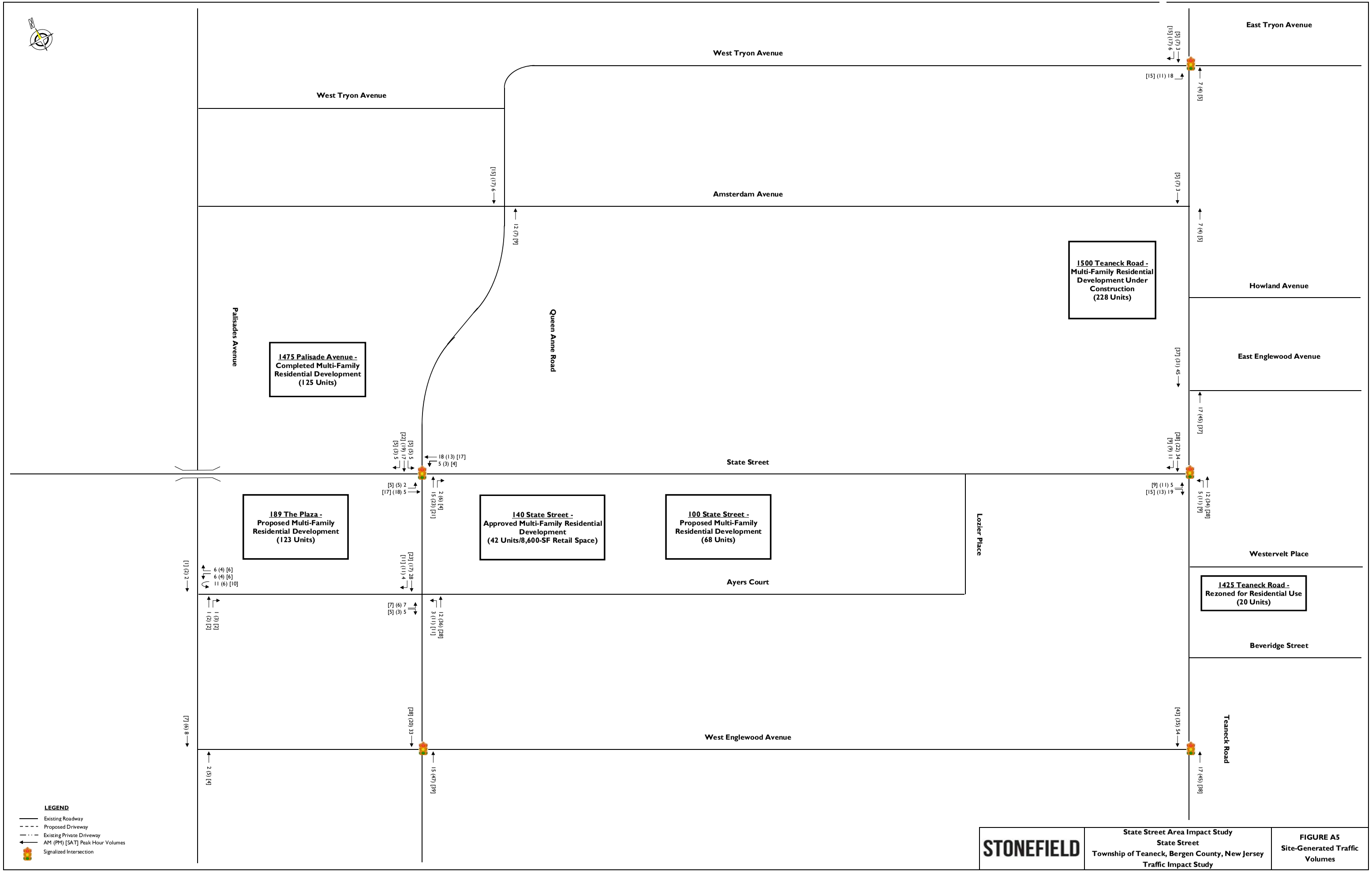
FIGURE A2
NJ Transit Bus Route & Bus Stop Location Map



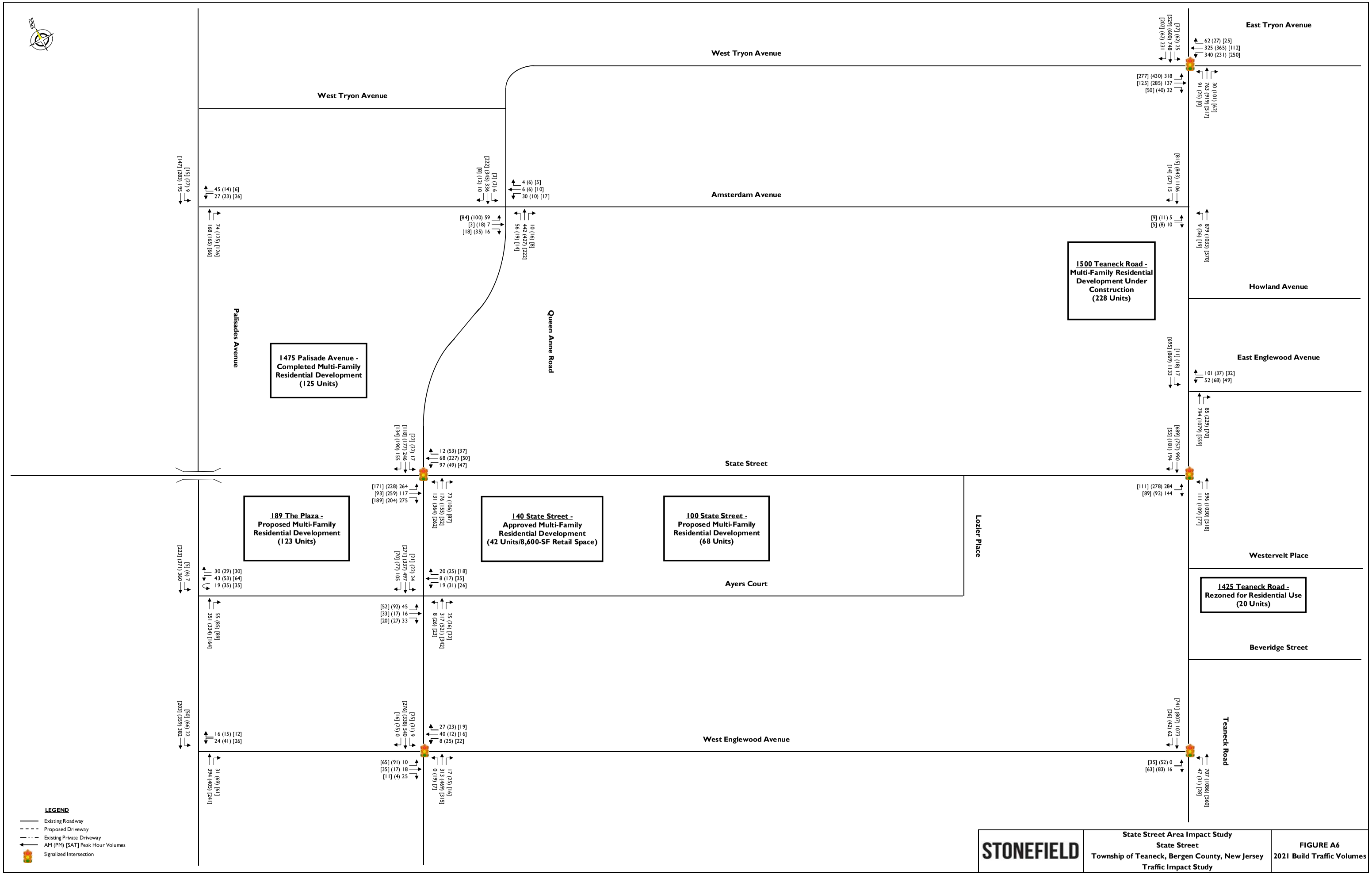
STONEFIELD	State Street Area Impact Study State Street Township of Teaneck, Bergen County, New Jersey Traffic Impact Study	FIGURE A3 2019 Existing Traffic Volumes



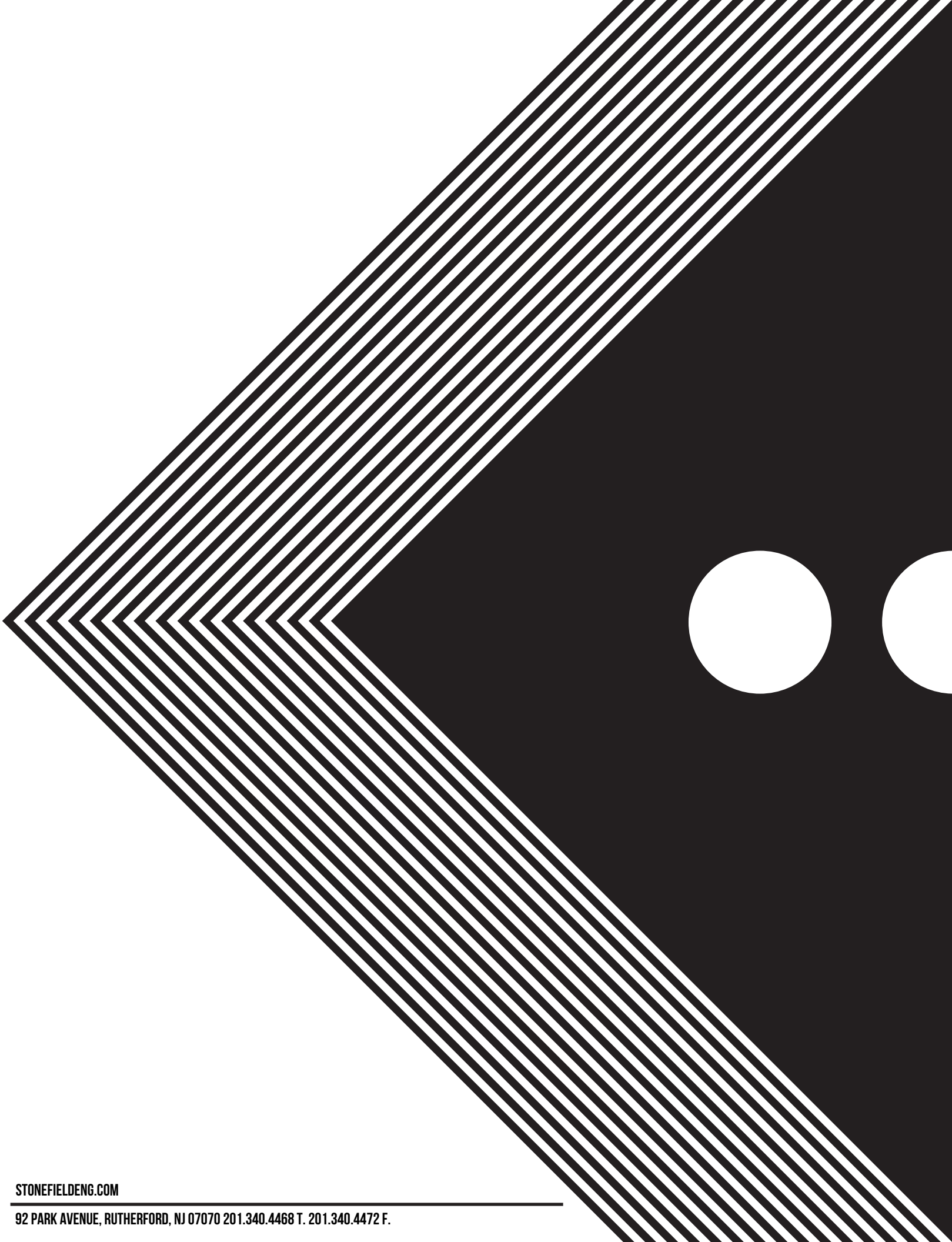
STONEFIELD	State Street Area Impact Study State Street Township of Teaneck, Bergen County, New Jersey Traffic Impact Study	FIGURE A4 2021 No-Build Traffic Volumes



STONEFIELD	State Street Area Impact Study State Street Township of Teaneck, Bergen County, New Jersey Traffic Impact Study	FIGURE A5 Site-Generated Traffic Volumes



STONEFIELD	State Street Area Impact Study State Street Township of Teaneck, Bergen County, New Jersey Traffic Impact Study	FIGURE A6 2021 Build Traffic Volumes



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