



FINAL ENVIRONMENTAL IMPACT STATEMENT AND FINAL SECTION 4(f) EVALUATION

APPENDIX 5

Transportation

5-1: Traffic and Pedestrian Volumes

5-2: Intersection Level of Service Summary Tables



FINAL ENVIRONMENTAL IMPACT STATEMENT AND FINAL SECTION 4(f) EVALUATION

APPENDIX 5-1

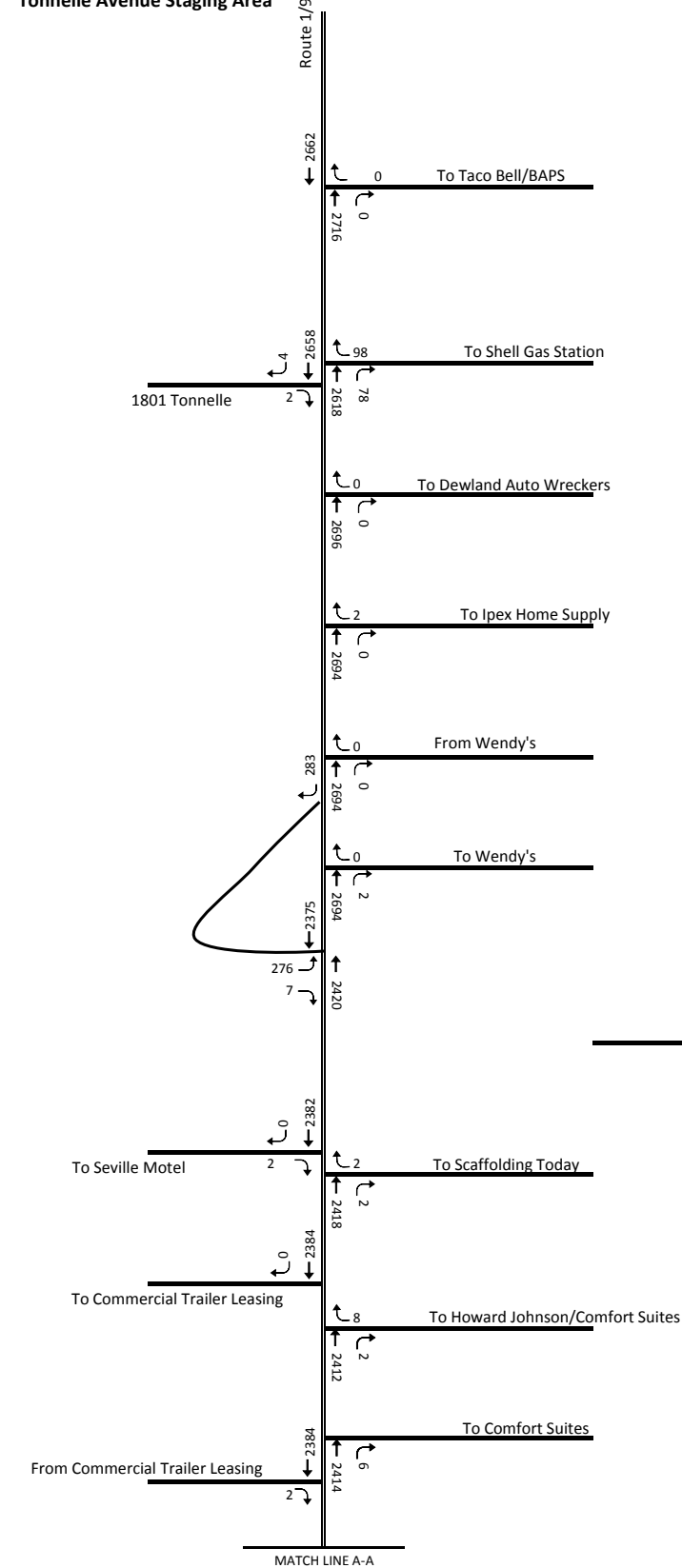
Traffic and Pedestrian Volumes

Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction

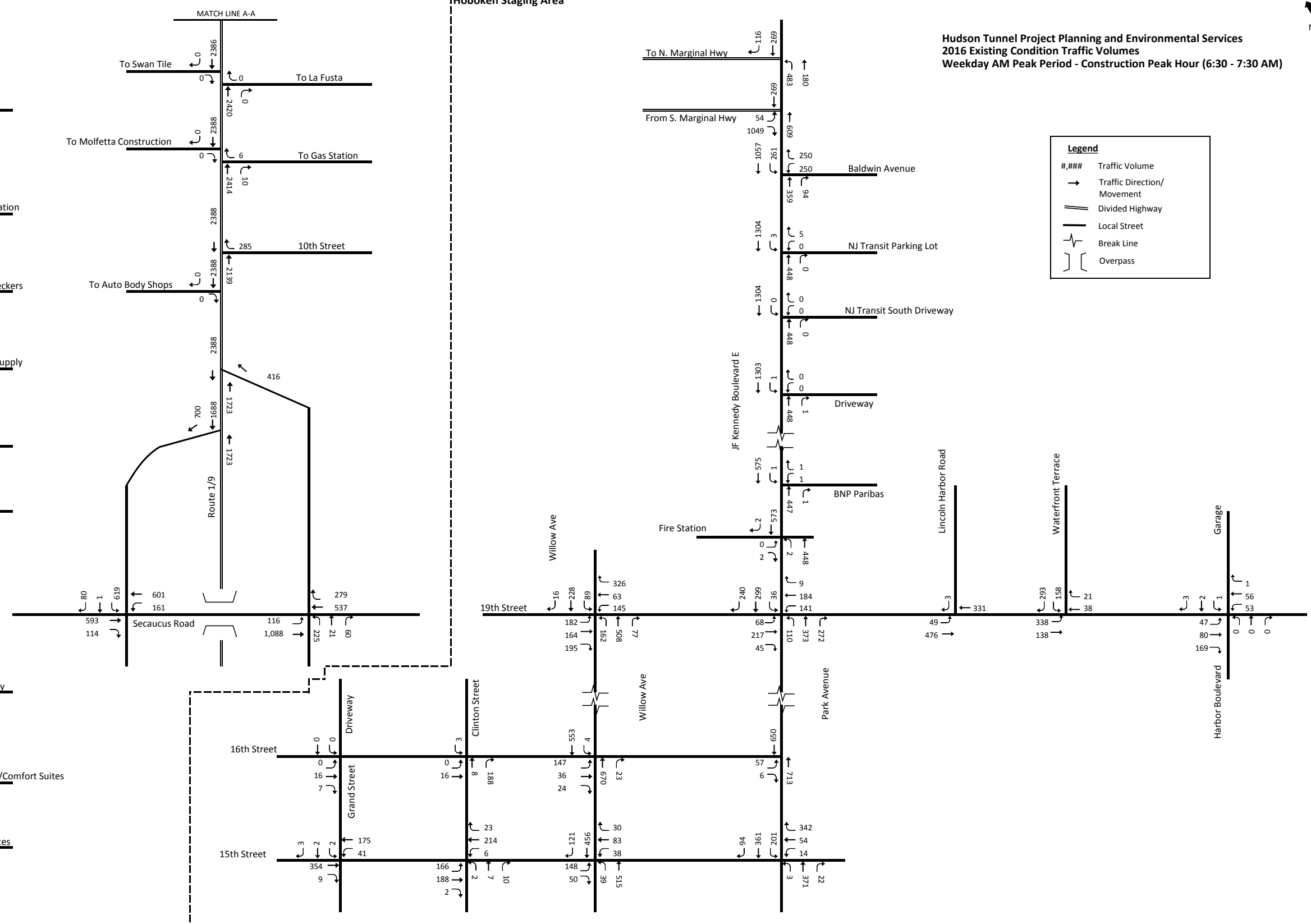
Weekday AM Construction Peak Hour—
Background Conditions
(2016 Existing and No Action)

2024 Tonnelle Avenue Staging Sites and
2025 Hoboken Staging Site

Tonnelle Avenue Staging Area



Hoboken Staging Area



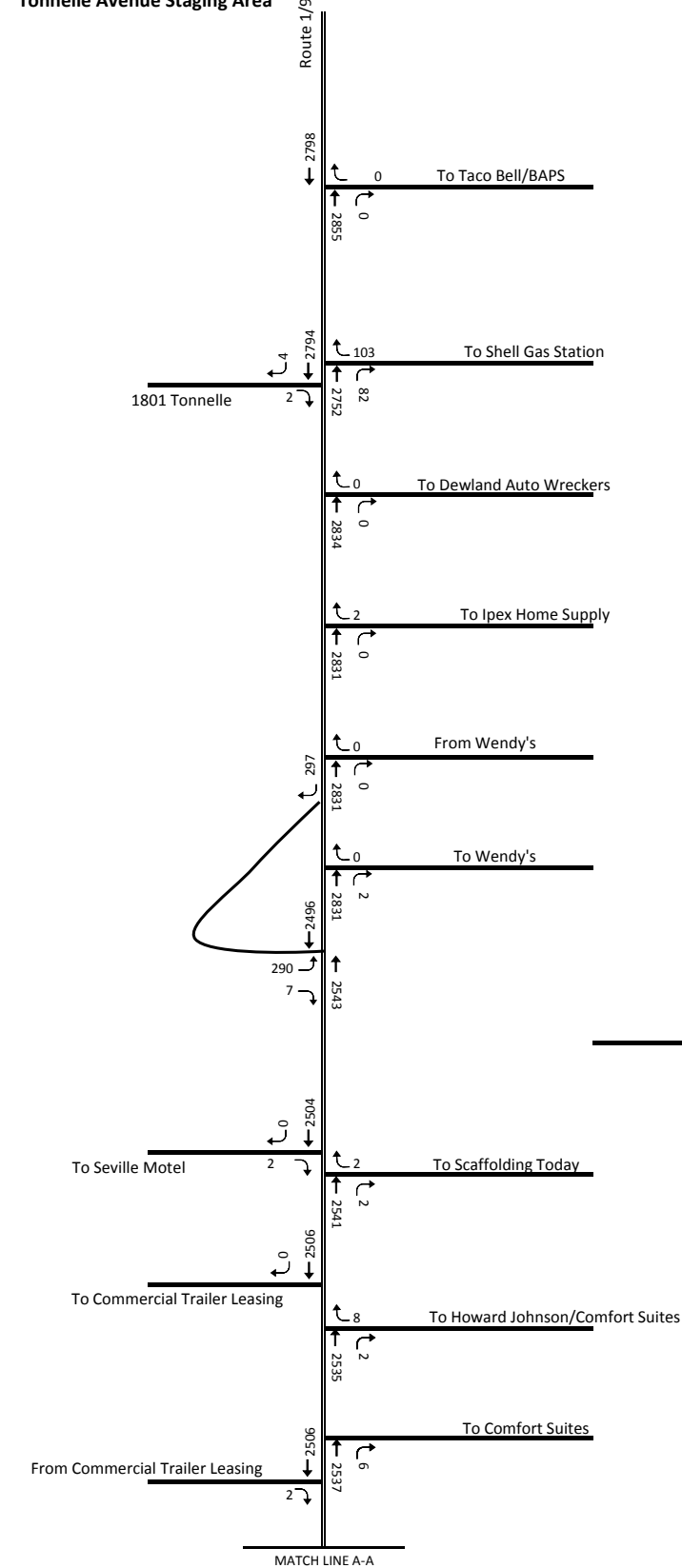
Hudson Tunnel Project Planning and Environmental Services
 2016 Existing Condition Traffic Volumes
 Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)

Legend

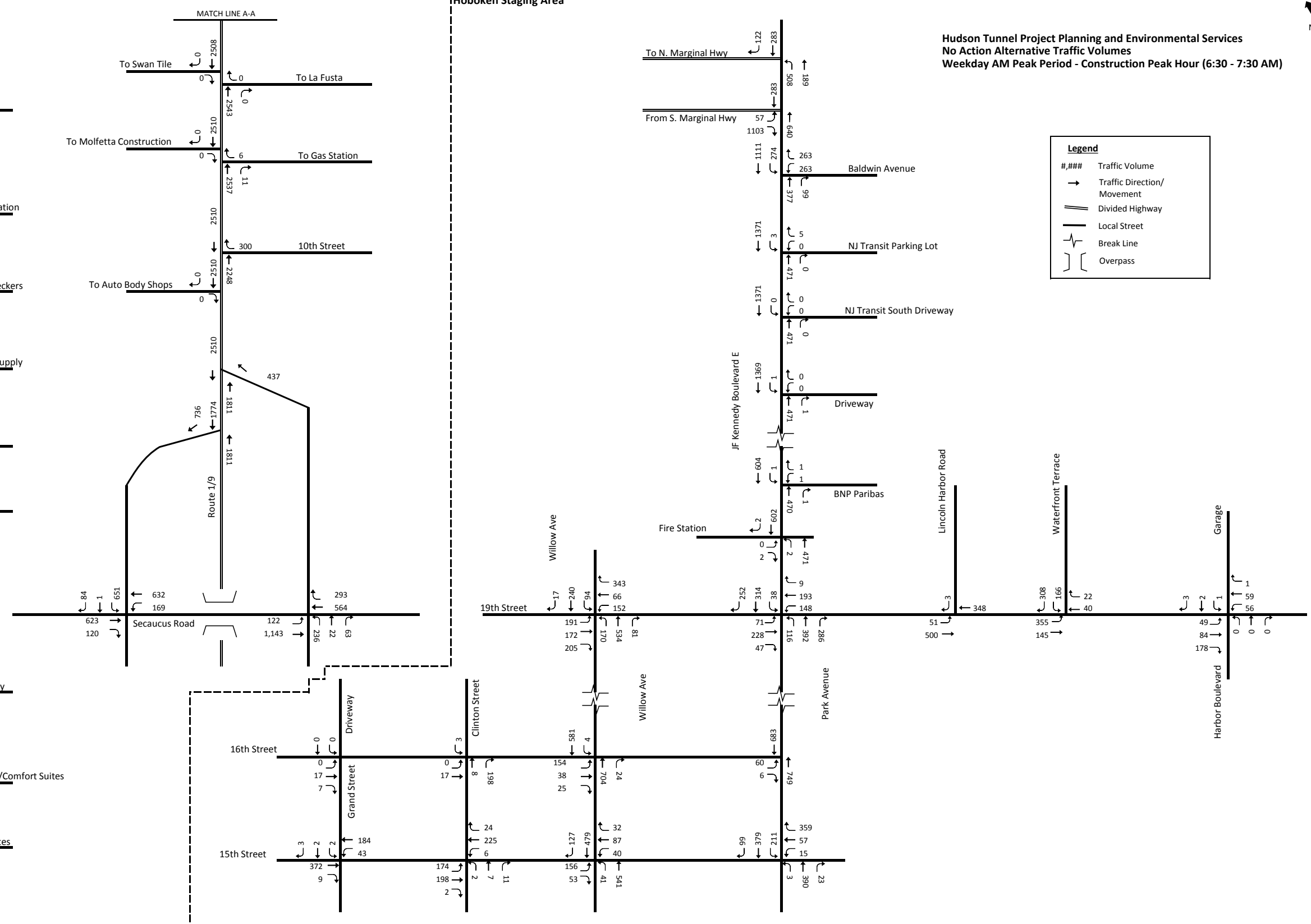
- ### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- ~ Break Line
- { } Overpass



Tonnelle Avenue Staging Area



Hoboken Staging Area



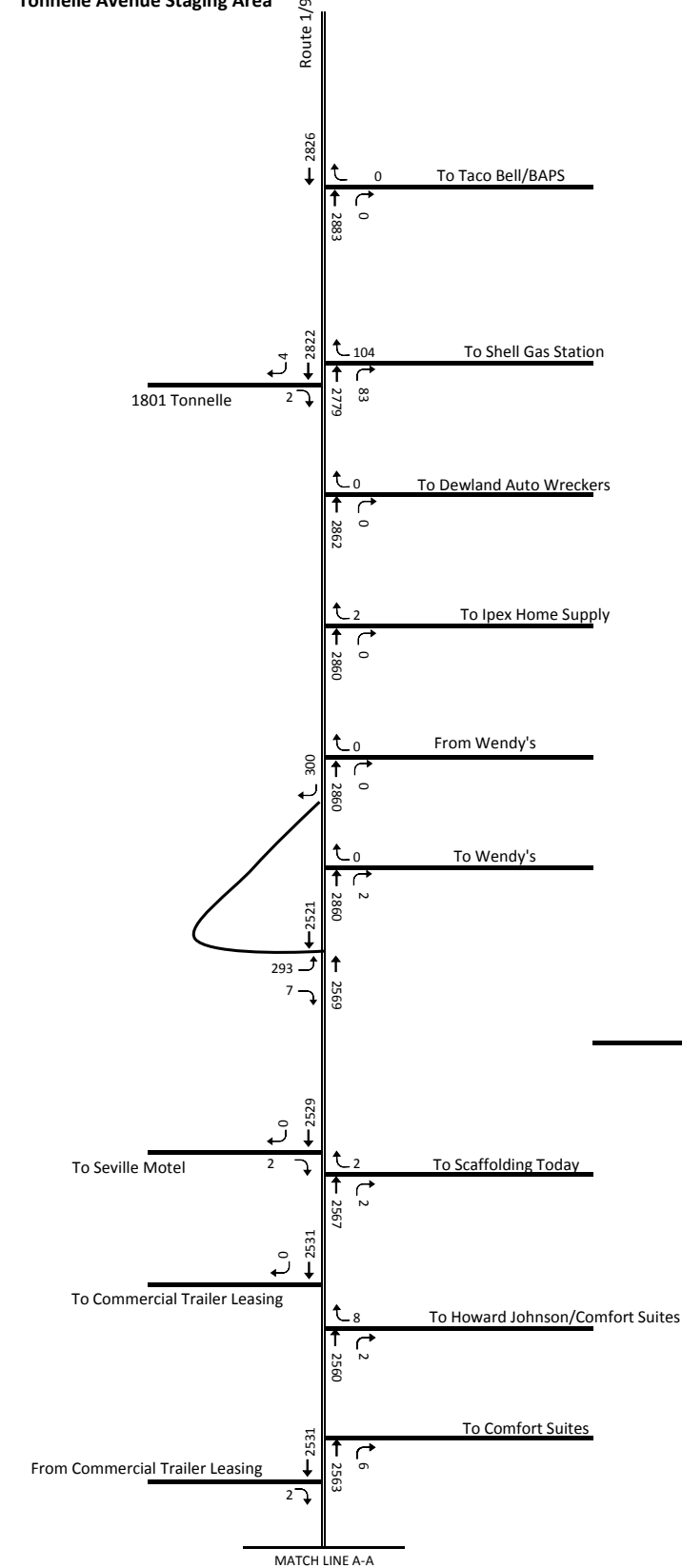
Hudson Tunnel Project Planning and Environmental Services
 No Action Alternative Traffic Volumes
 Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)

Legend

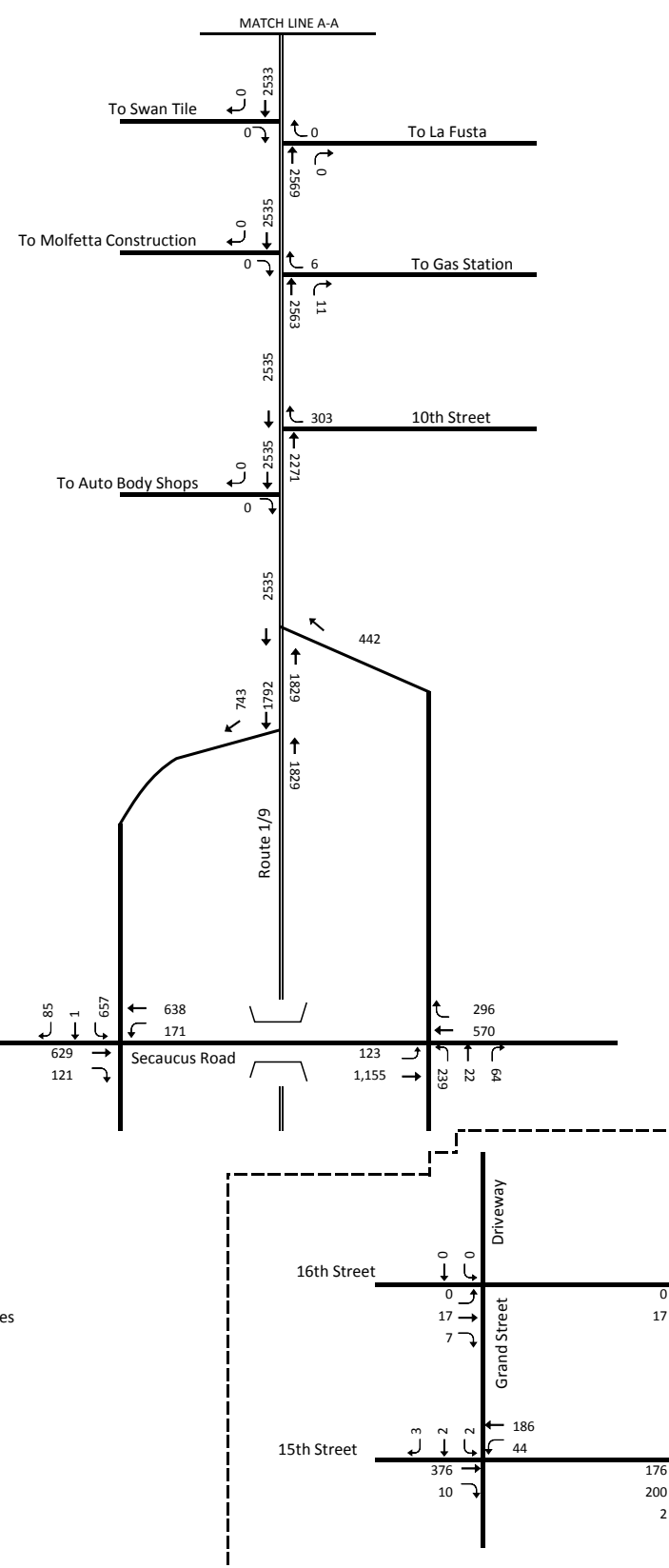
- ### Traffic Volume
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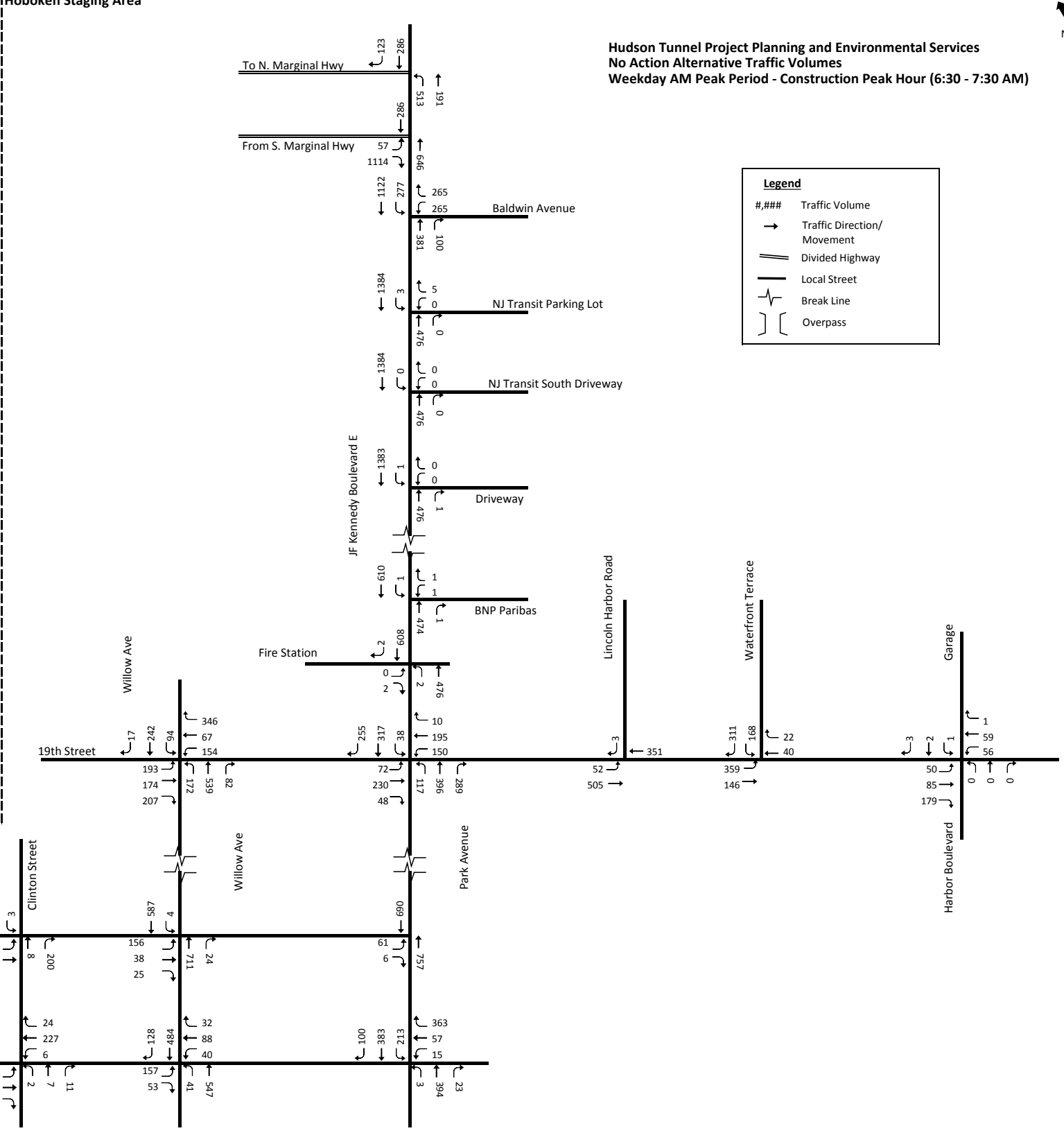
Tonnelle Avenue Staging Area



Hoboken Staging Area



**Hudson Tunnel Project Planning and Environmental Services
No Action Alternative Traffic Volumes
Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)**



Legend

- ### Traffic Volume
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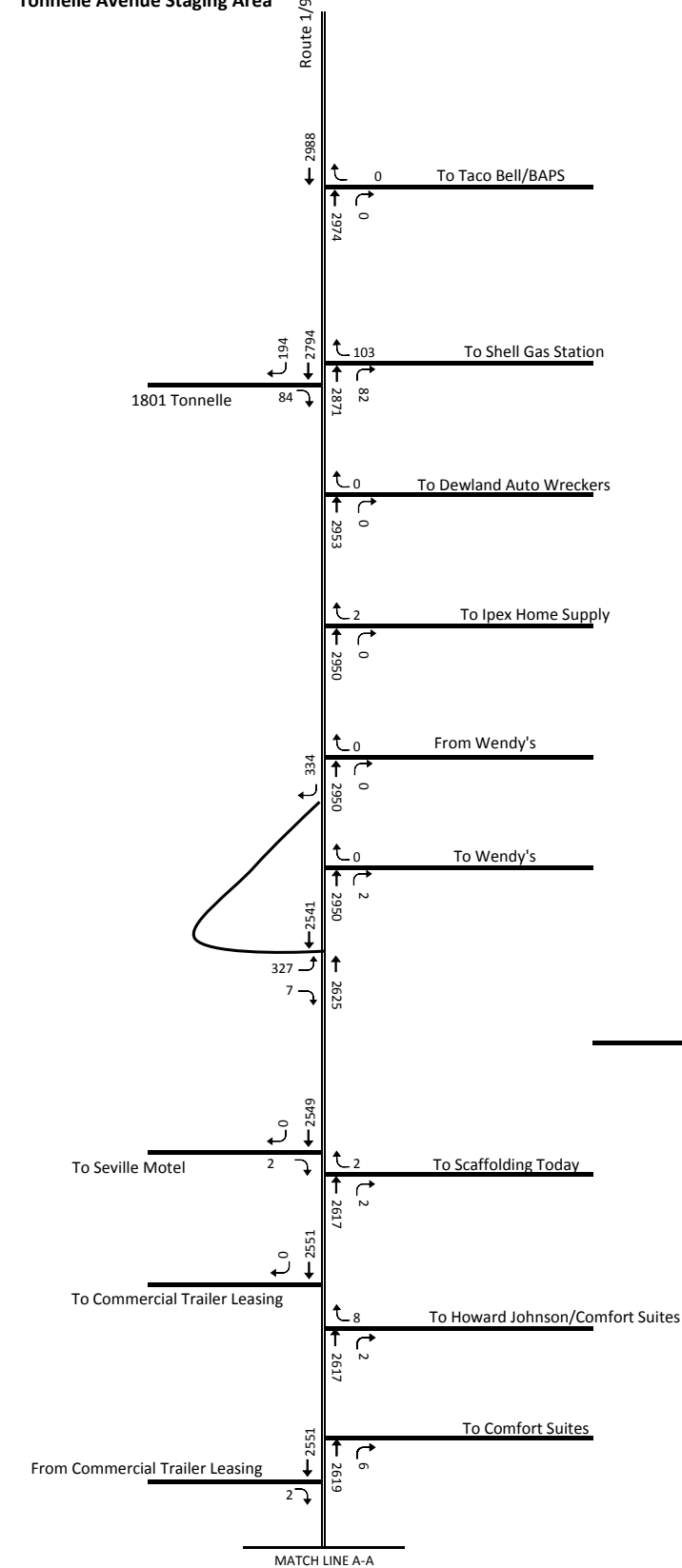


Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction

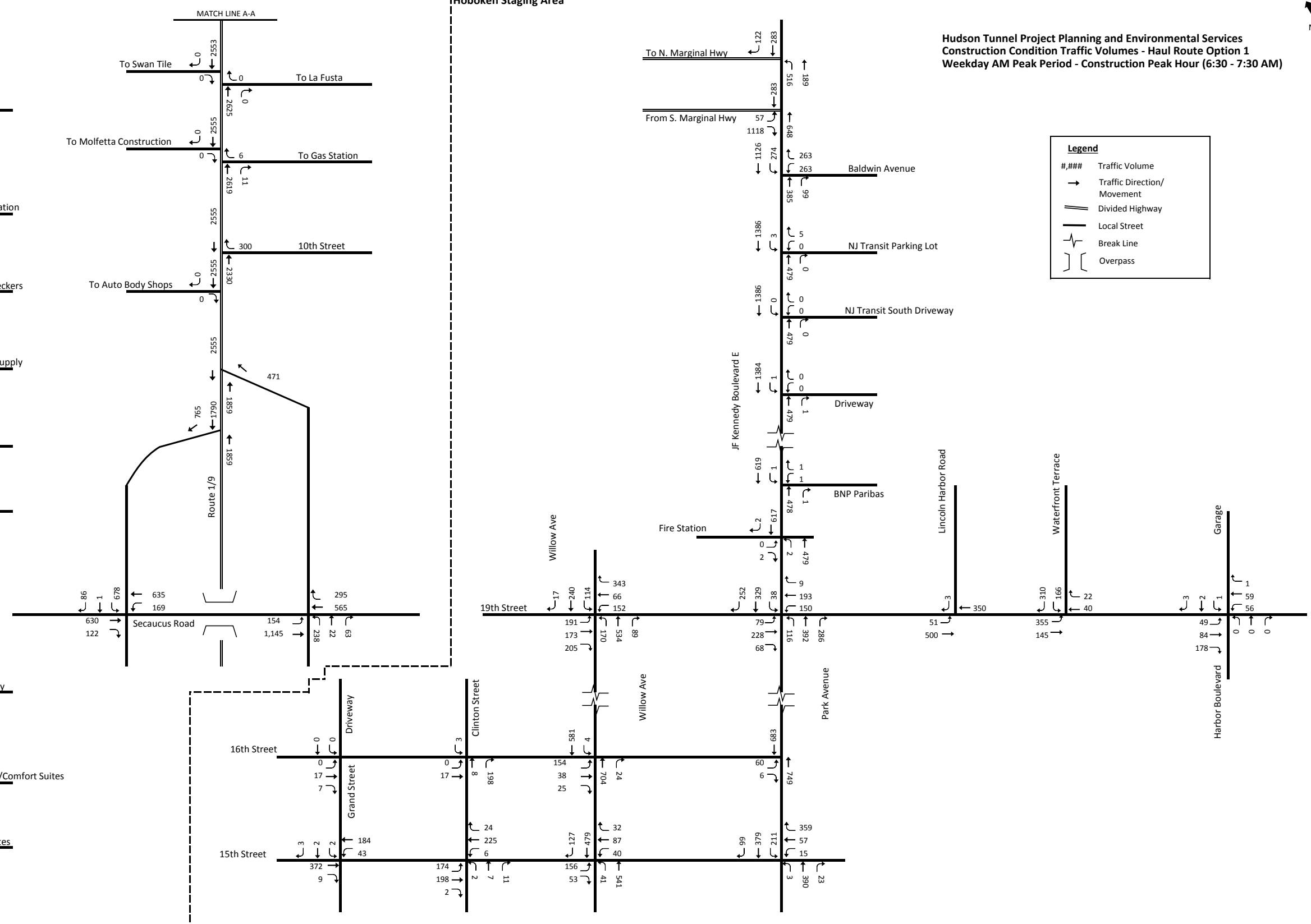
Weekday AM Construction Peak Hour—
Construction Conditions

2024 Tonnelle Avenue Staging Sites and
2025 Hoboken Staging Site—Haul Route
Option 1

Tonnelle Avenue Staging Area



Hoboken Staging Area



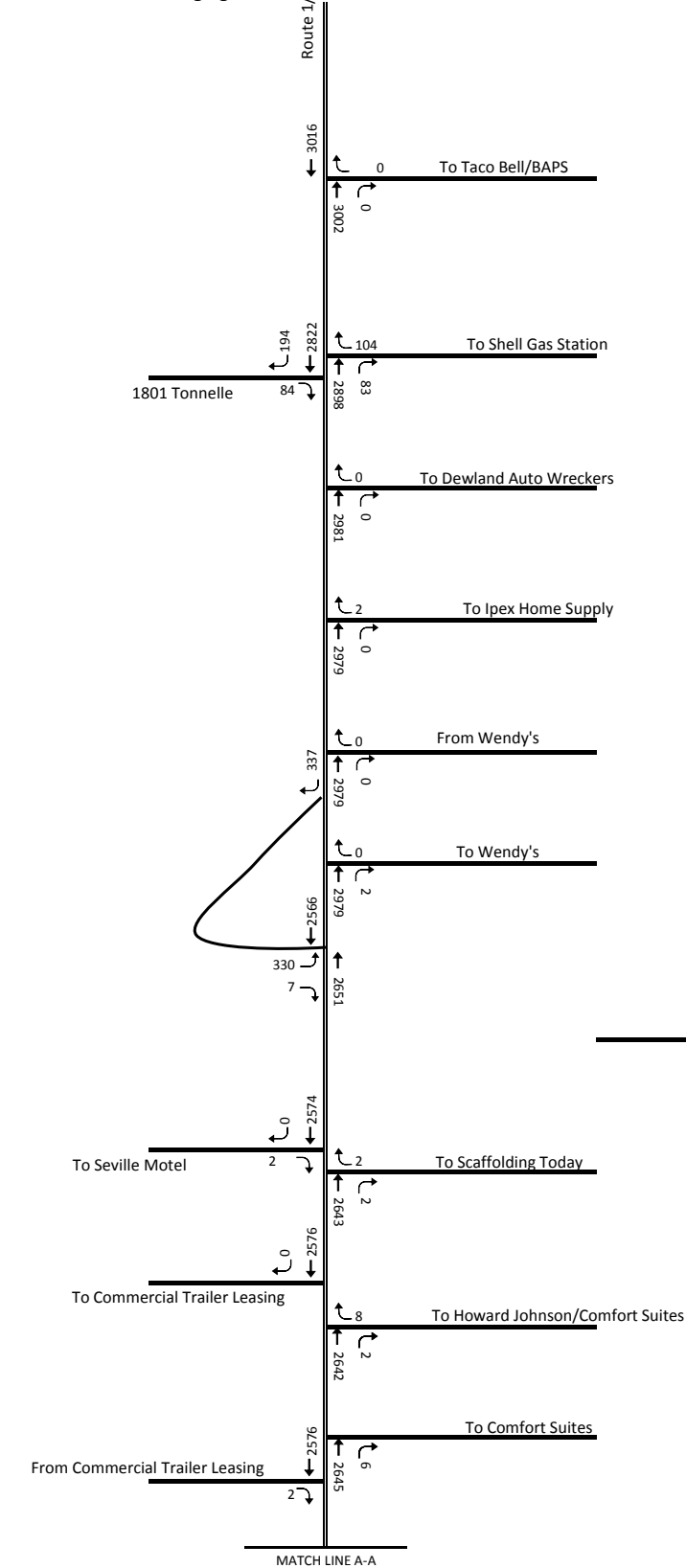
Hudson Tunnel Project Planning and Environmental Services
 Construction Condition Traffic Volumes - Haul Route Option 1
 Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)

Legend

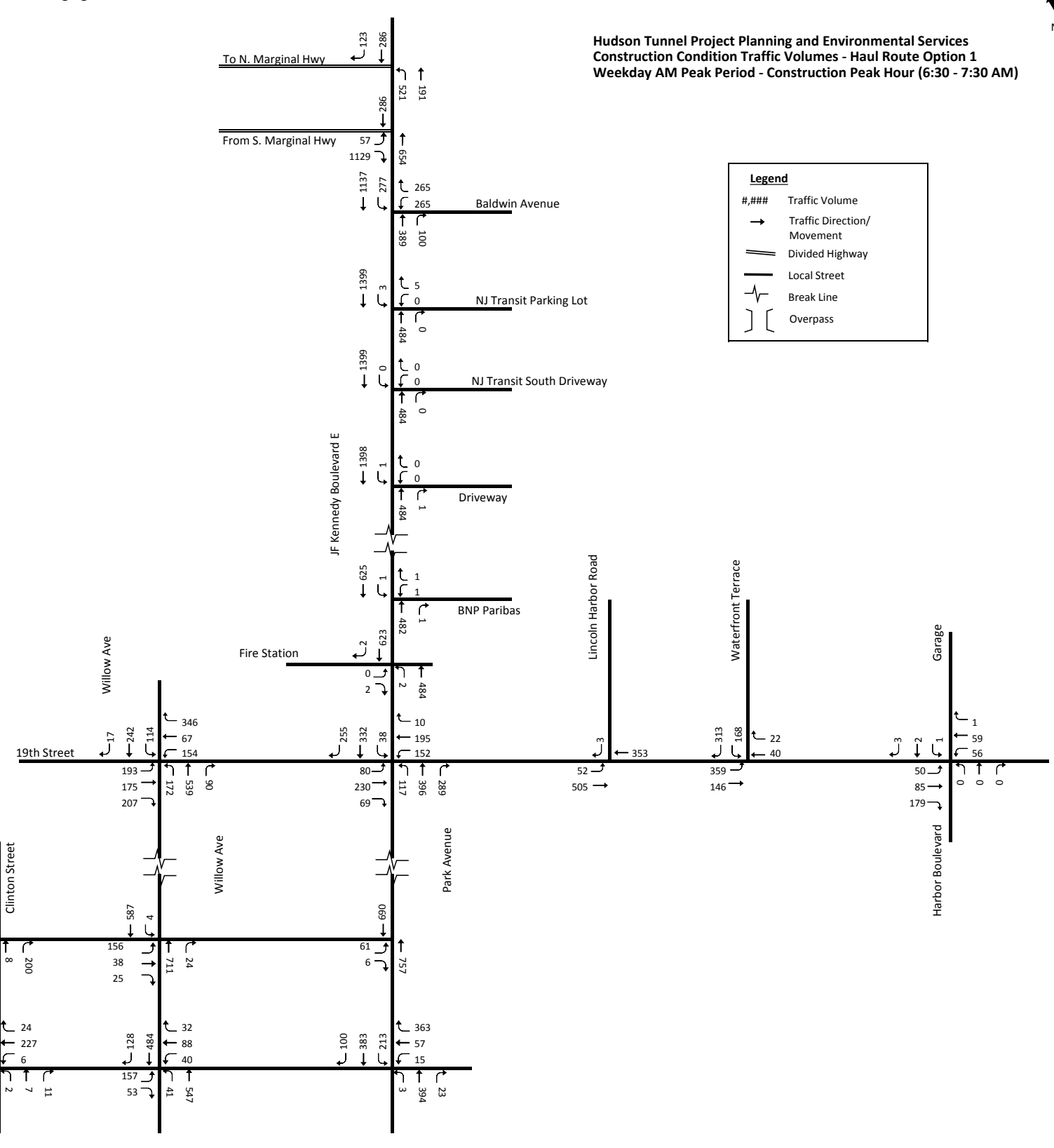
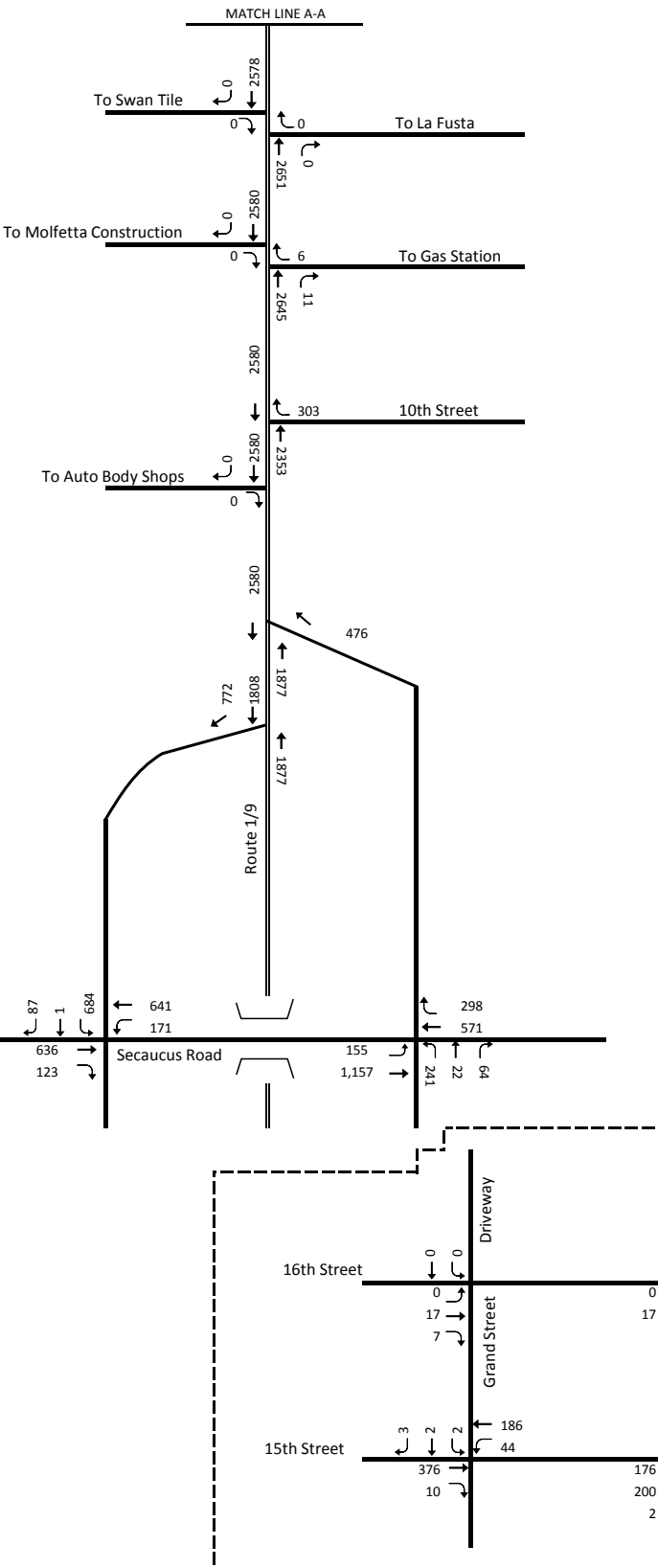
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Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes - Haul Route Option 1
Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)

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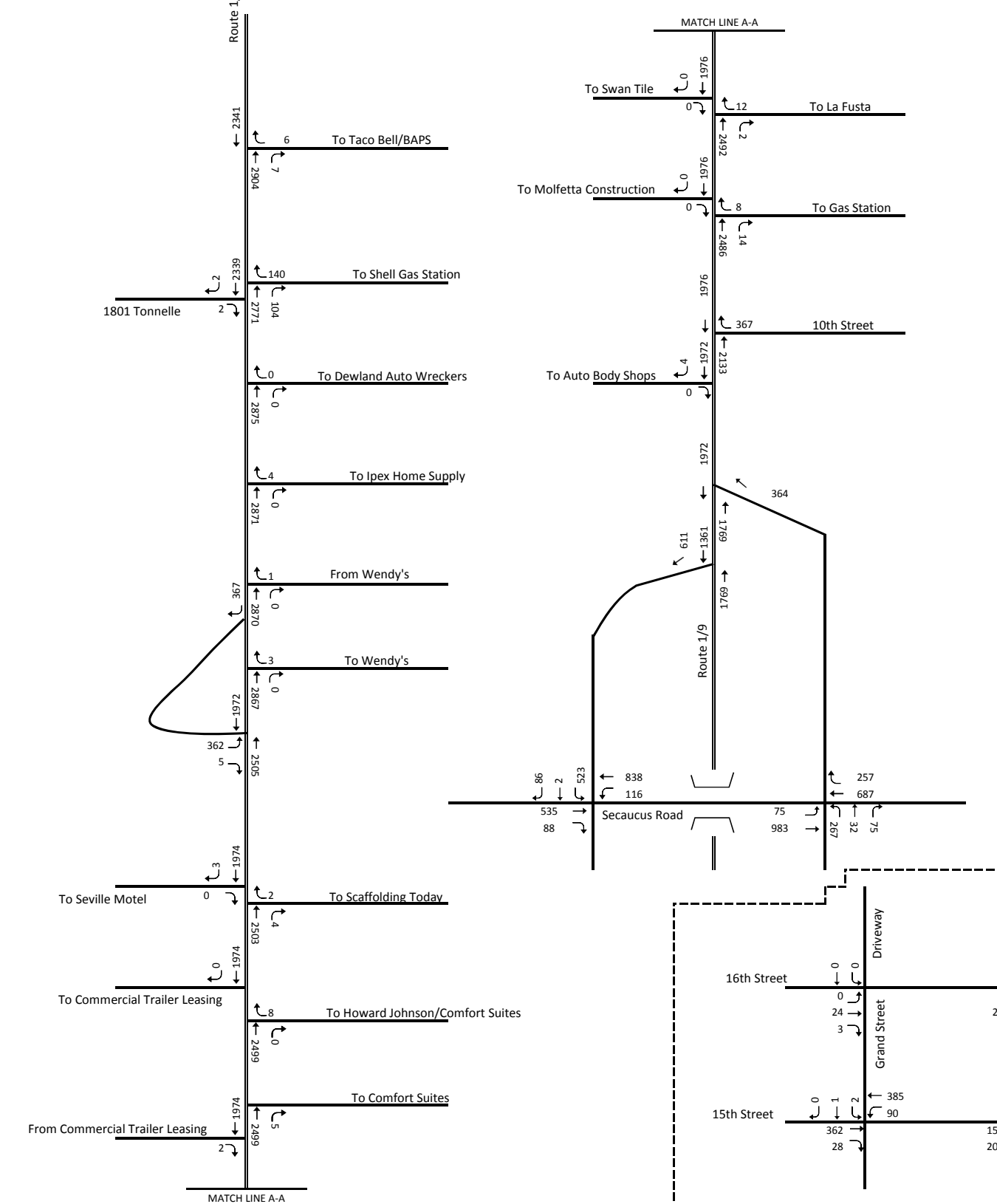
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New Jersey Study Areas:
New Tunnel Construction

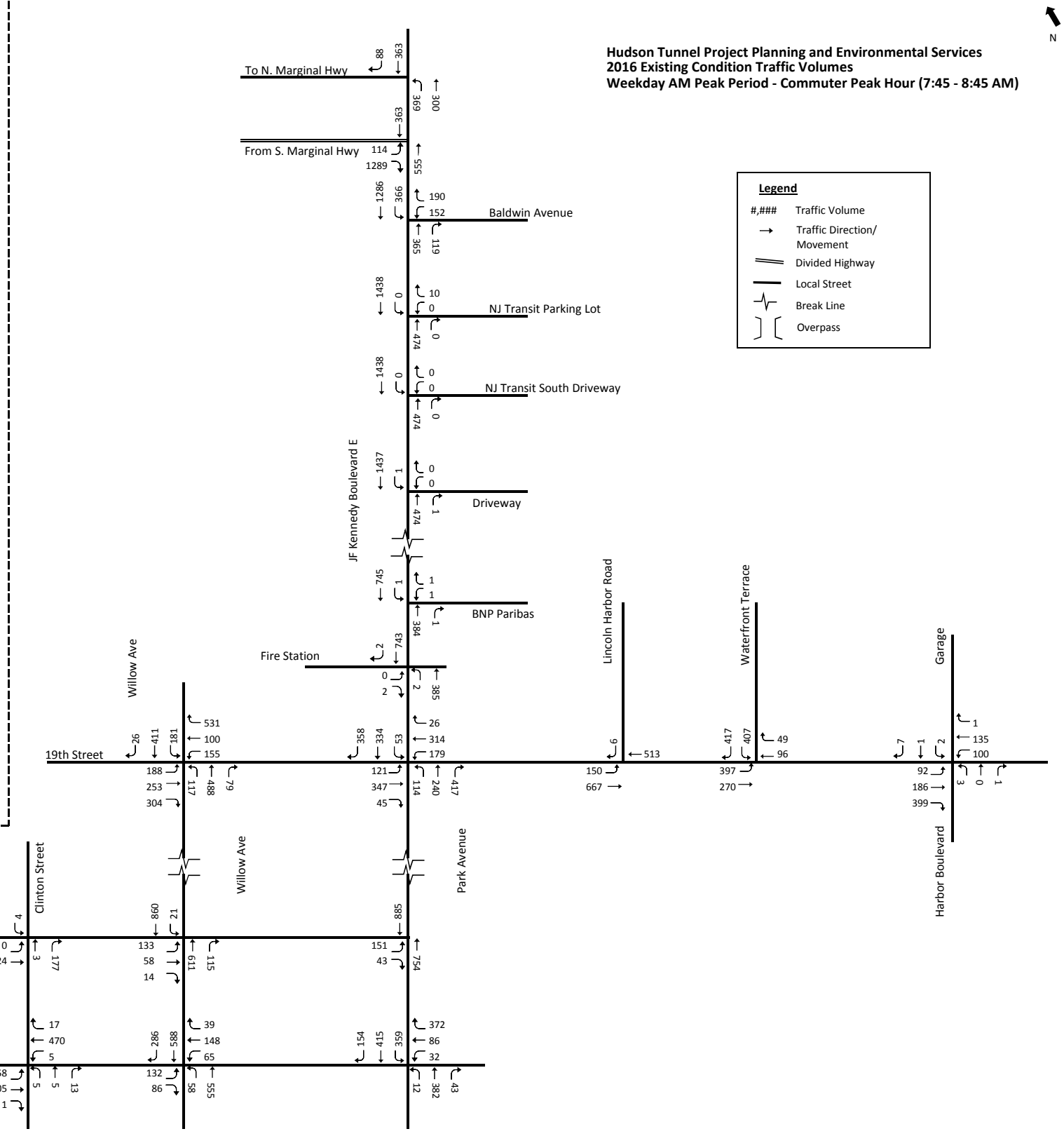
Weekday AM Commuter Peak Hour—
Background Conditions
(2016 Existing and No Action)

2024 Tonnelle Avenue Staging Sites and
2025 Hoboken Staging Site

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
2016 Existing Condition Traffic Volumes
Weekday AM Peak Period - Commuter Peak Hour (7:45 - 8:45 AM)

Legend

- #,### Traffic Volume
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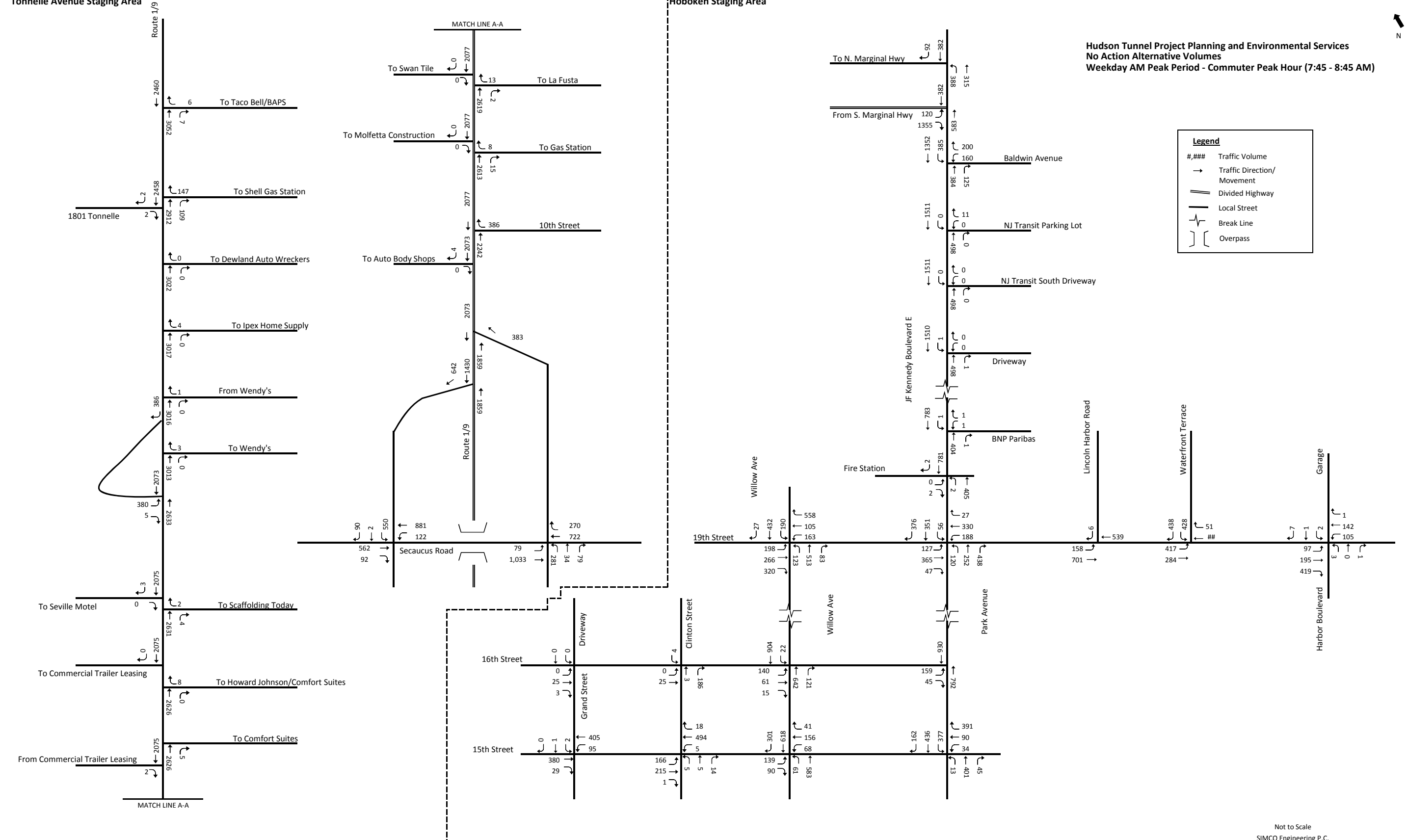
Tonnelle Avenue Staging Area

Hoboken Staging Area

Hudson Tunnel Project Planning and Environmental Services
 No Action Alternative Volumes
 Weekday AM Peak Period - Commuter Peak Hour (7:45 - 8:45 AM)

Legend

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Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction

Weekday AM Commuter Peak Hour—
Construction Conditions

2024 Tonnelle Avenue Staging Sites and
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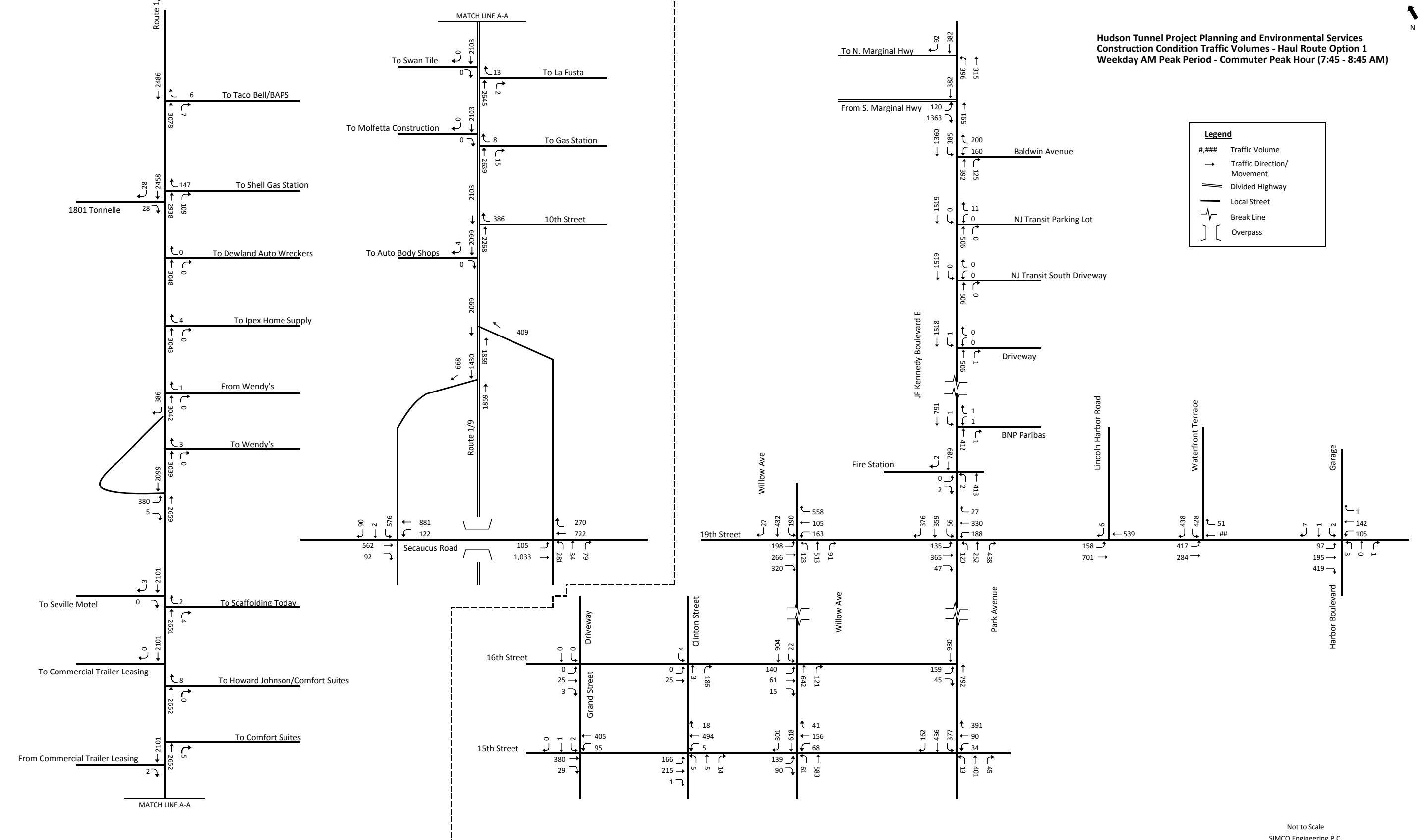
Tonnelle Avenue Staging Area

Hoboken Staging Area

Hudson Tunnel Project Planning and Environmental Services
 Construction Condition Traffic Volumes - Haul Route Option 1
 Weekday AM Peak Period - Commuter Peak Hour (7:45 - 8:45 AM)

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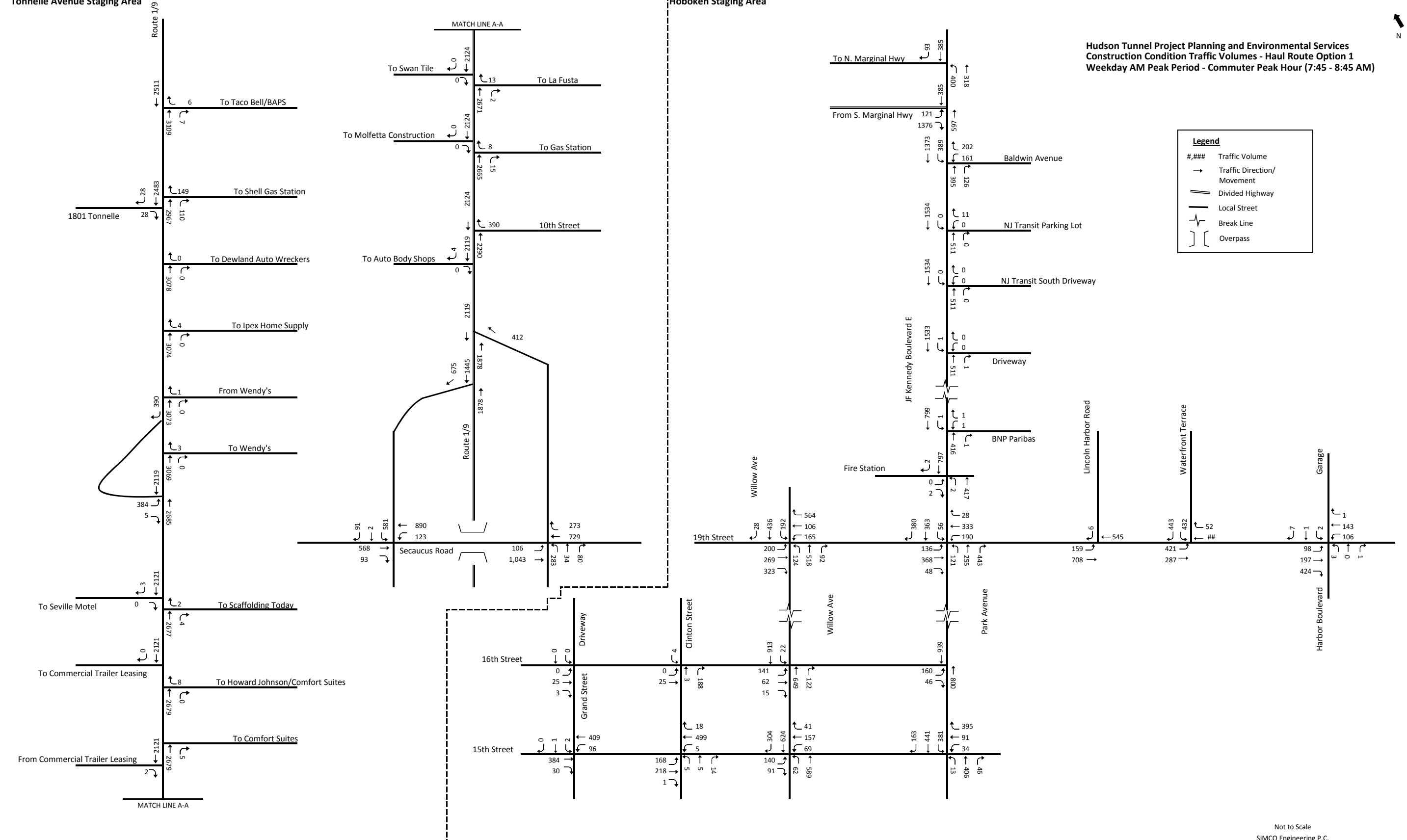
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 Construction Condition Traffic Volumes - Haul Route Option 1
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Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction

Weekday Midday Commuter Peak Period—
Background Conditions
(2016 Existing and No Action)

2024 Tonnelle Avenue Staging Sites and
2025 Hoboken Staging Site

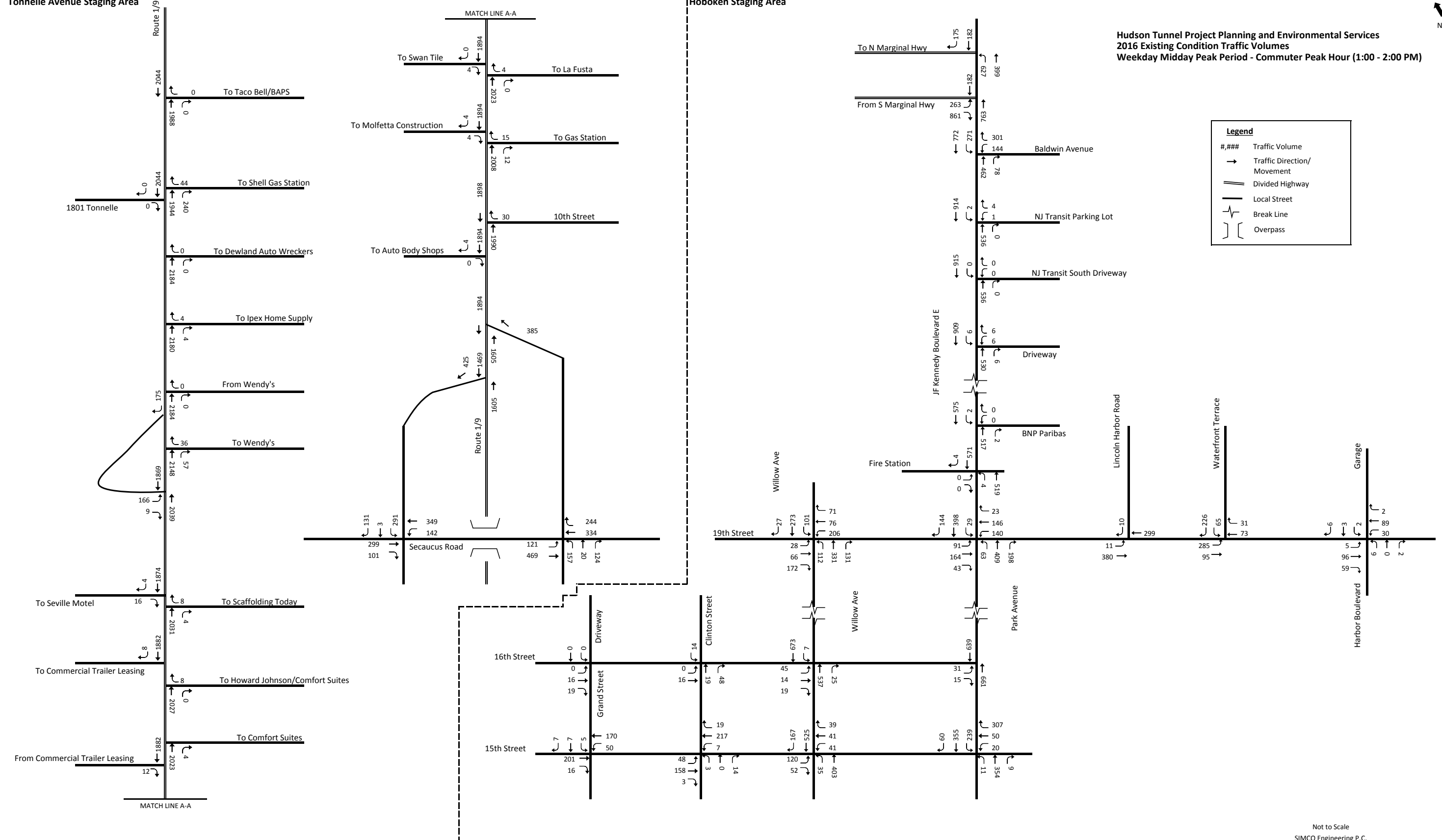
Tonnelle Avenue Staging Area

Hoboken Staging Area

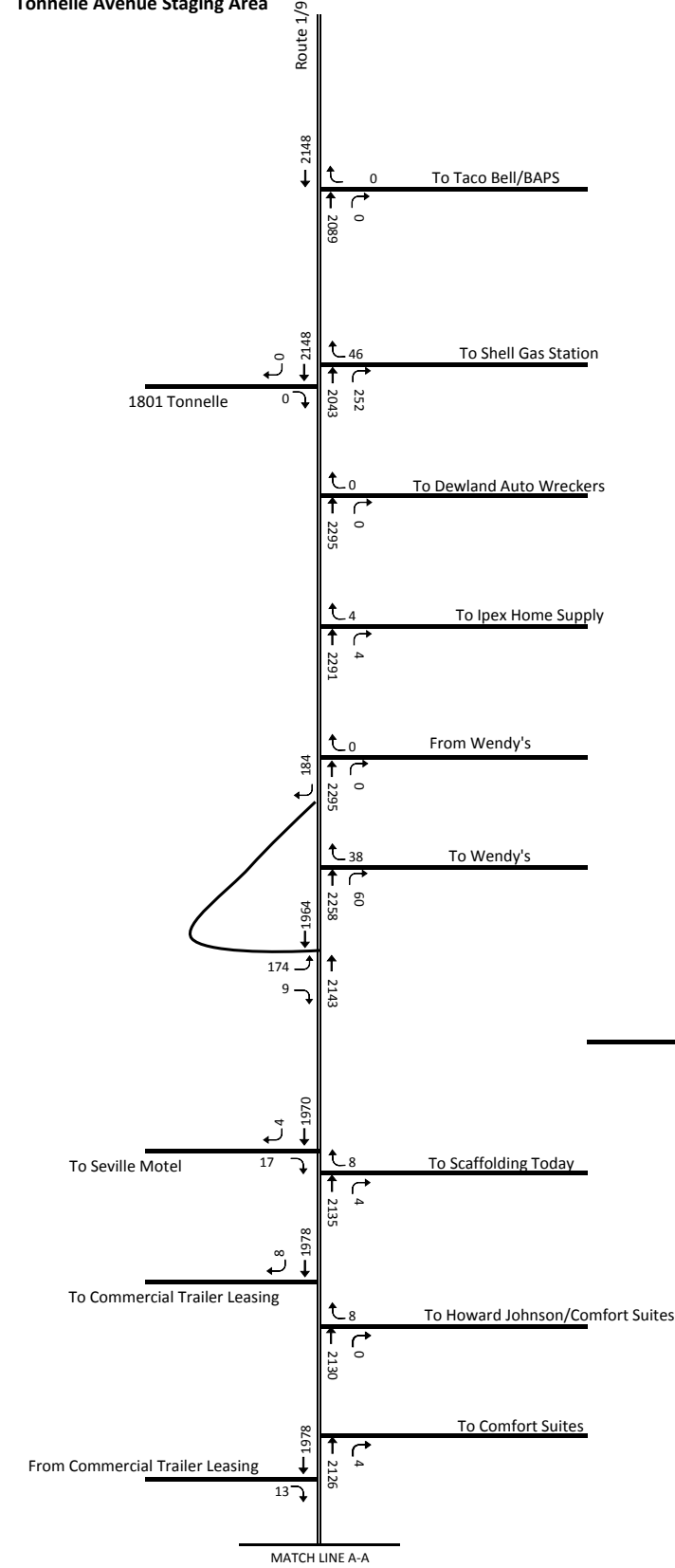
Hudson Tunnel Project Planning and Environmental Services
 2016 Existing Condition Traffic Volumes
 Weekday Midday Peak Period - Commuter Peak Hour (1:00 - 2:00 PM)

Legend

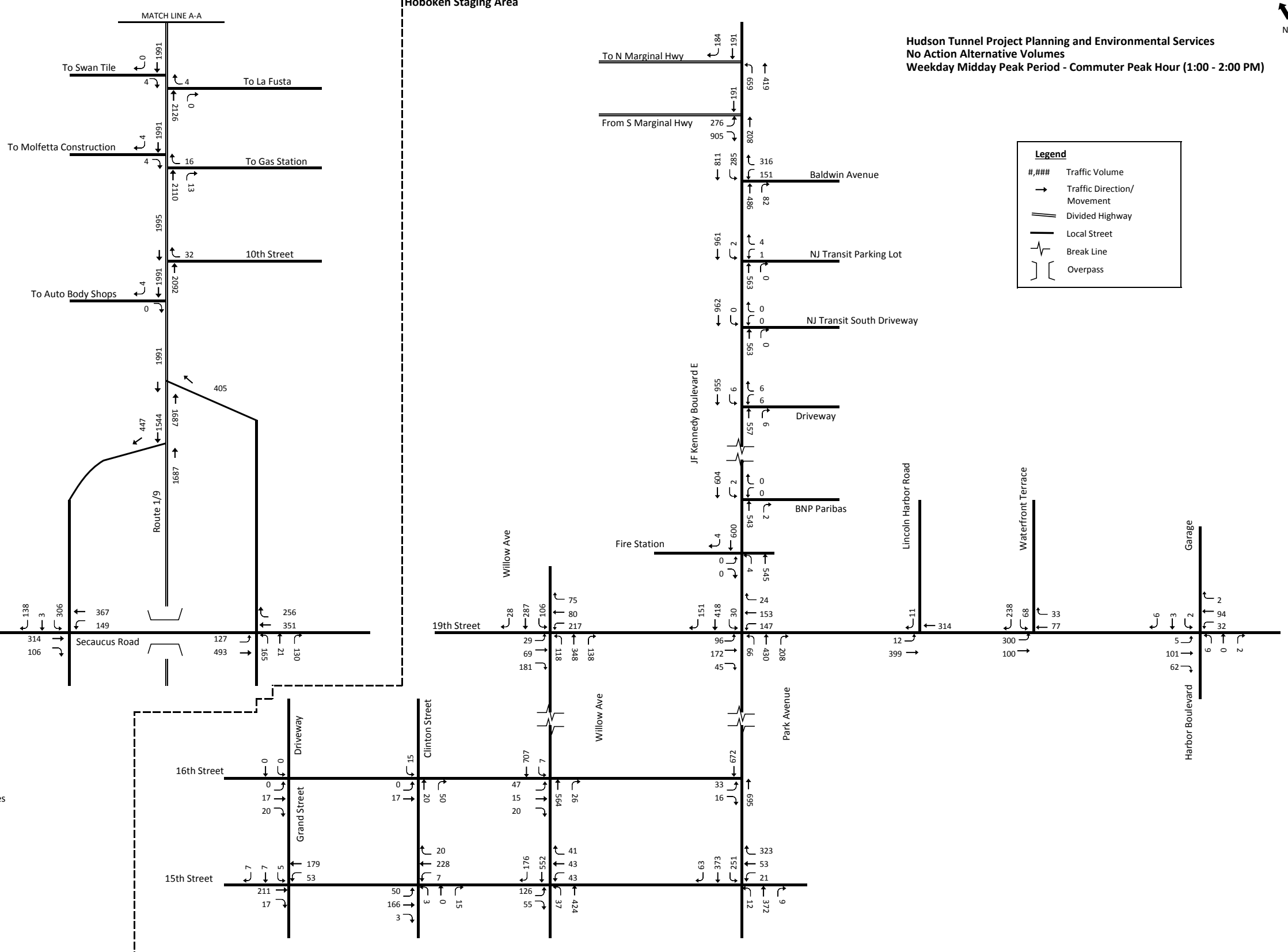
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Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
No Action Alternative Volumes
Weekday Midday Peak Period - Commuter Peak Hour (1:00 - 2:00 PM)

Legend

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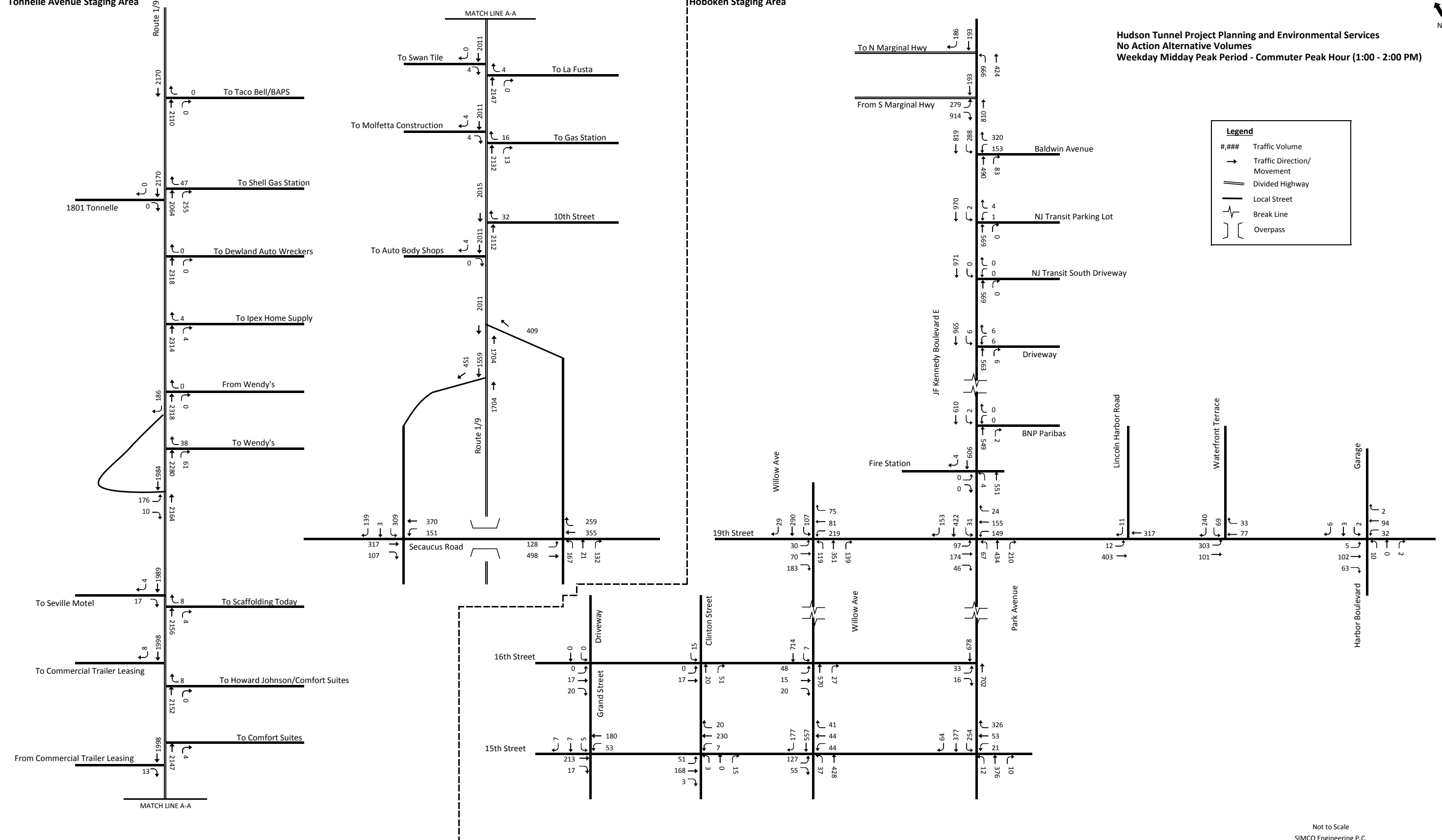
Tonnelle Avenue Staging Area

Hoboken Staging Area

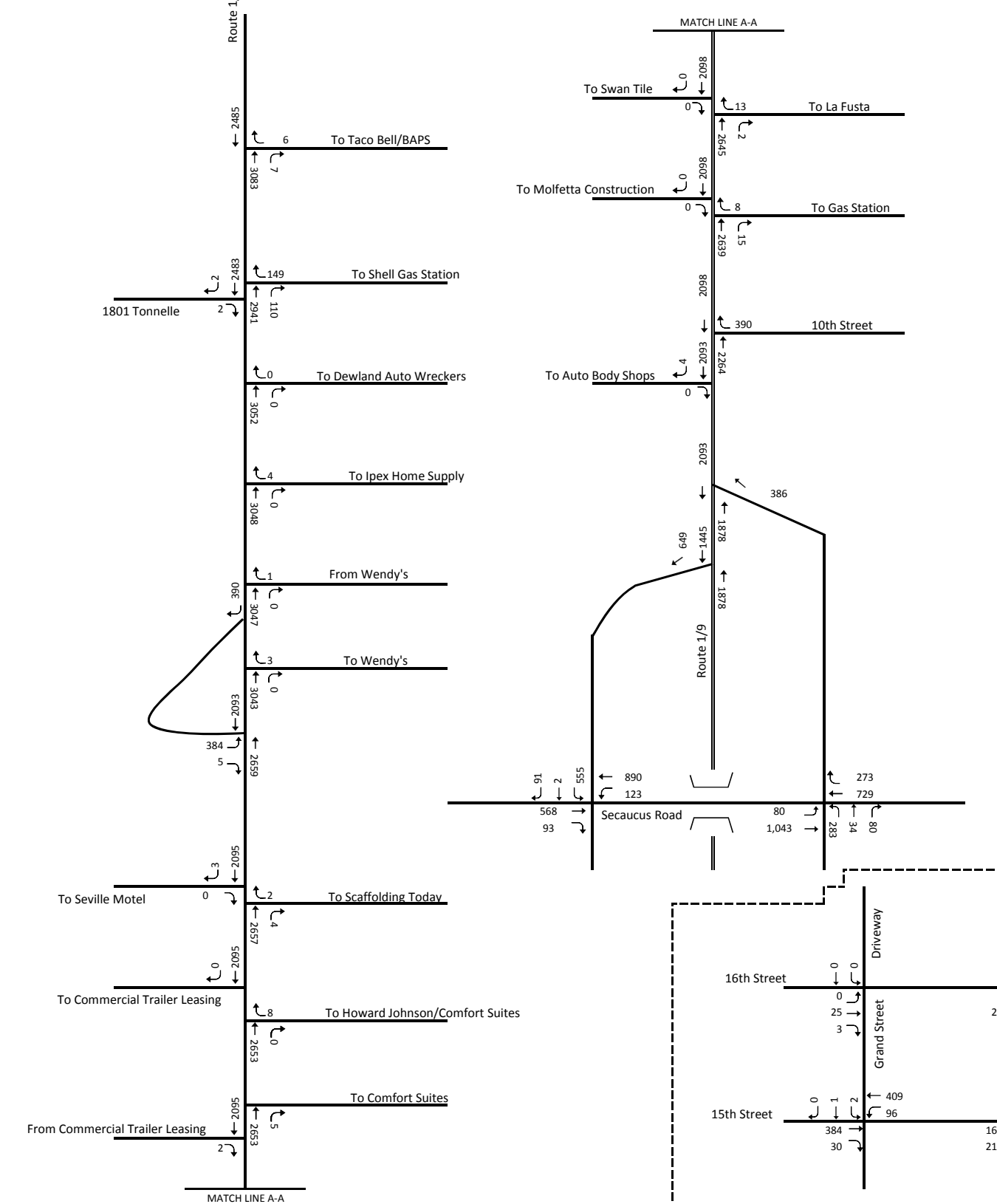
Hudson Tunnel Project Planning and Environmental Services
 No Action Alternative Volumes
 Weekday Midday Peak Period - Commuter Peak Hour (1:00 - 2:00 PM)

Legend

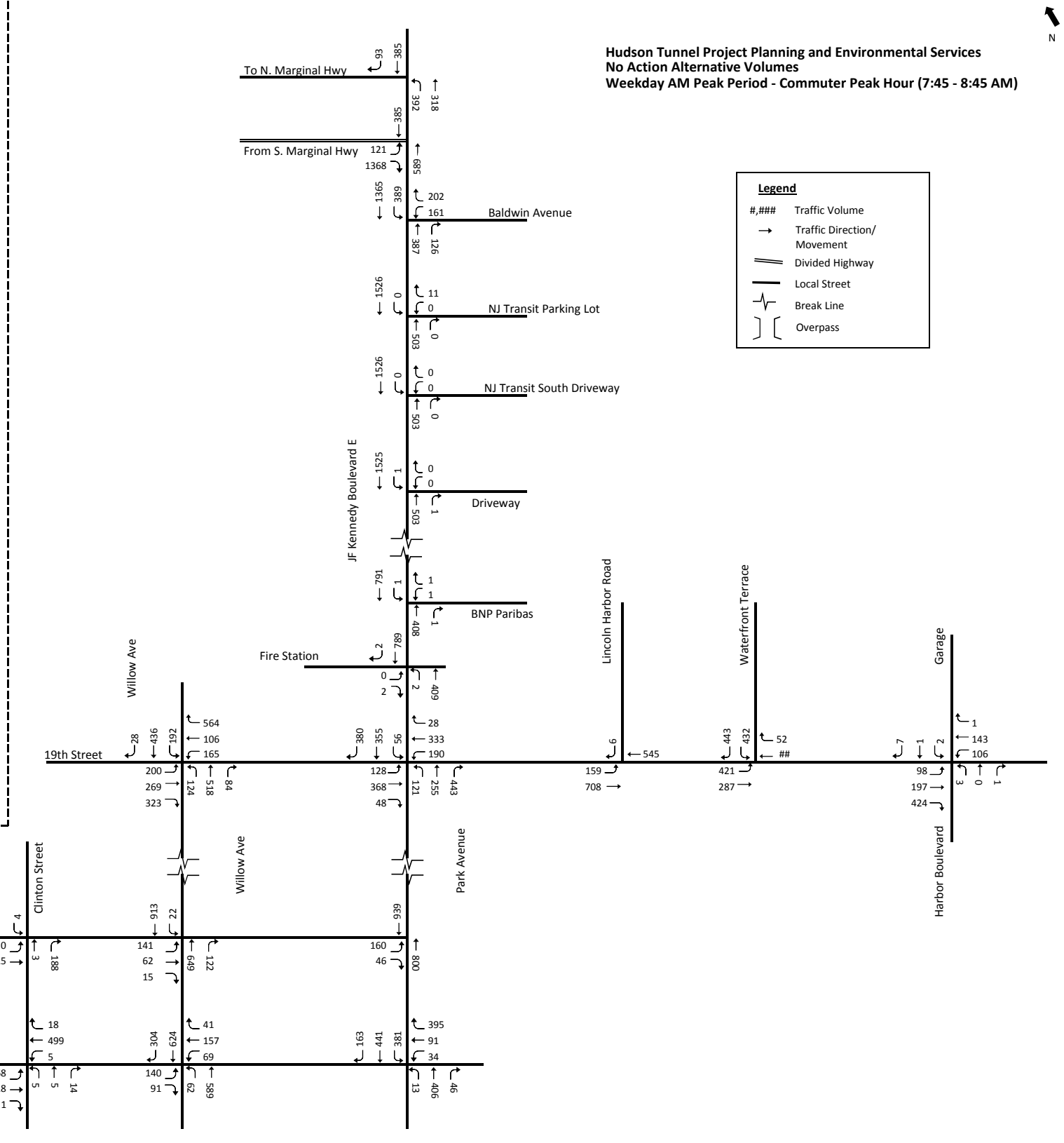
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Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 No Action Alternative Volumes
 Weekday AM Peak Period - Commuter Peak Hour (7:45 - 8:45 AM)

Legend

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Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction

Weekday Midday Commuter Peak Period—
Construction Conditions

2024 Tonnelle Avenue Staging Sites and
2025 Hoboken Staging Site—Haul Route
Option 1

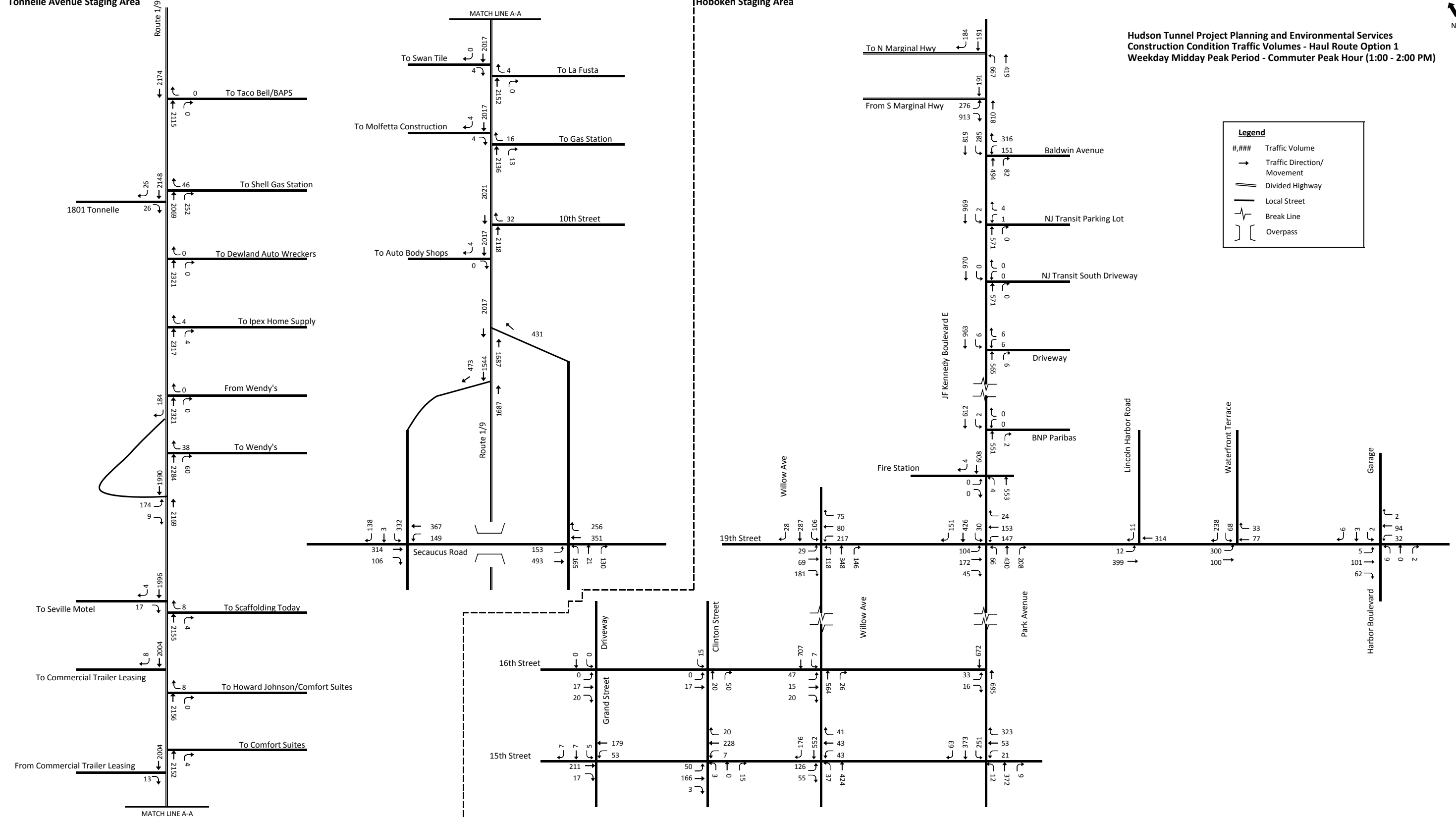
Tonnelle Avenue Staging Area

Hoboken Staging Area

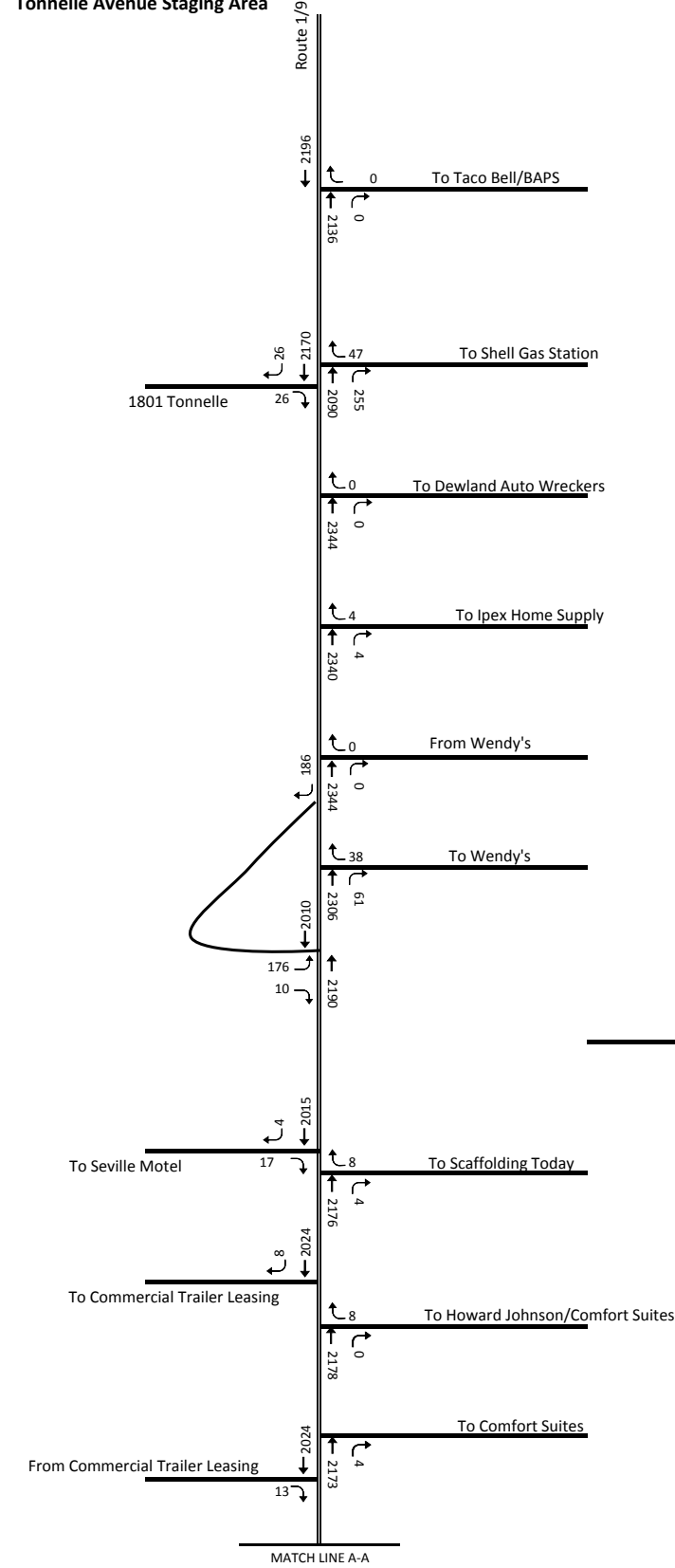
Hudson Tunnel Project Planning and Environmental Services
 Construction Condition Traffic Volumes - Haul Route Option 1
 Weekday Midday Peak Period - Commuter Peak Hour (1:00 - 2:00 PM)

Legend

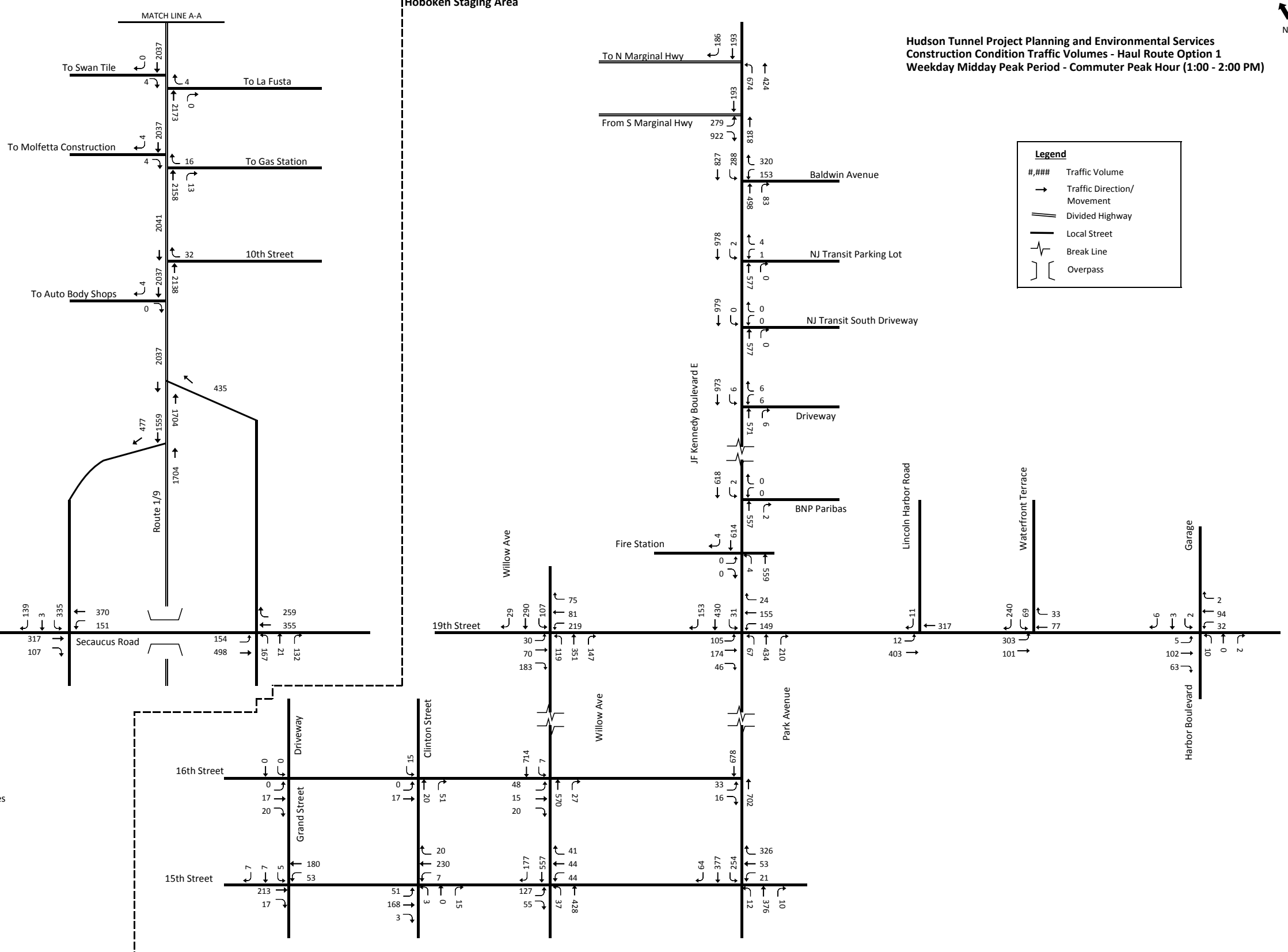
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**Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes - Haul Route Option 1
Weekday Midday Peak Period - Commuter Peak Hour (1:00 - 2:00 PM)**

Legend

- #,### Traffic Volume
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- ||| Divided Highway
- Local Street
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- { } Overpass

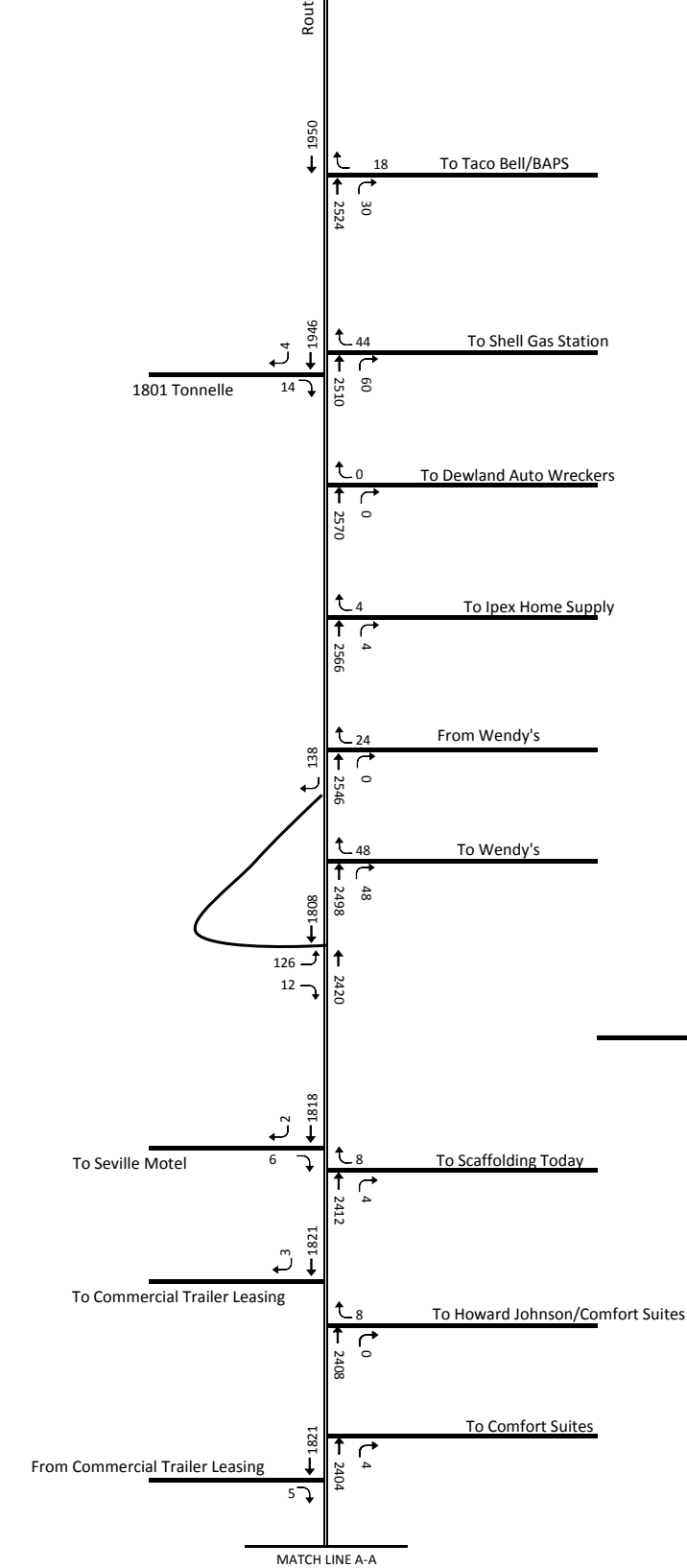


Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction

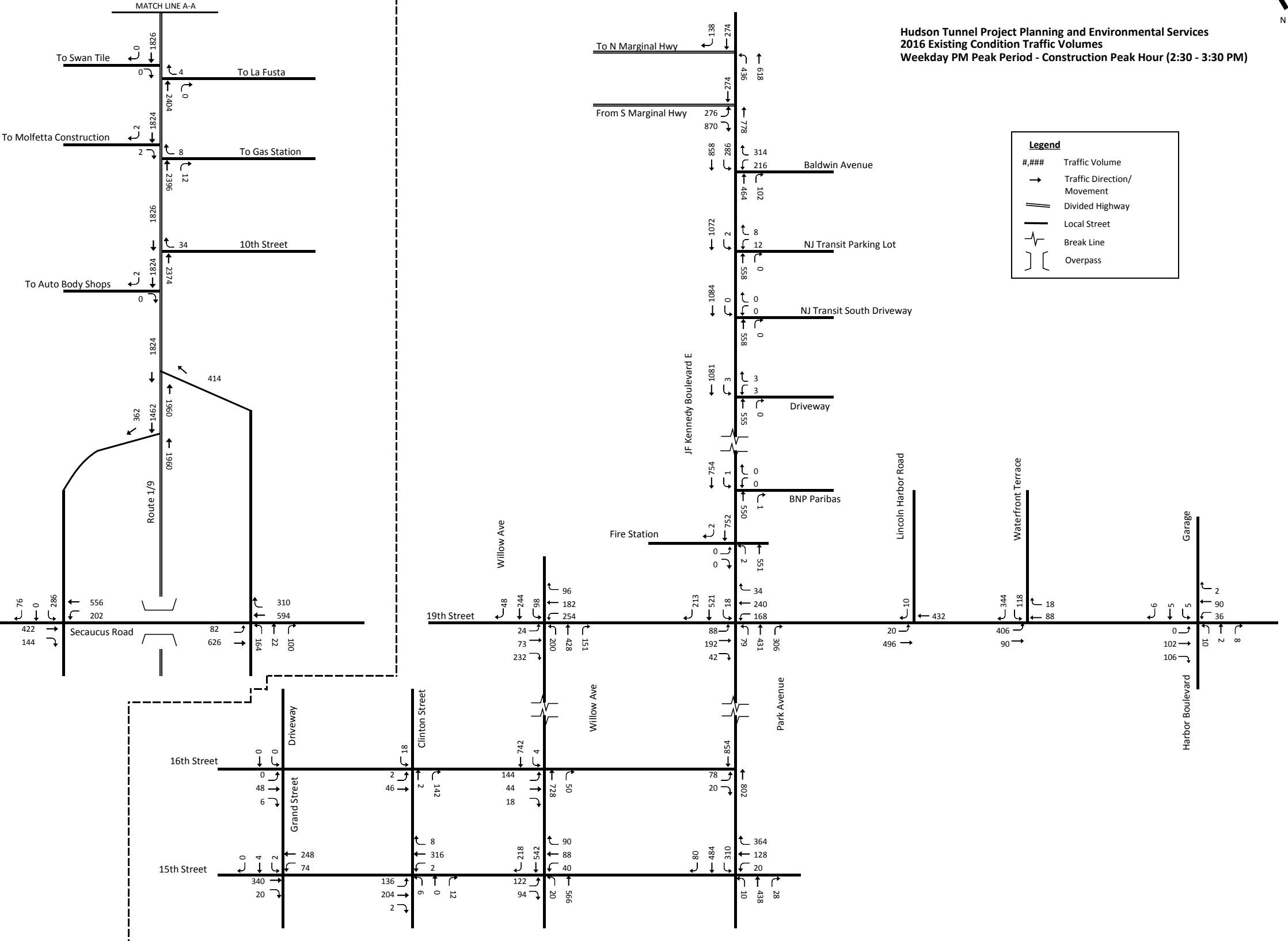
Weekday PM Construction Peak Hour—
Background Conditions
(2016 Existing and No Action)

2024 Tonnelle Avenue Staging Sites and
2025 Hoboken Staging Site

Tonnelle Avenue Staging Area



Hoboken Staging Area



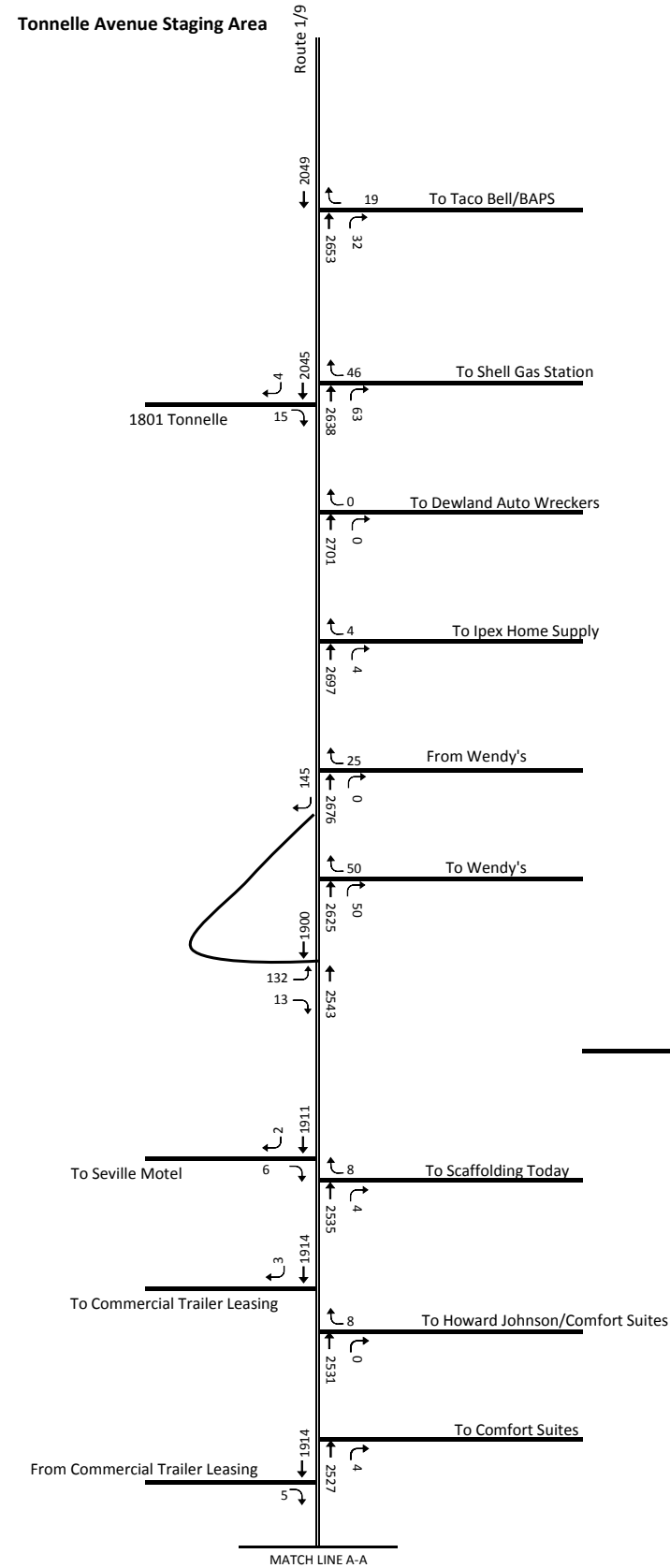
Hudson Tunnel Project Planning and Environmental Services
 2016 Existing Condition Traffic Volumes
 Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)

Legend

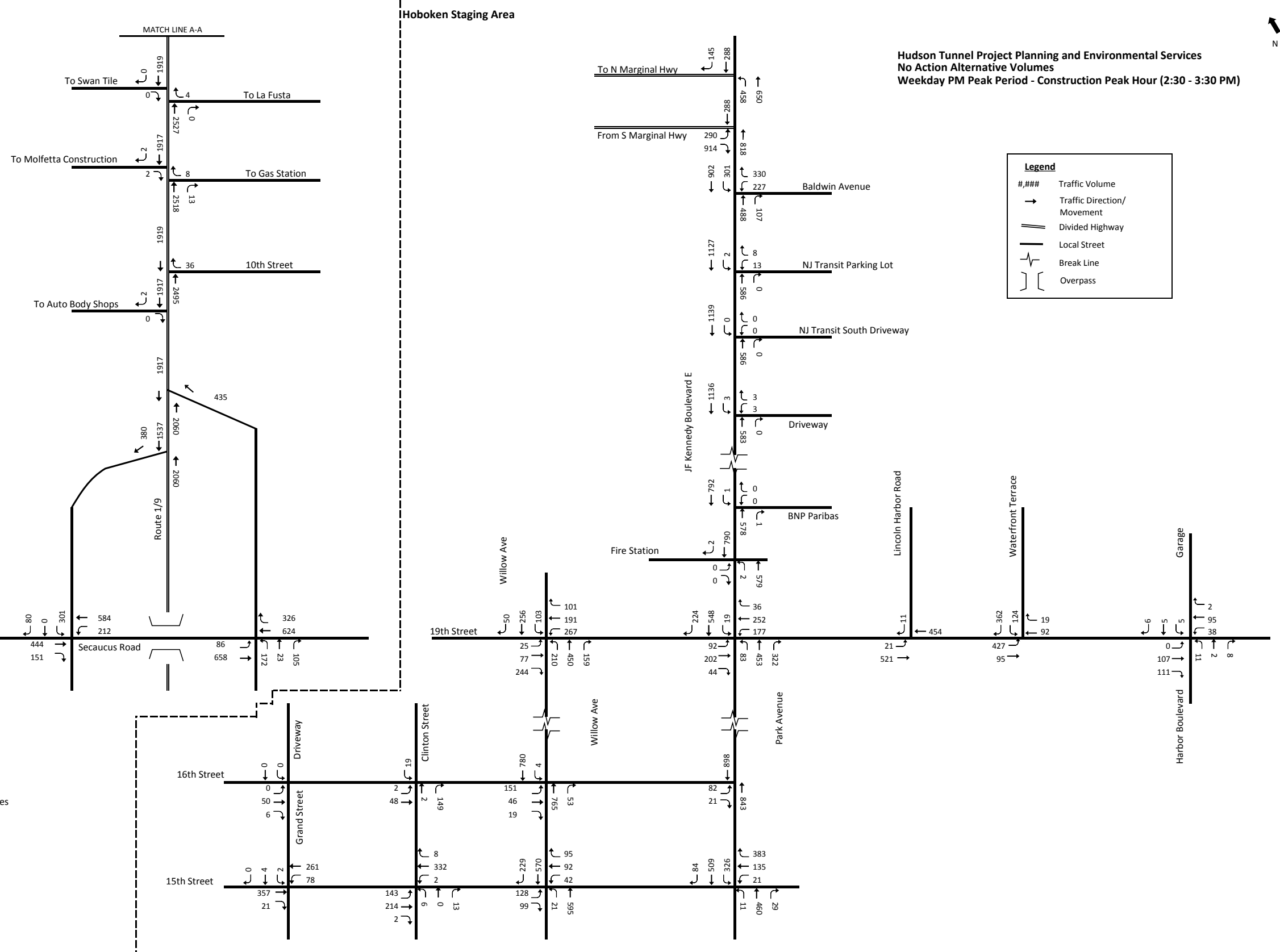
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- || Divided Highway
- Local Street
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Tonnelle Avenue Staging Area



Hoboken Staging Area



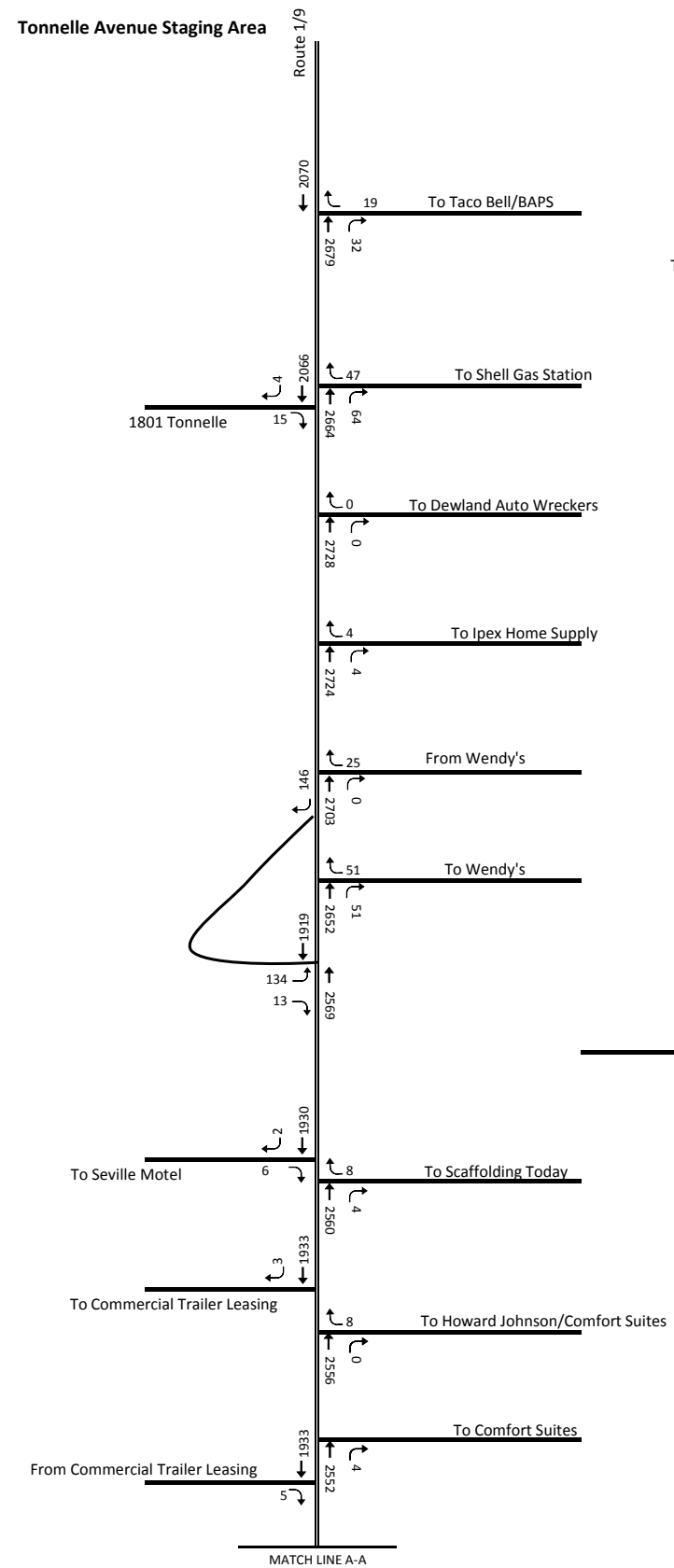
Hudson Tunnel Project Planning and Environmental Services
 No Action Alternative Volumes
 Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)

Legend

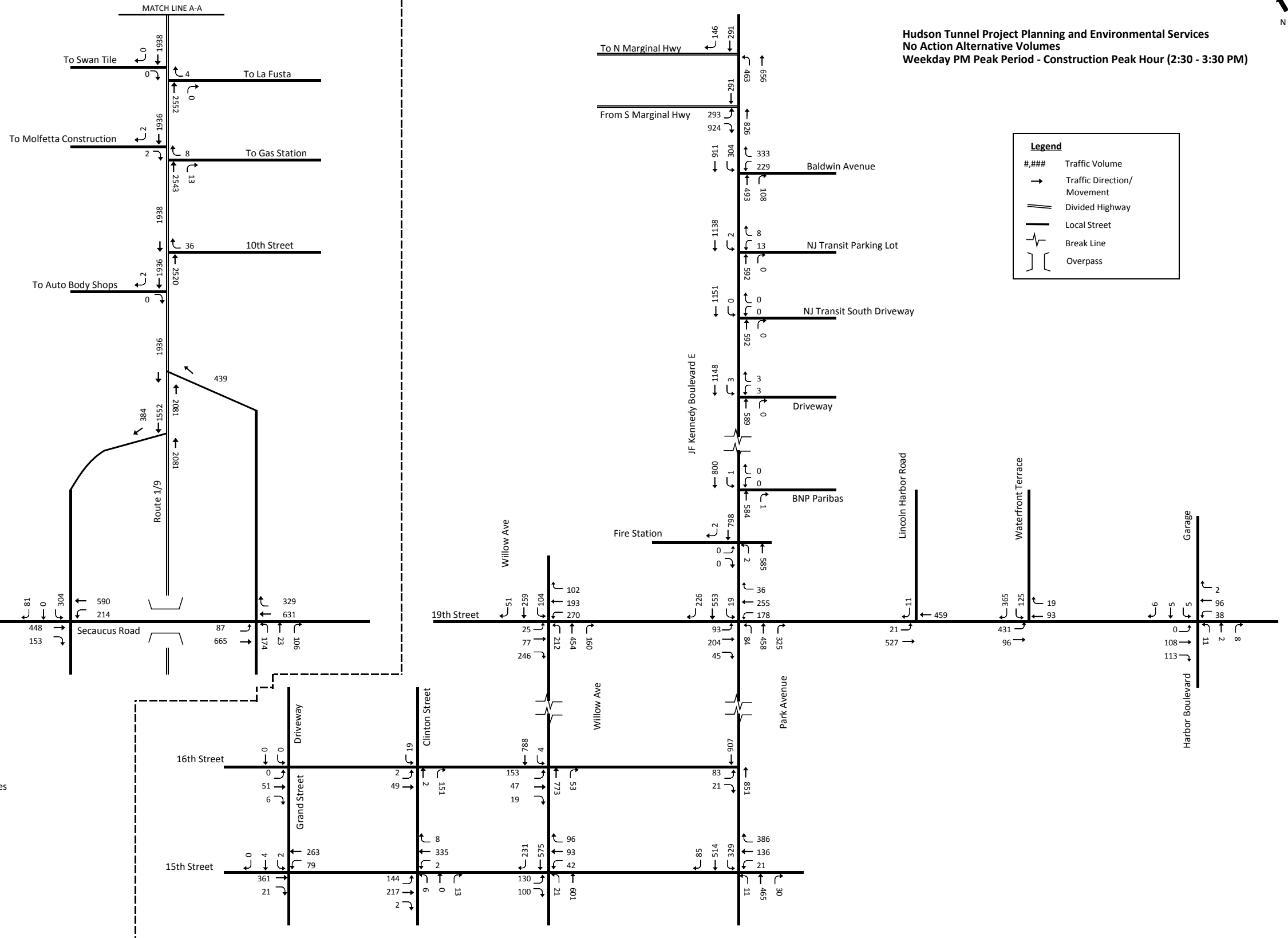
- ### Traffic Volume
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- || Divided Highway
- Local Street
- - - Break Line
- { } Overpass



Tonnelle Avenue Staging Area



Hoboken Staging Area



**Hudson Tunnel Project Planning and Environmental Services
No Action Alternative Volumes
Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)**

Legend

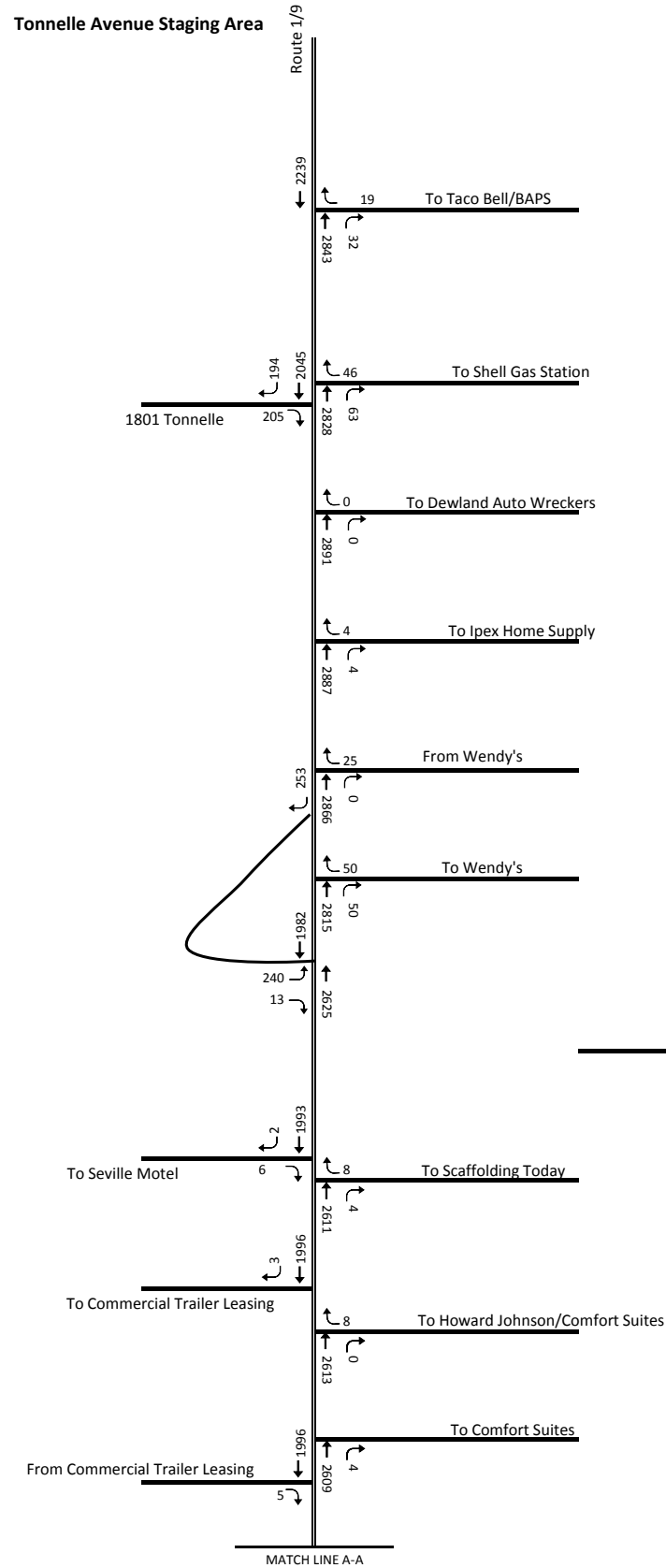
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- ▬ Divided Highway
- Local Street
- ⋈ Break Line
- { } Overpass

Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction

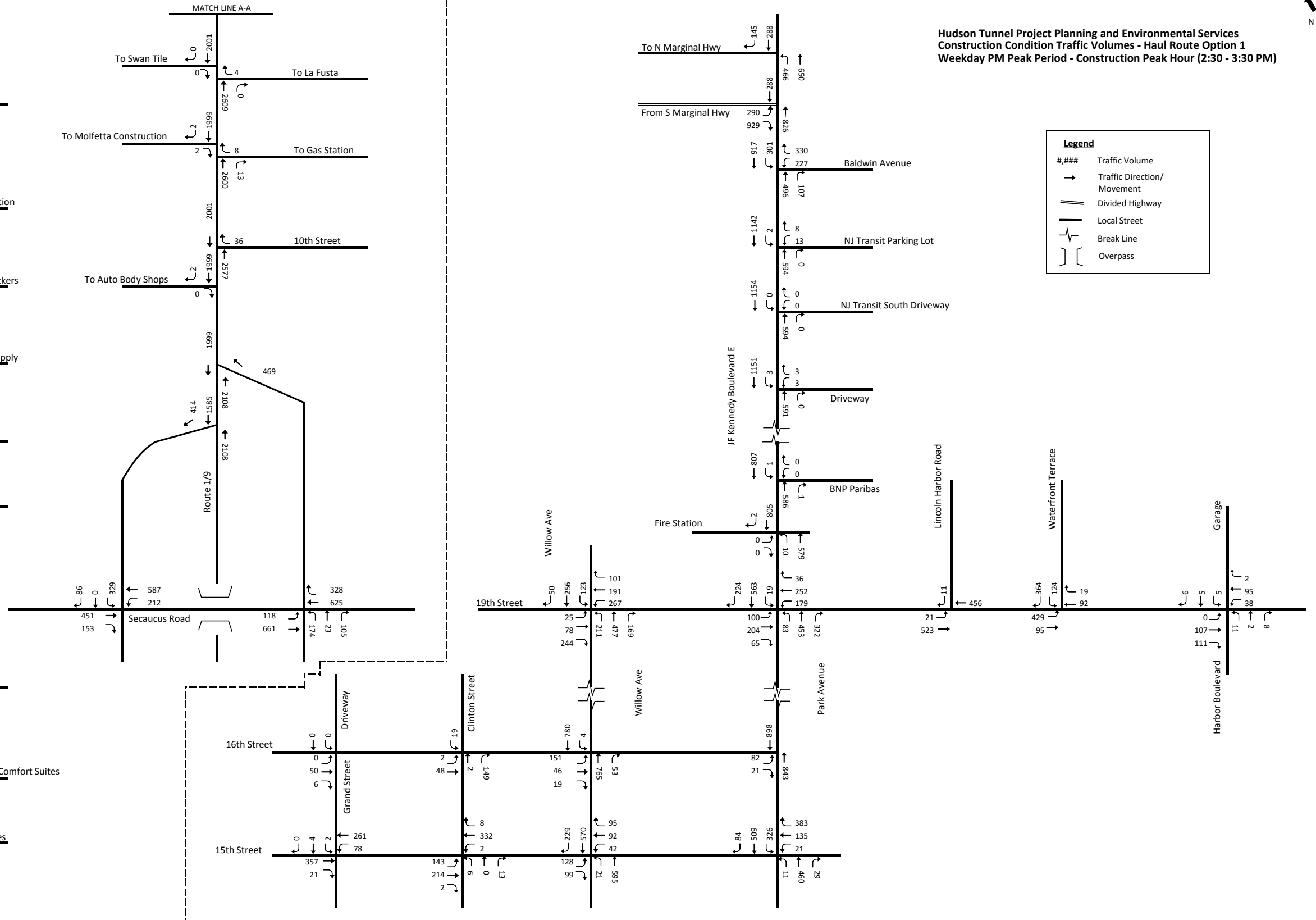
Weekday PM Construction Peak Hour—
Construction Conditions

2024 Tonnelle Avenue Staging Sites and
2025 Hoboken Staging Site—Haul Route
Option 1

Tonnelle Avenue Staging Area



Hoboken Staging Area

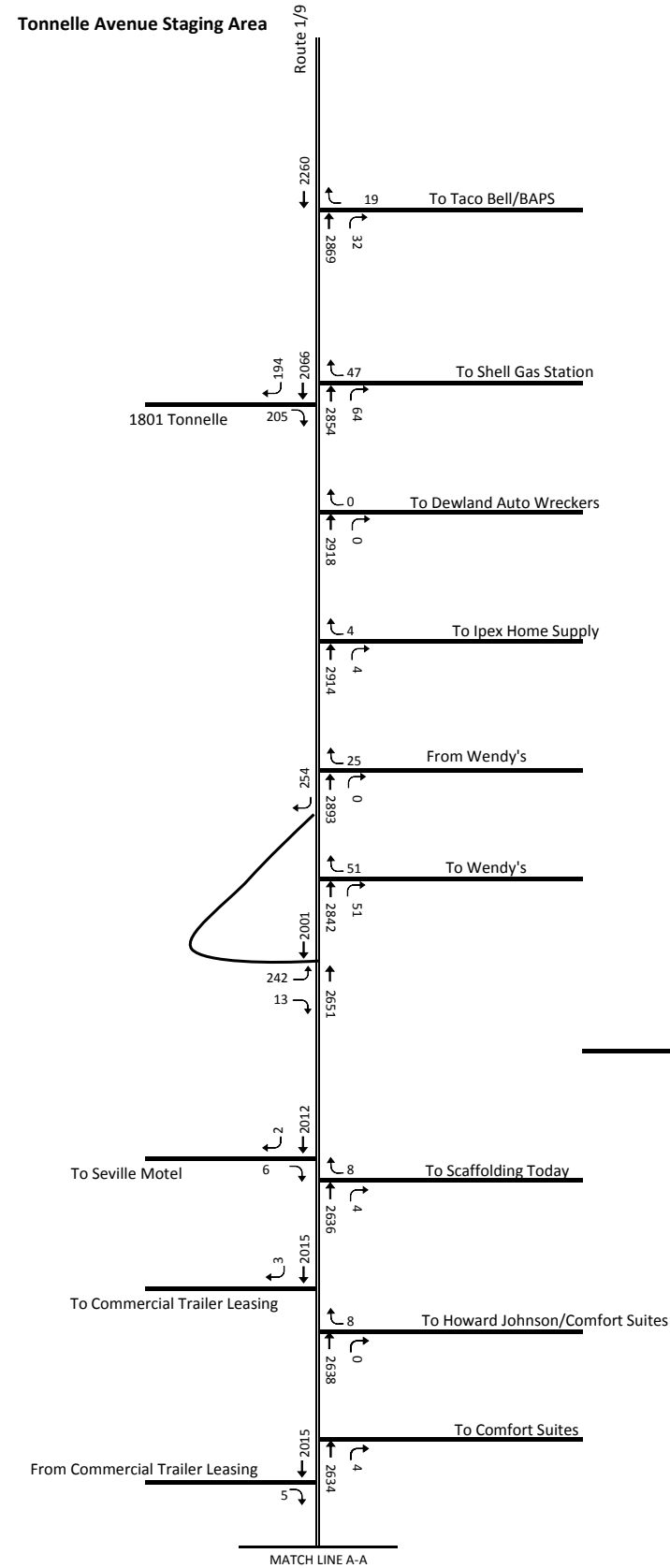


Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes - Haul Route Option 1
Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)

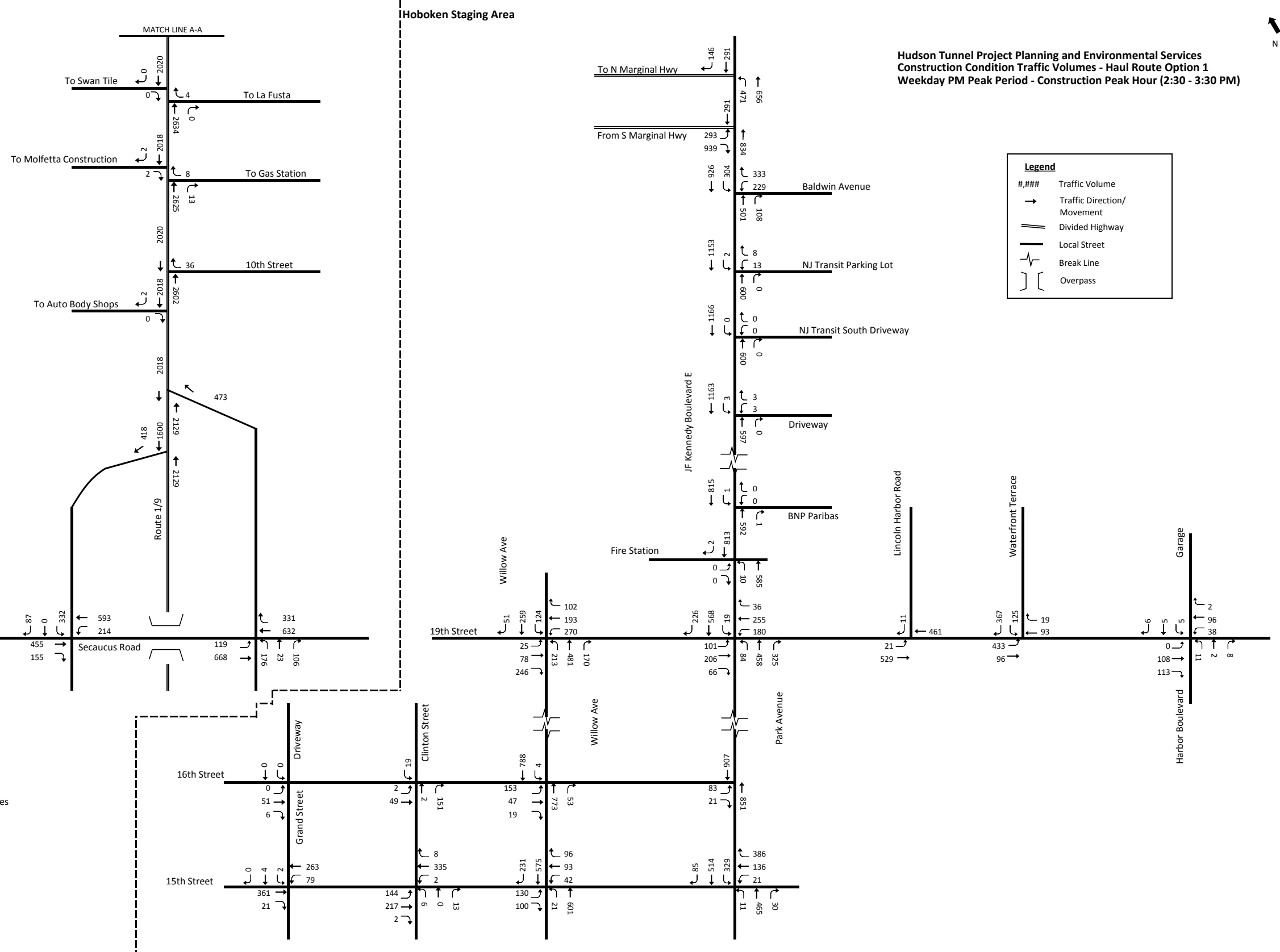
Legend

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- Local Street
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Tonnelle Avenue Staging Area



Hoboken Staging Area

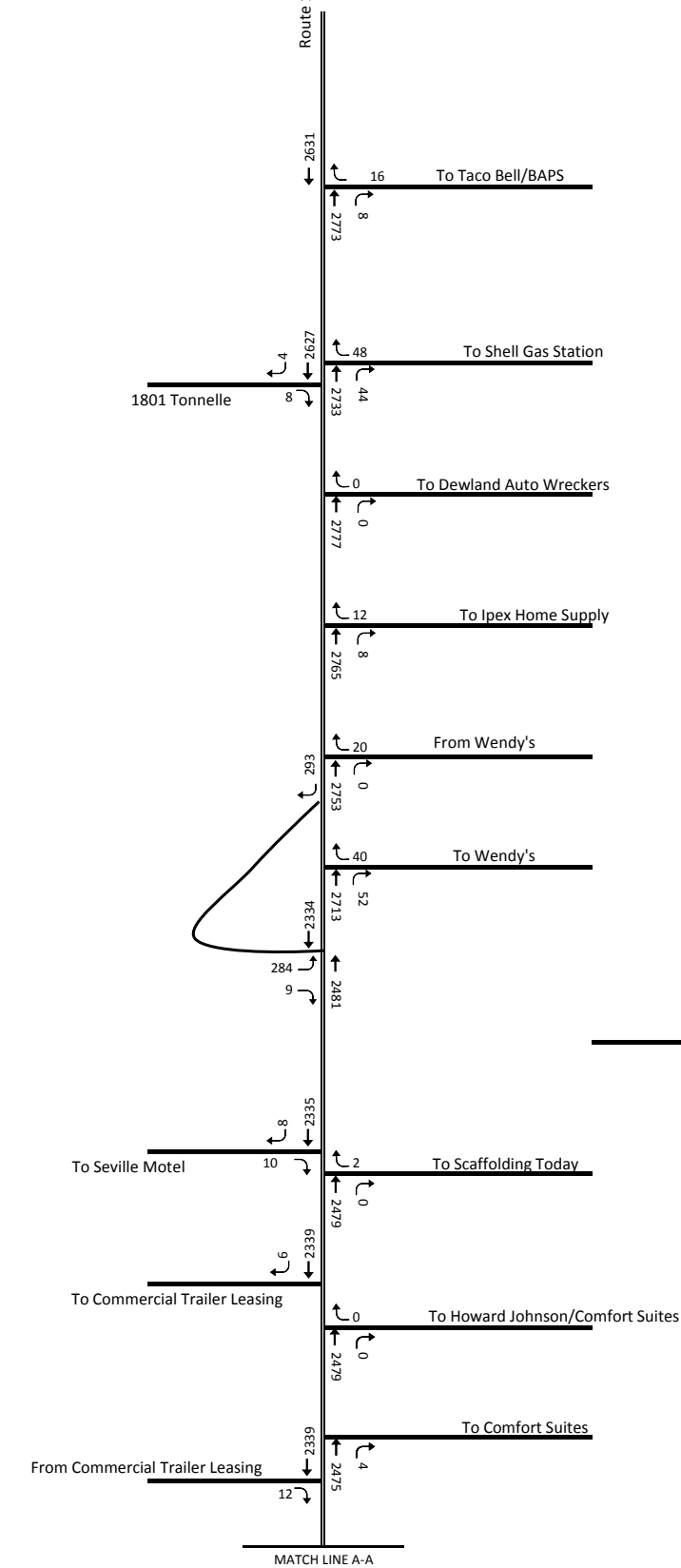


Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction

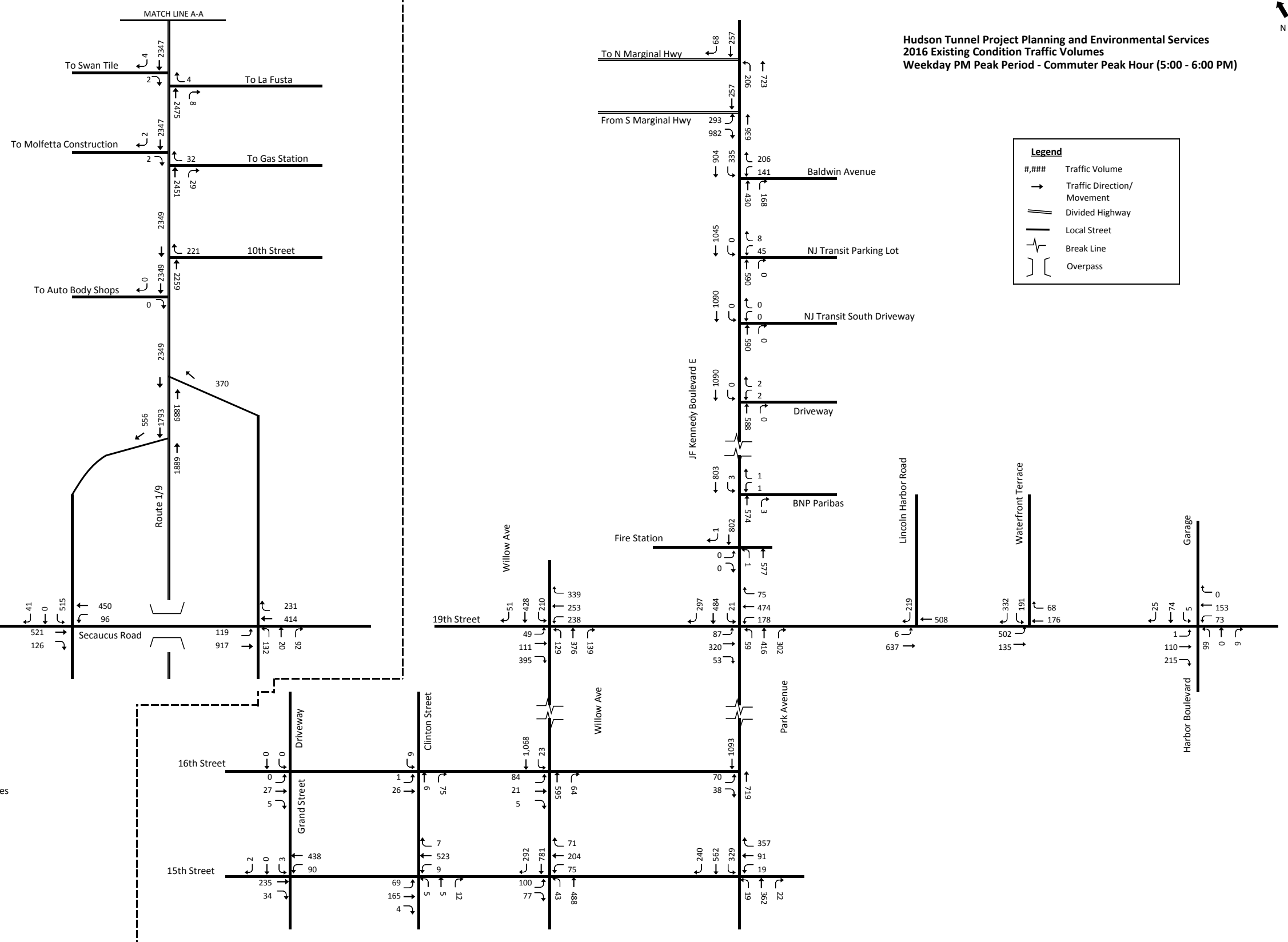
Weekday PM Commuter Peak Hour—
Background Conditions
(2016 Existing and No Action)

2024 Tonnelle Avenue Staging Sites and
2025 Hoboken Staging Site

Tonnelle Avenue Staging Area



Hoboken Staging Area



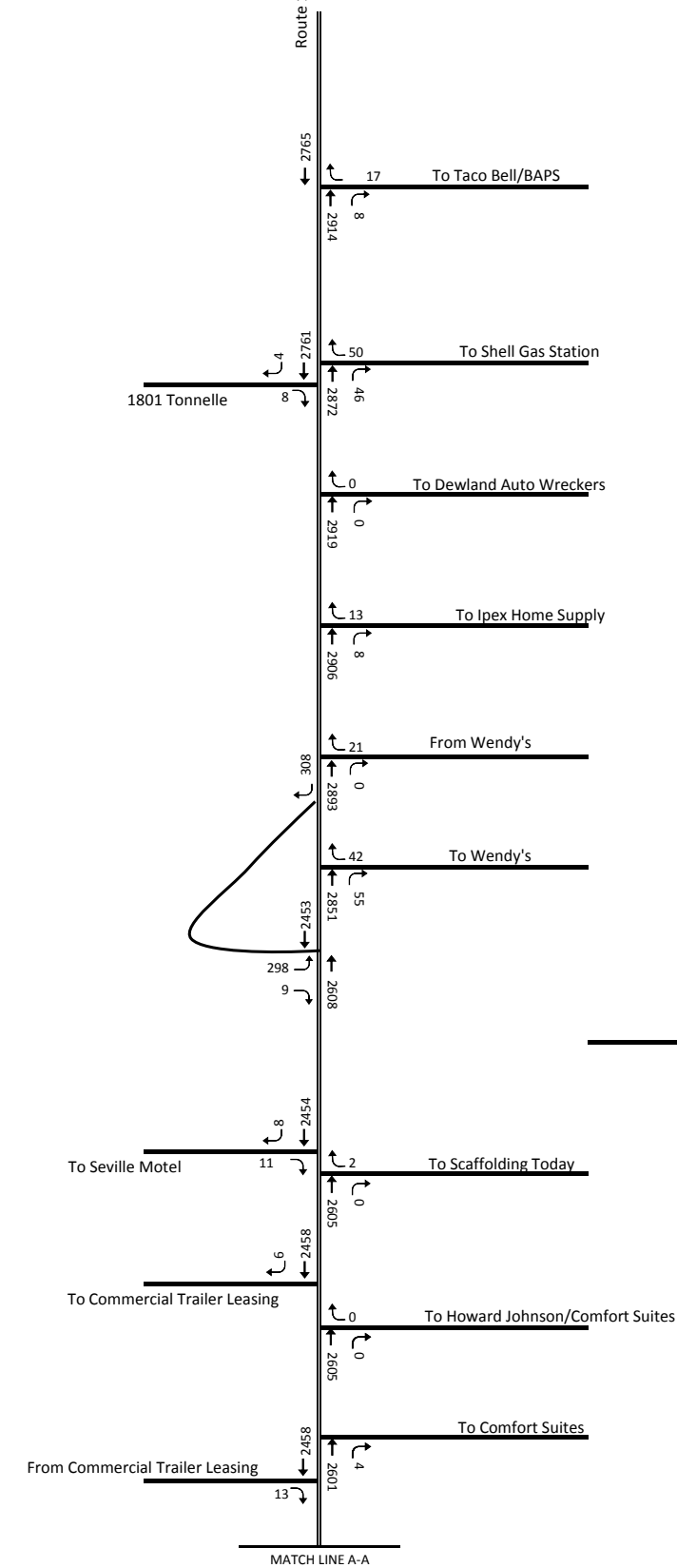
Hudson Tunnel Project Planning and Environmental Services
 2016 Existing Condition Traffic Volumes
 Weekday PM Peak Period - Commuter Peak Hour (5:00 - 6:00 PM)

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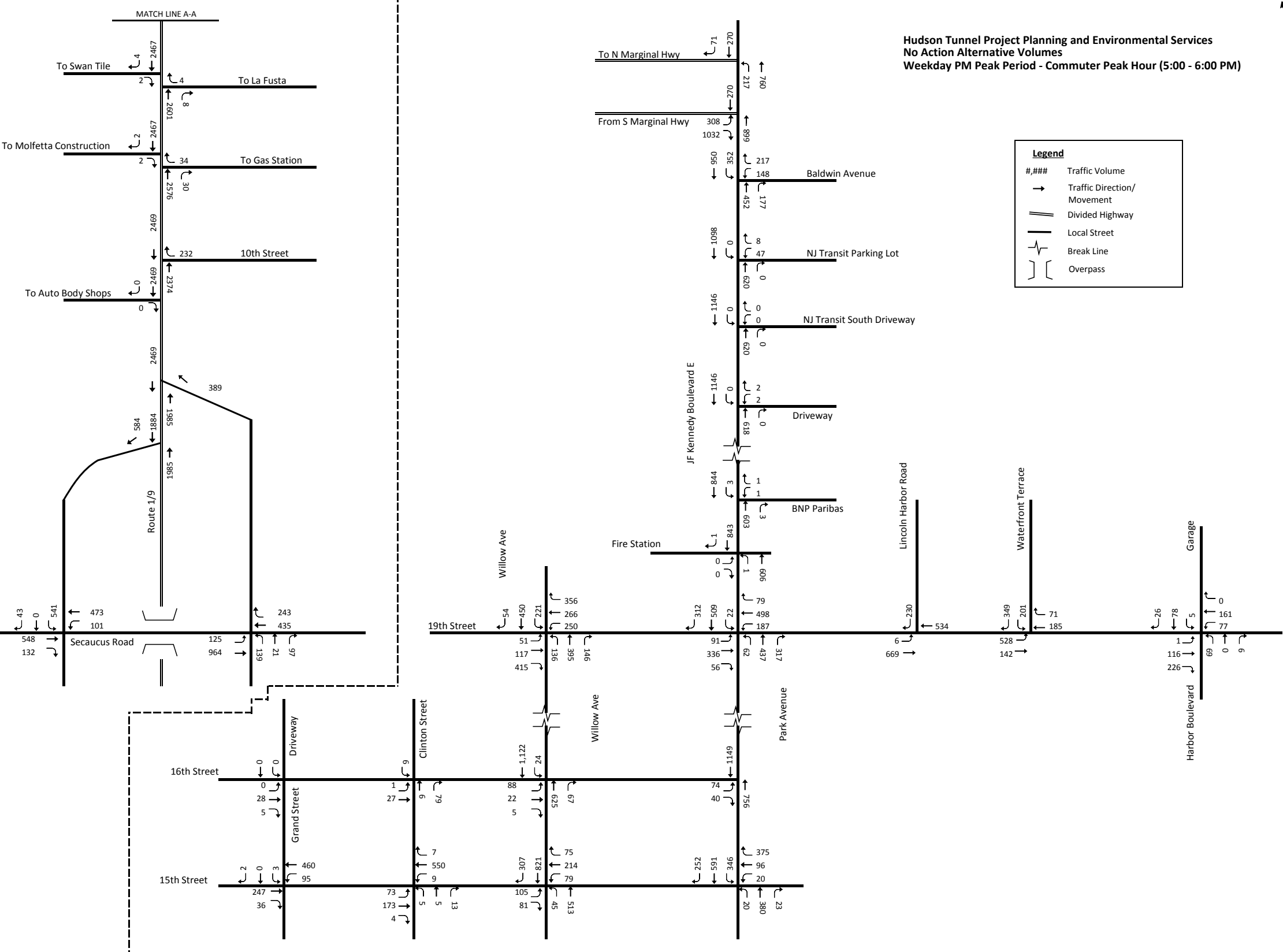
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Tonnelle Avenue Staging Area



Hoboken Staging Area

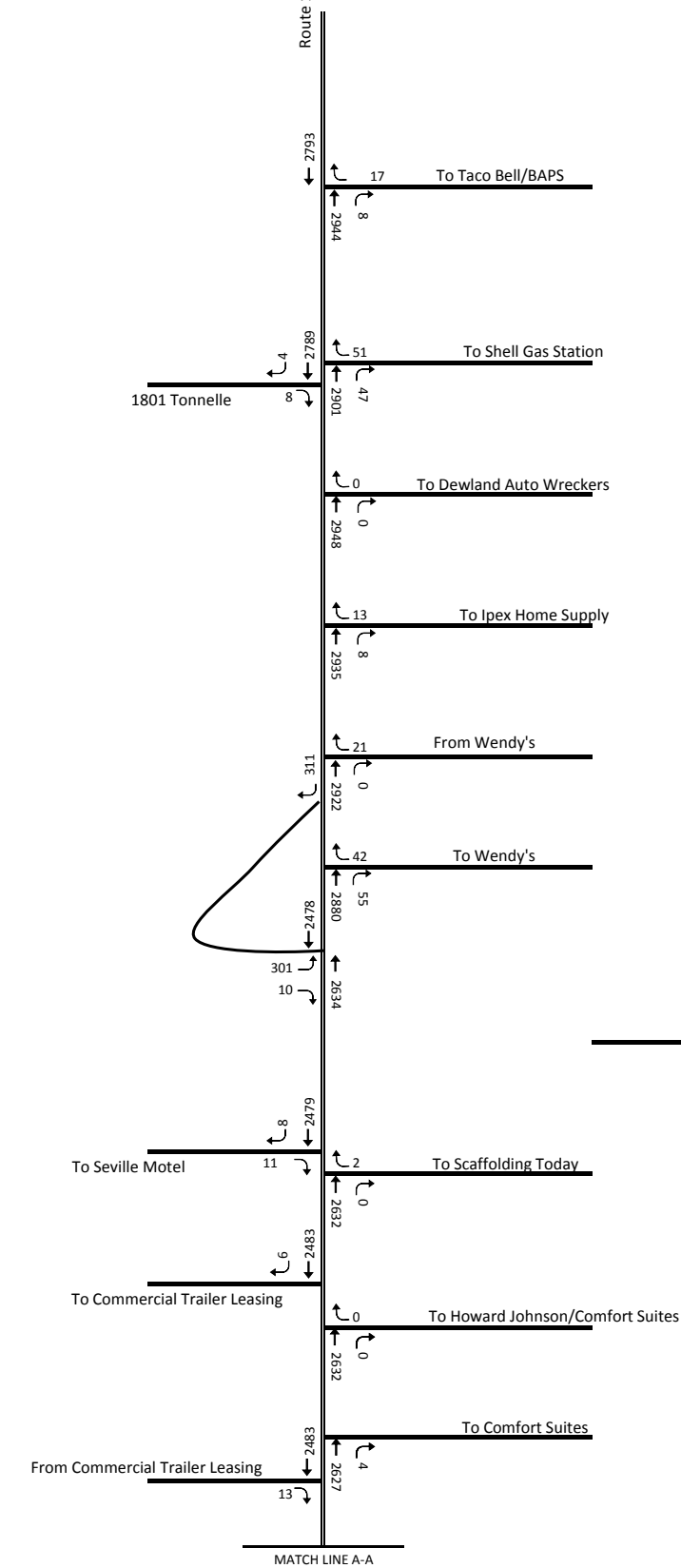


Hudson Tunnel Project Planning and Environmental Services
 No Action Alternative Volumes
 Weekday PM Peak Period - Commuter Peak Hour (5:00 - 6:00 PM)

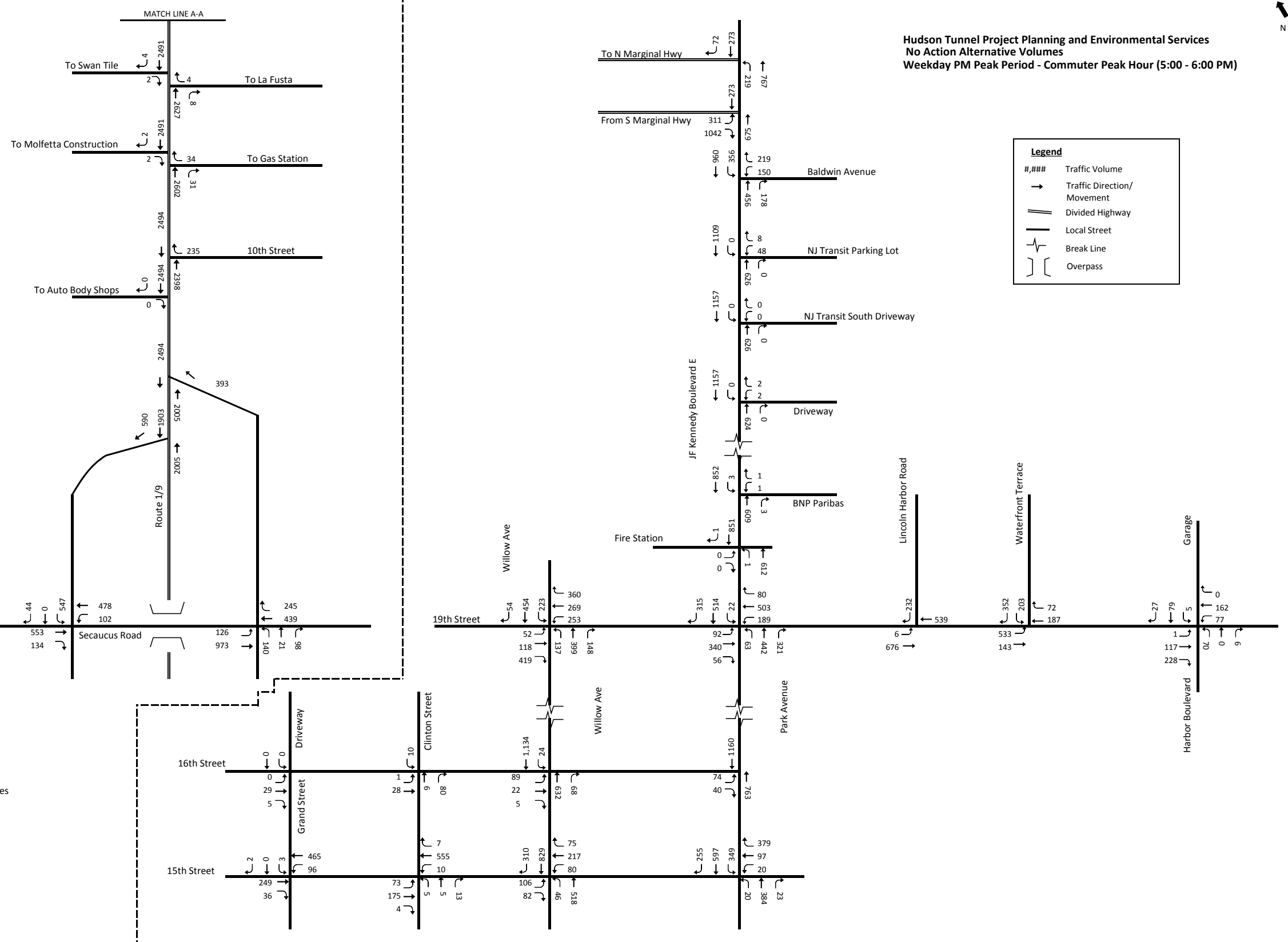
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- ### Traffic Volume
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Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 No Action Alternative Volumes
 Weekday PM Peak Period - Commuter Peak Hour (5:00 - 6:00 PM)

Legend

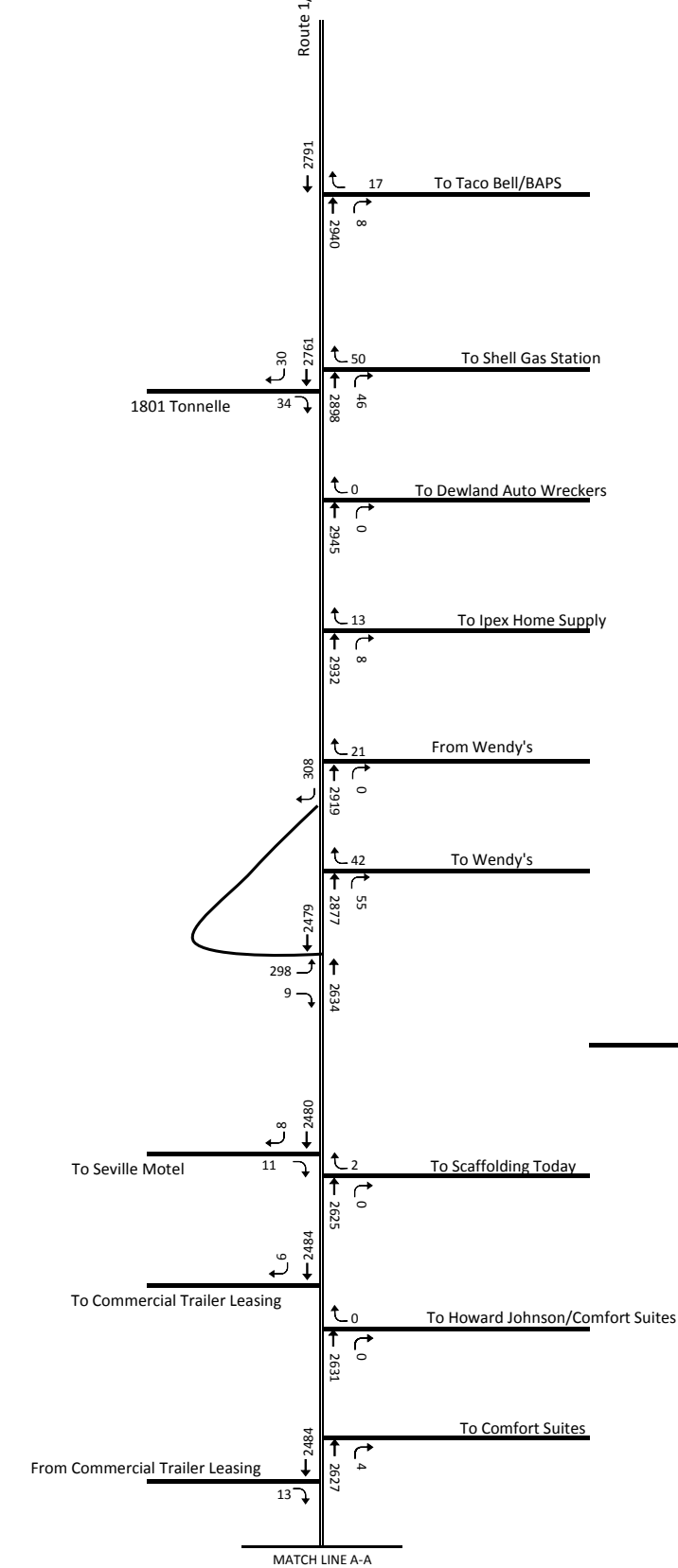
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Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction

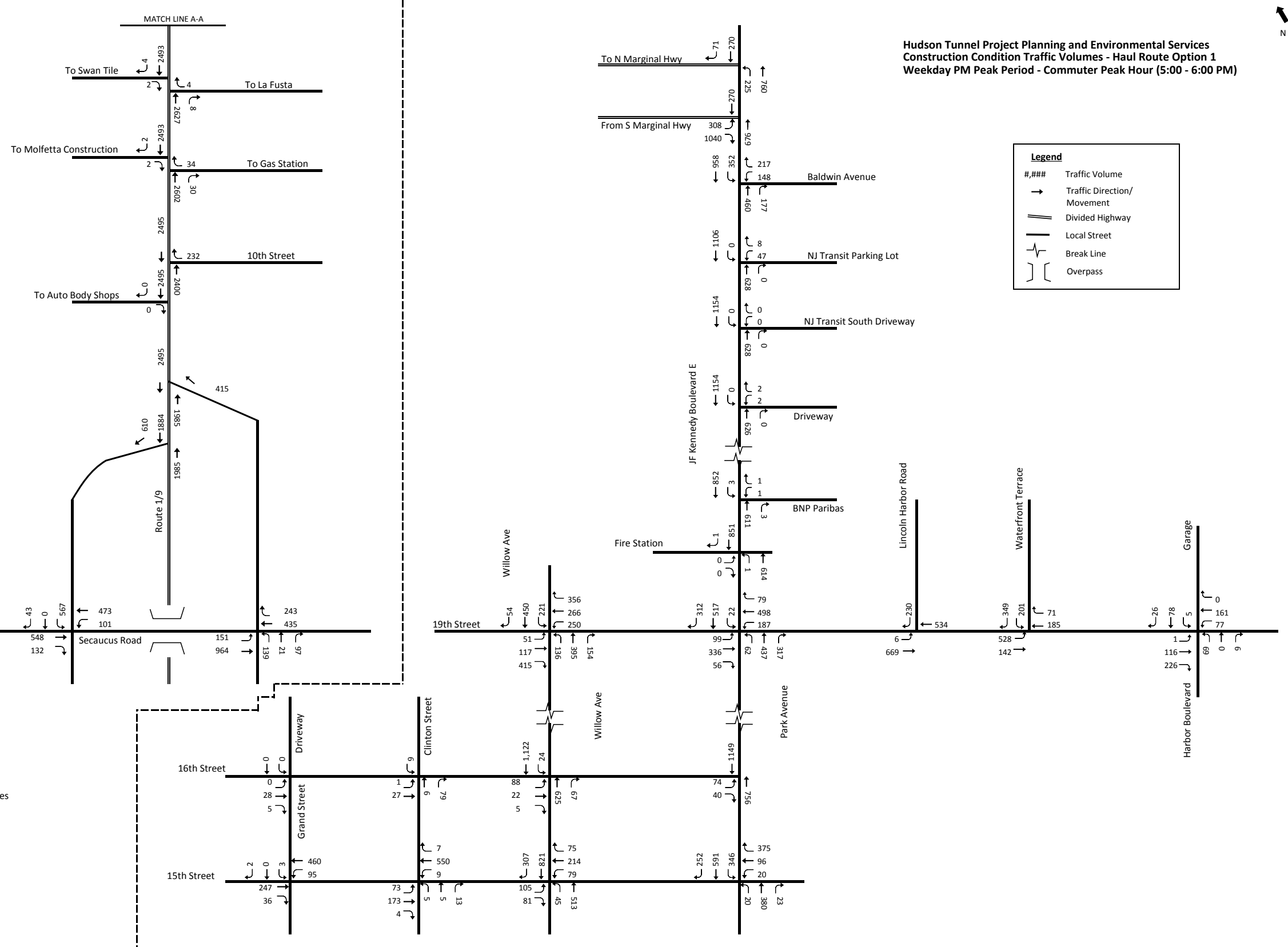
Weekday PM Commuter Peak Hour—
Construction Conditions

2024 Tonnelle Avenue Staging Sites and
2025 Hoboken Staging Site—Haul Route
Option 1

Tonnelle Avenue Staging Area



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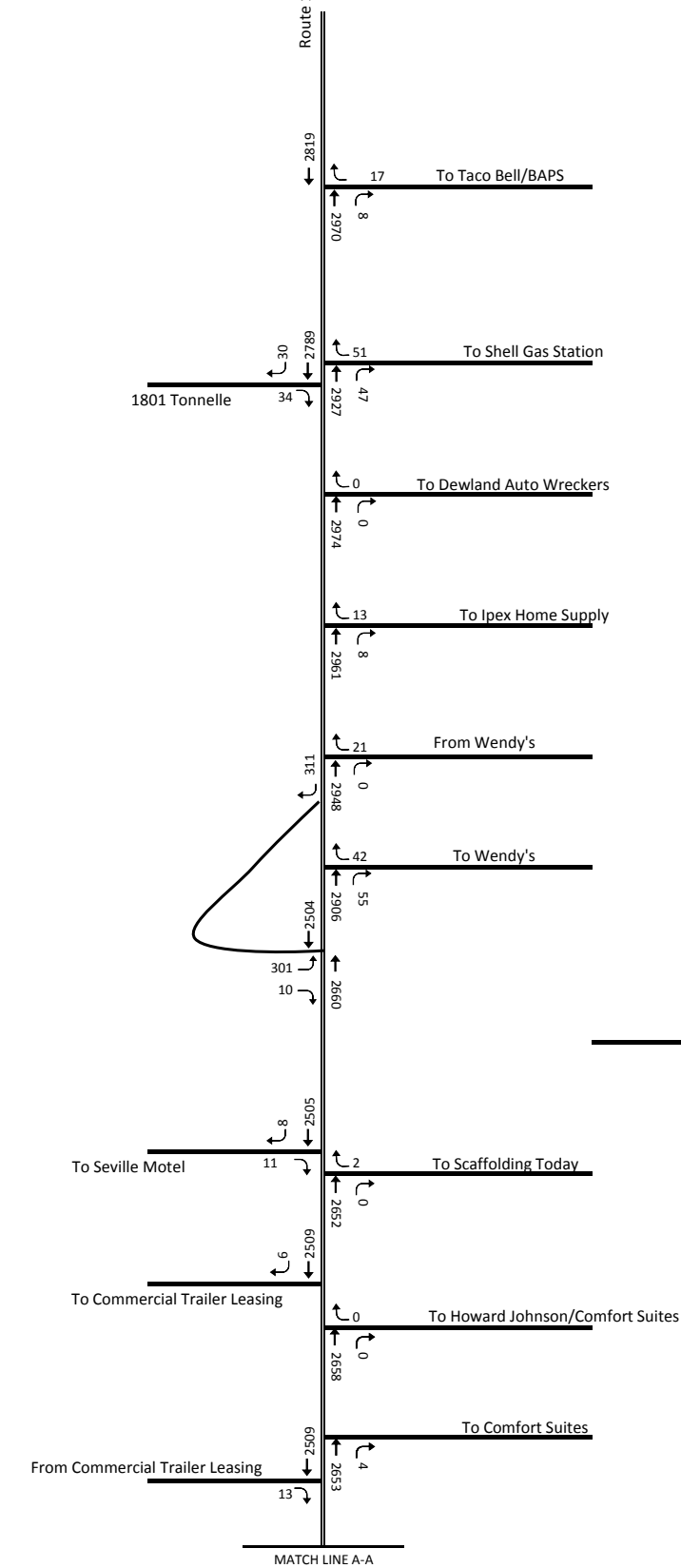


**Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes - Haul Route Option 1
Weekday PM Peak Period - Commuter Peak Hour (5:00 - 6:00 PM)**

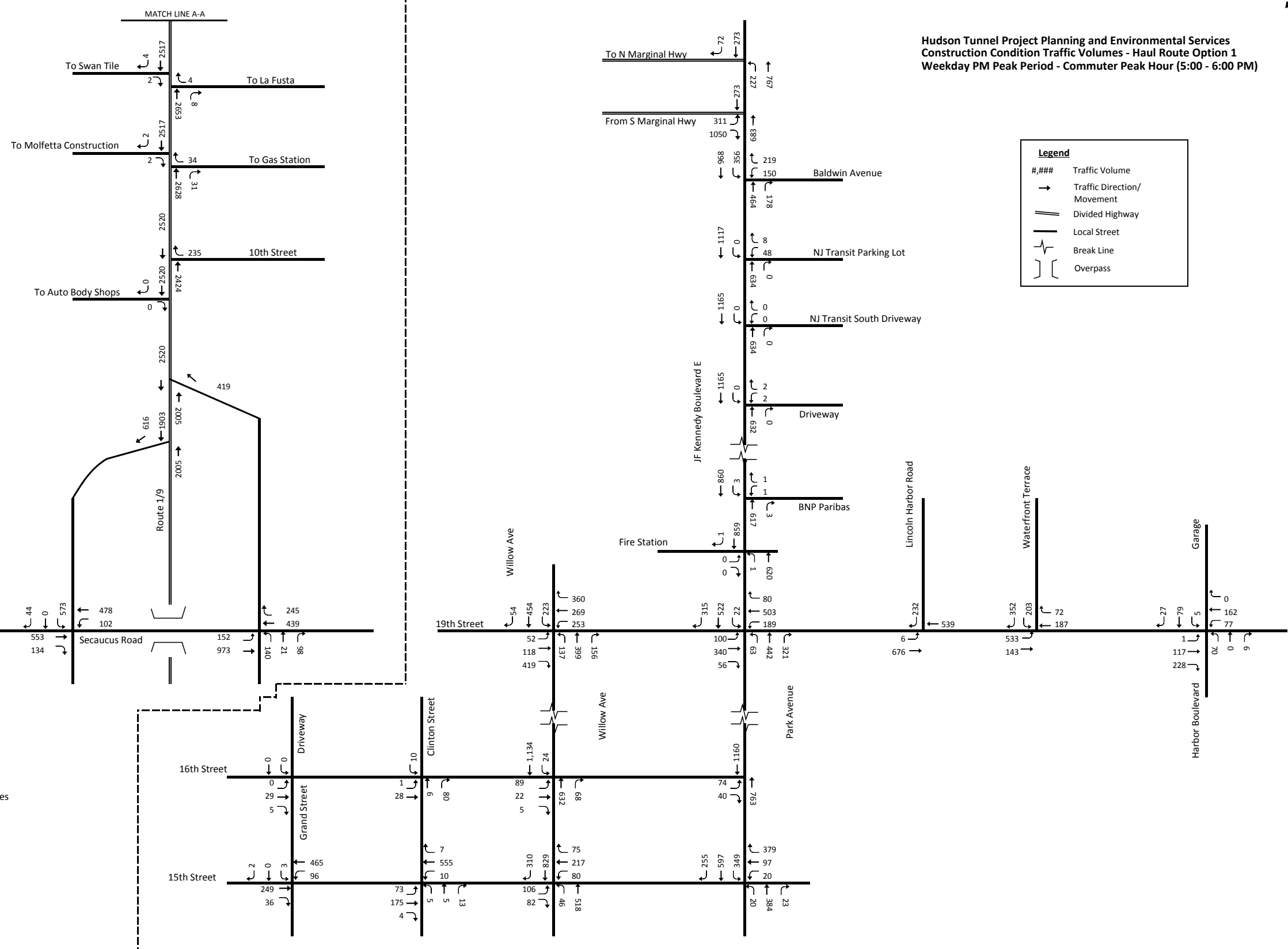
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Construction Condition Traffic Volumes - Haul Route Option 1
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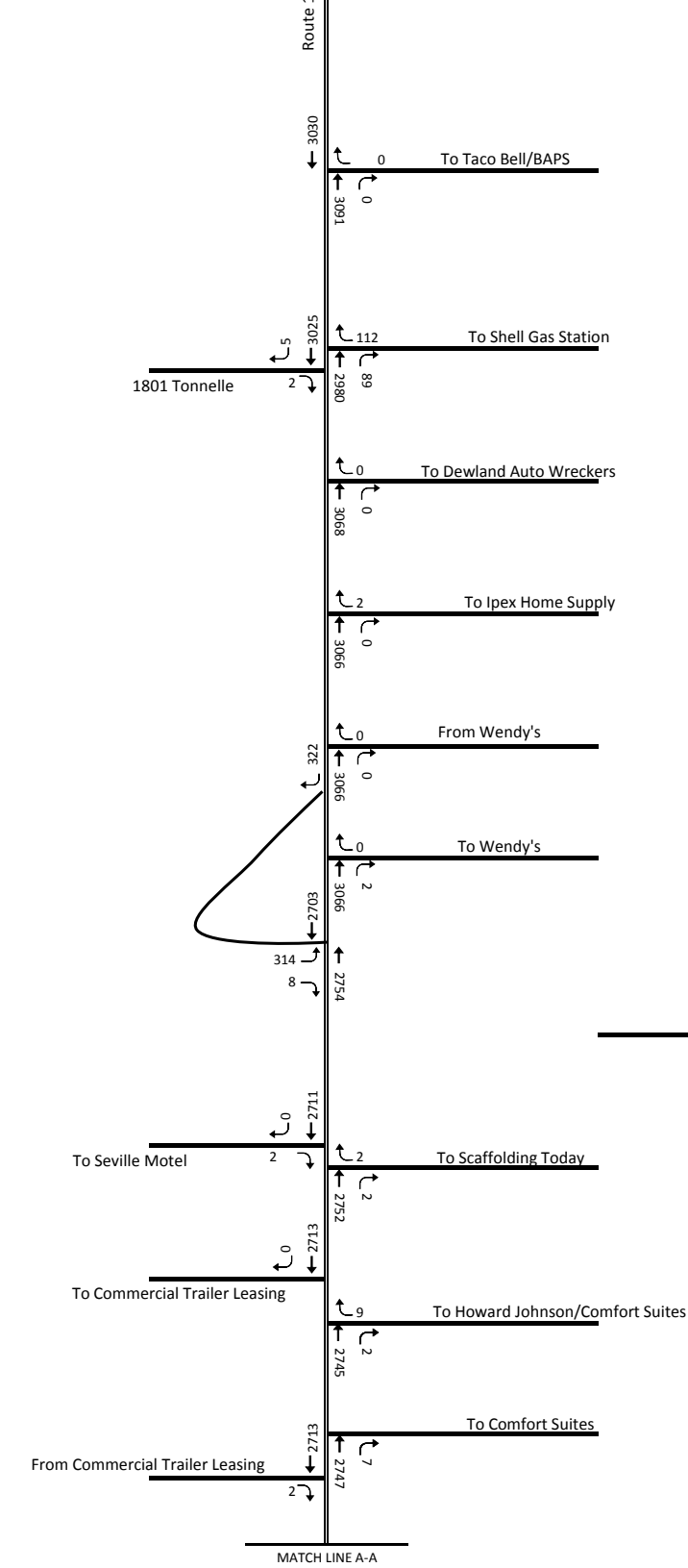
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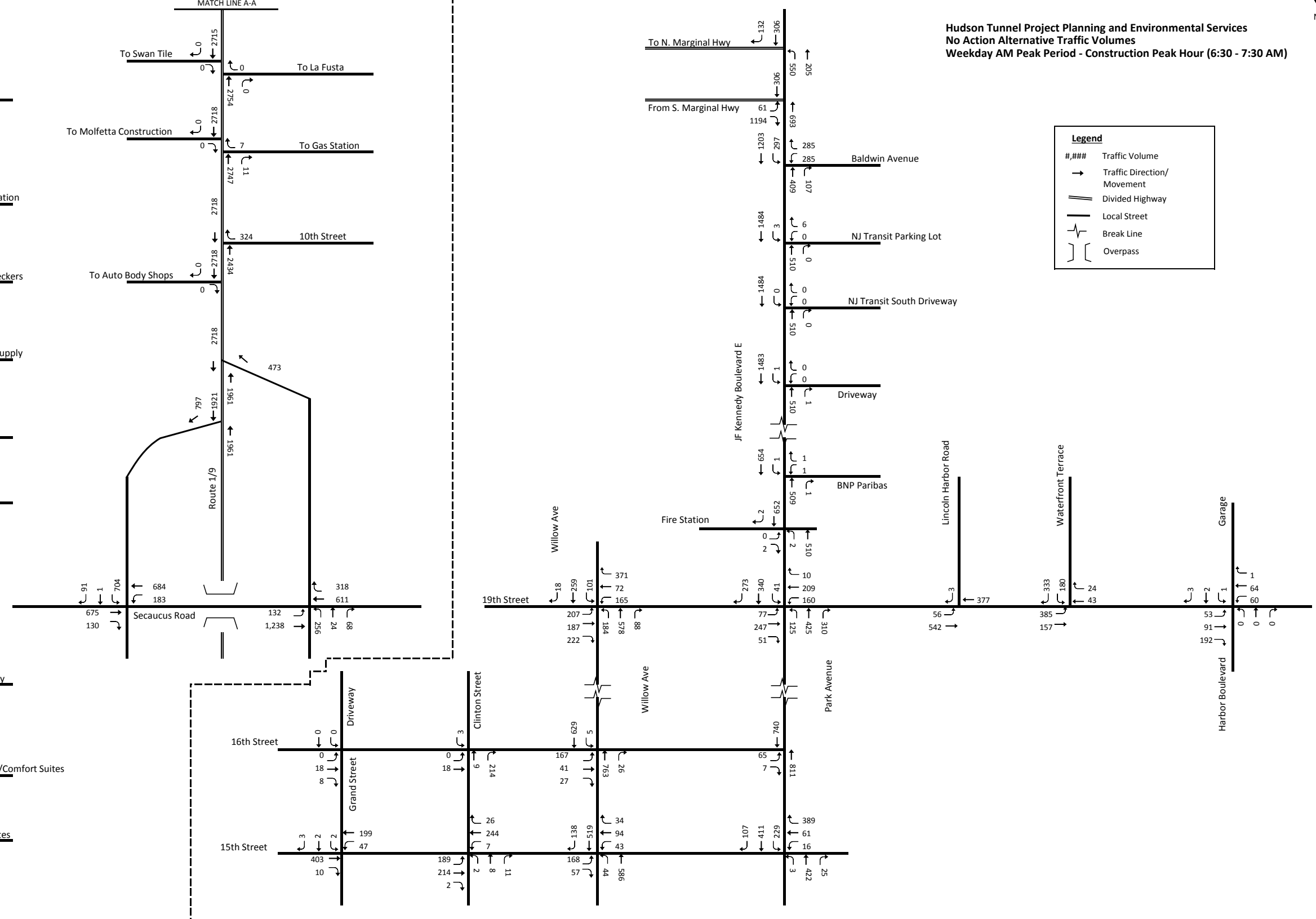
Traffic Flow Maps:
New Jersey Study Areas:
North River Tunnel Rehabilitation
Tonnelle Avenue Staging Sites

Weekday AM Construction Peak Hour—
Background Conditions
(2032 No Action)

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 No Action Alternative Traffic Volumes
 Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)

Legend

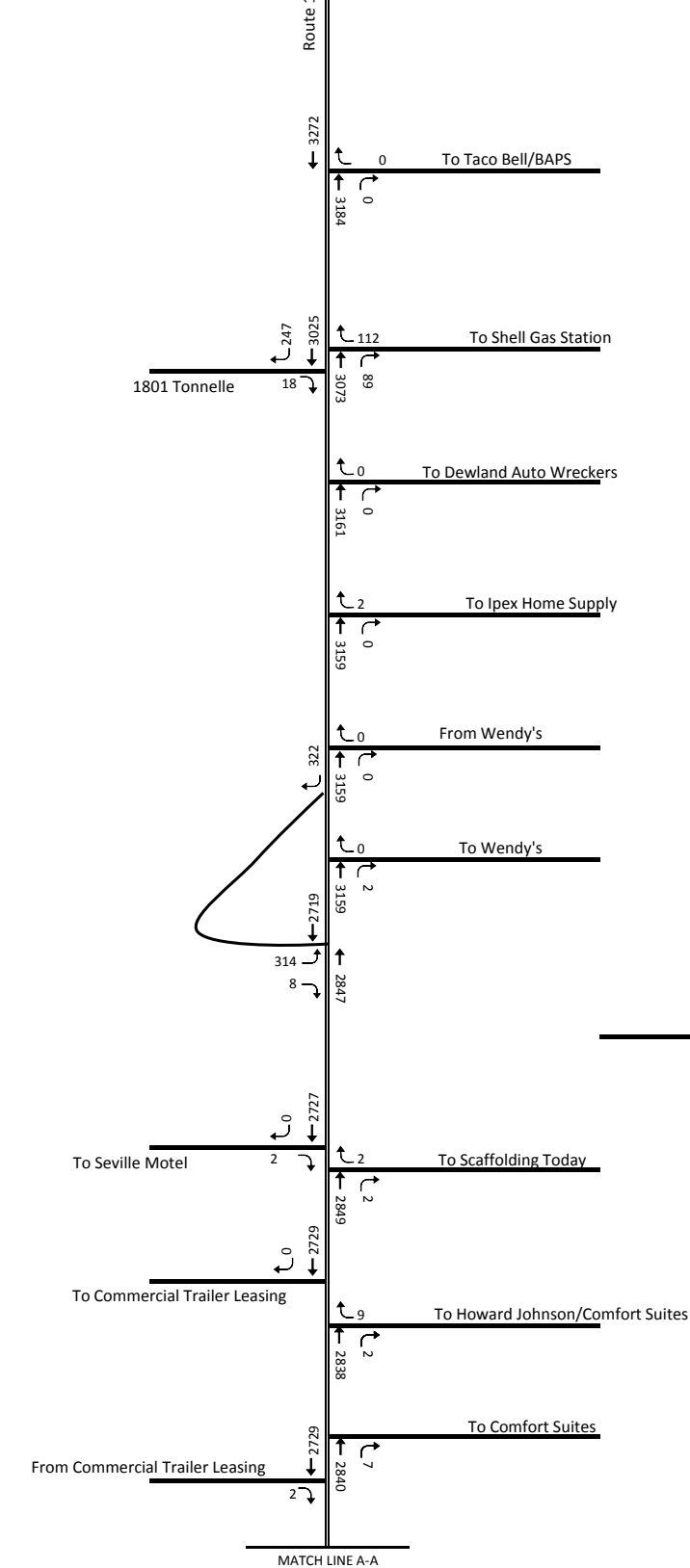
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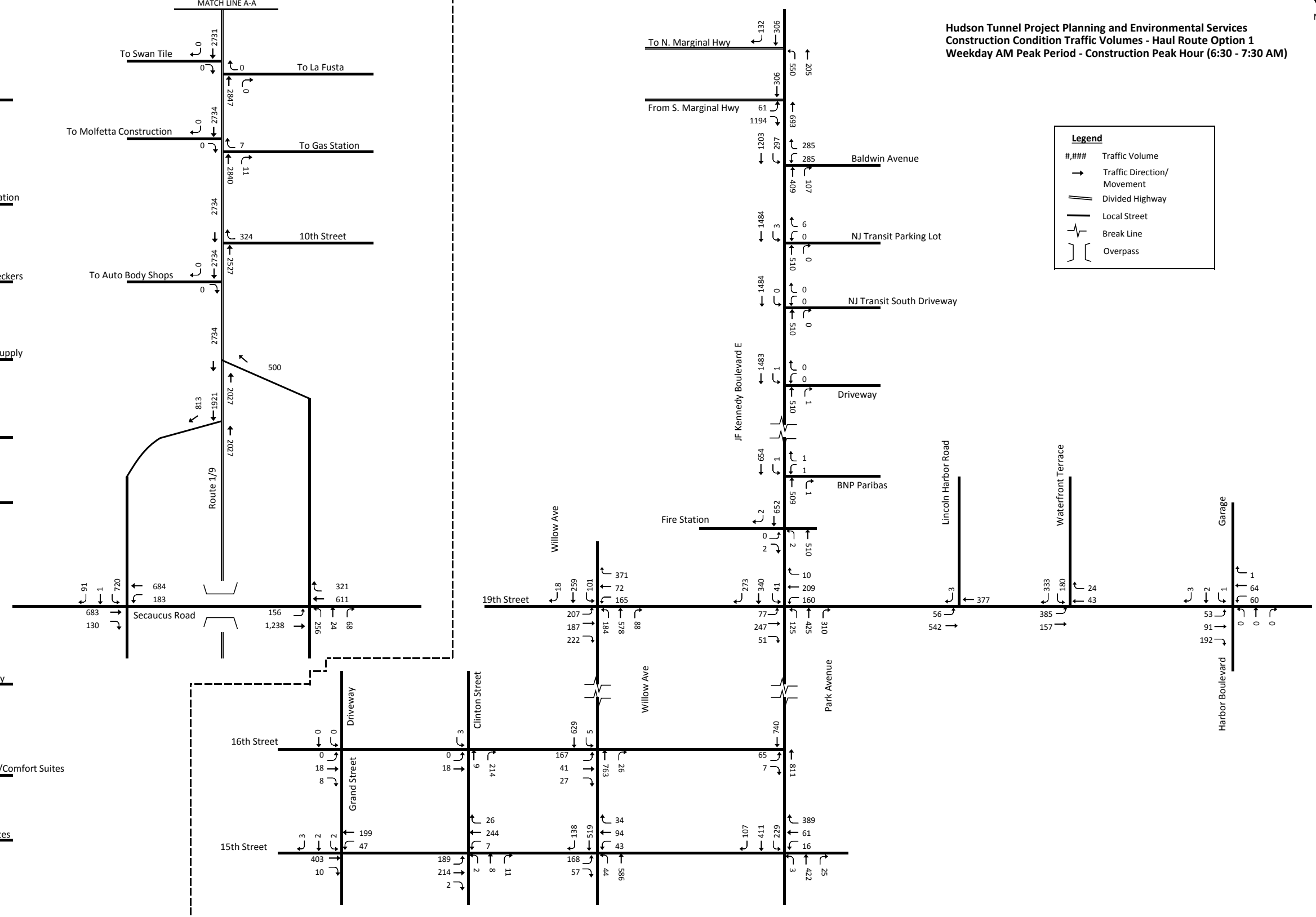
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Tonelle Avenue Staging Sites

Weekday AM Construction Peak Hour—
2032 Construction Conditions

Tonnelle Avenue Staging Area



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**Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes - Haul Route Option 1
Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)**

Legend

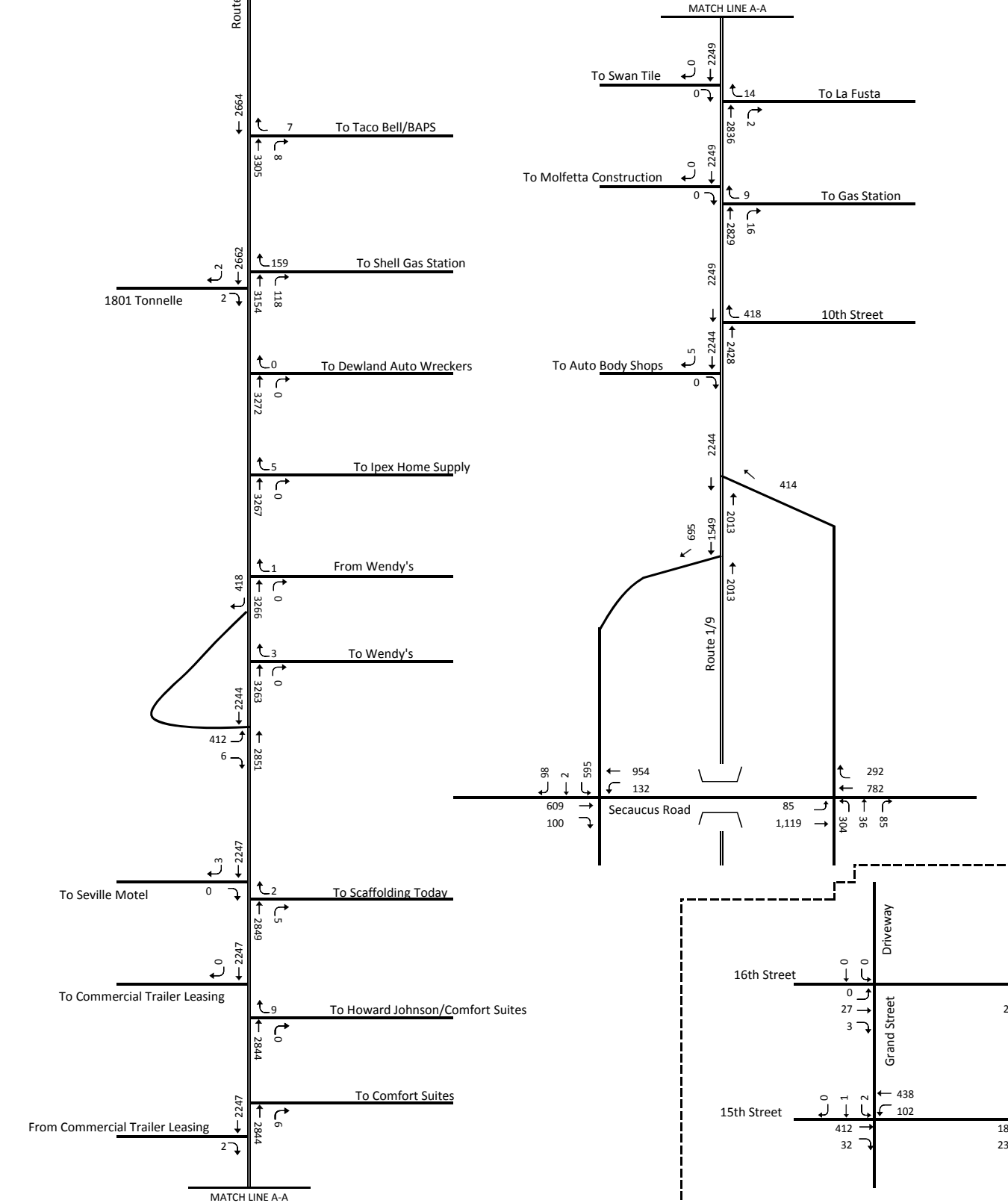
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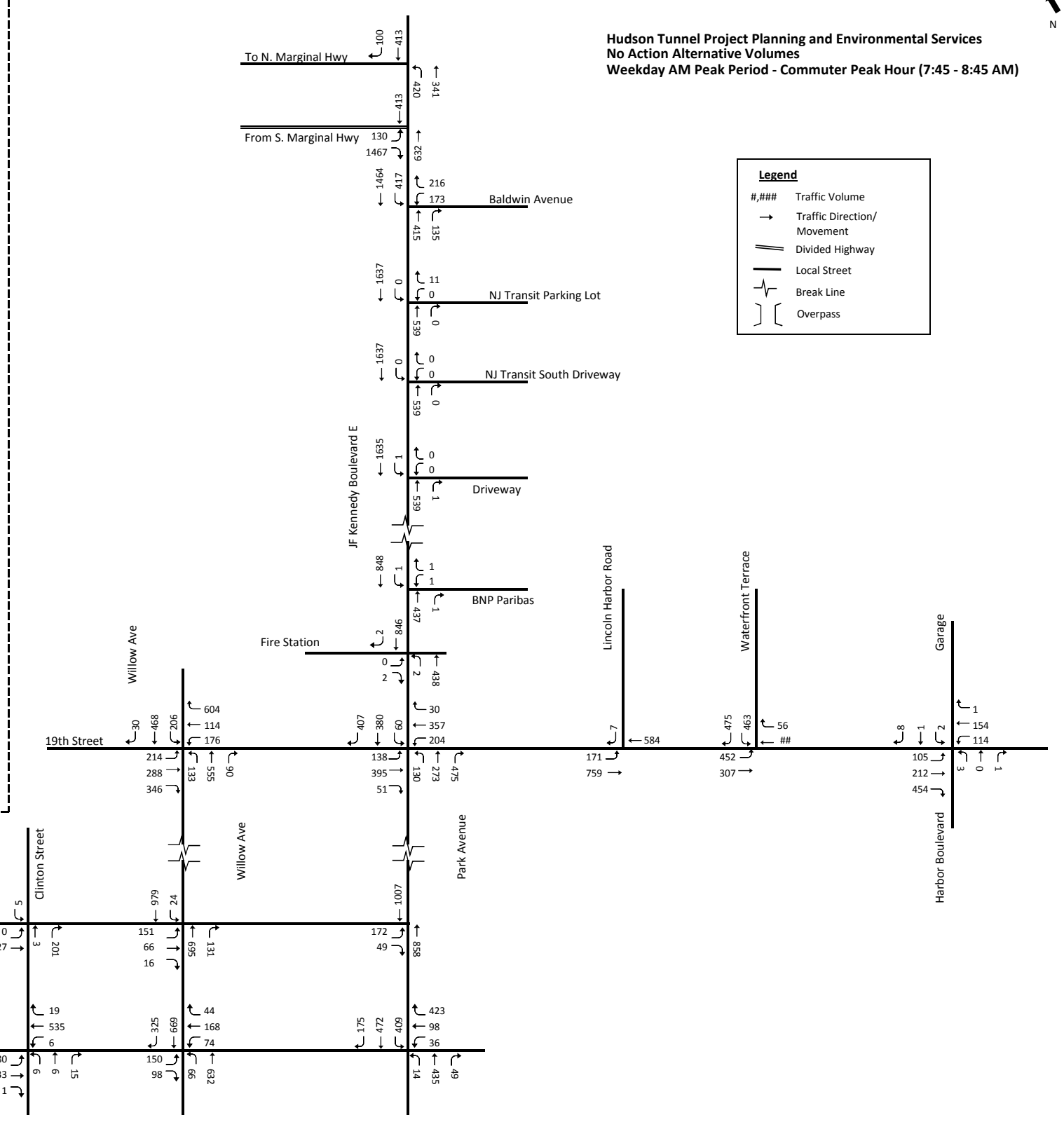
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New Jersey Study Areas:
North River Tunnel Rehabilitation
Tonnelle Avenue Staging Sites

Weekday AM Commuter Peak Hour—
Background Conditions
(2032 No Action)

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
No Action Alternative Volumes
Weekday AM Peak Period - Commuter Peak Hour (7:45 - 8:45 AM)

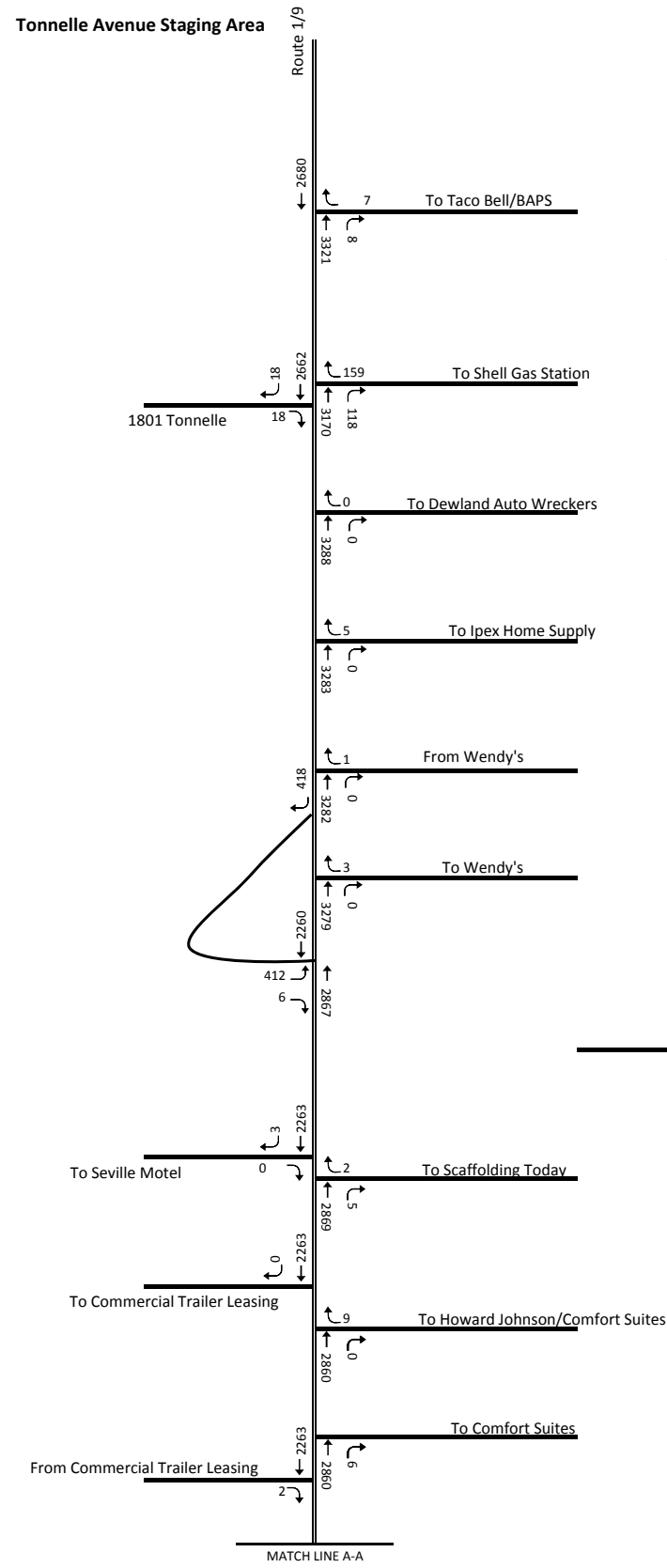
Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- ⋈ Break Line
- ⌋ Overpass

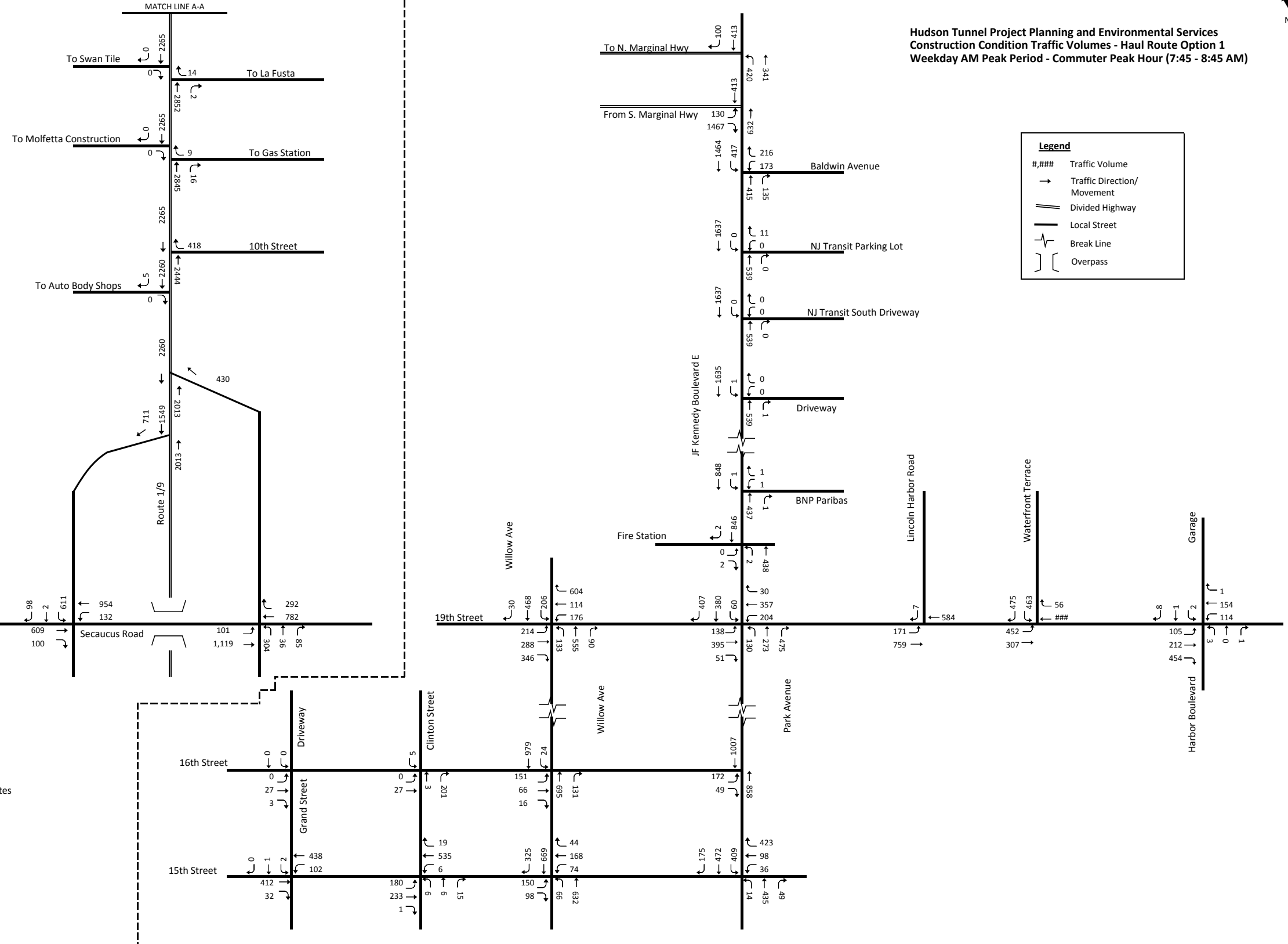
Traffic Flow Maps:
New Jersey Study Areas:
North River Tunnel Rehabilitation
Tonelle Avenue Staging Sites

Weekday AM Commuter Peak Hour—
2032 Construction Conditions

Tonnelle Avenue Staging Area



Hoboken Staging Area



**Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes - Haul Route Option 1
Weekday AM Peak Period - Commuter Peak Hour (7:45 - 8:45 AM)**

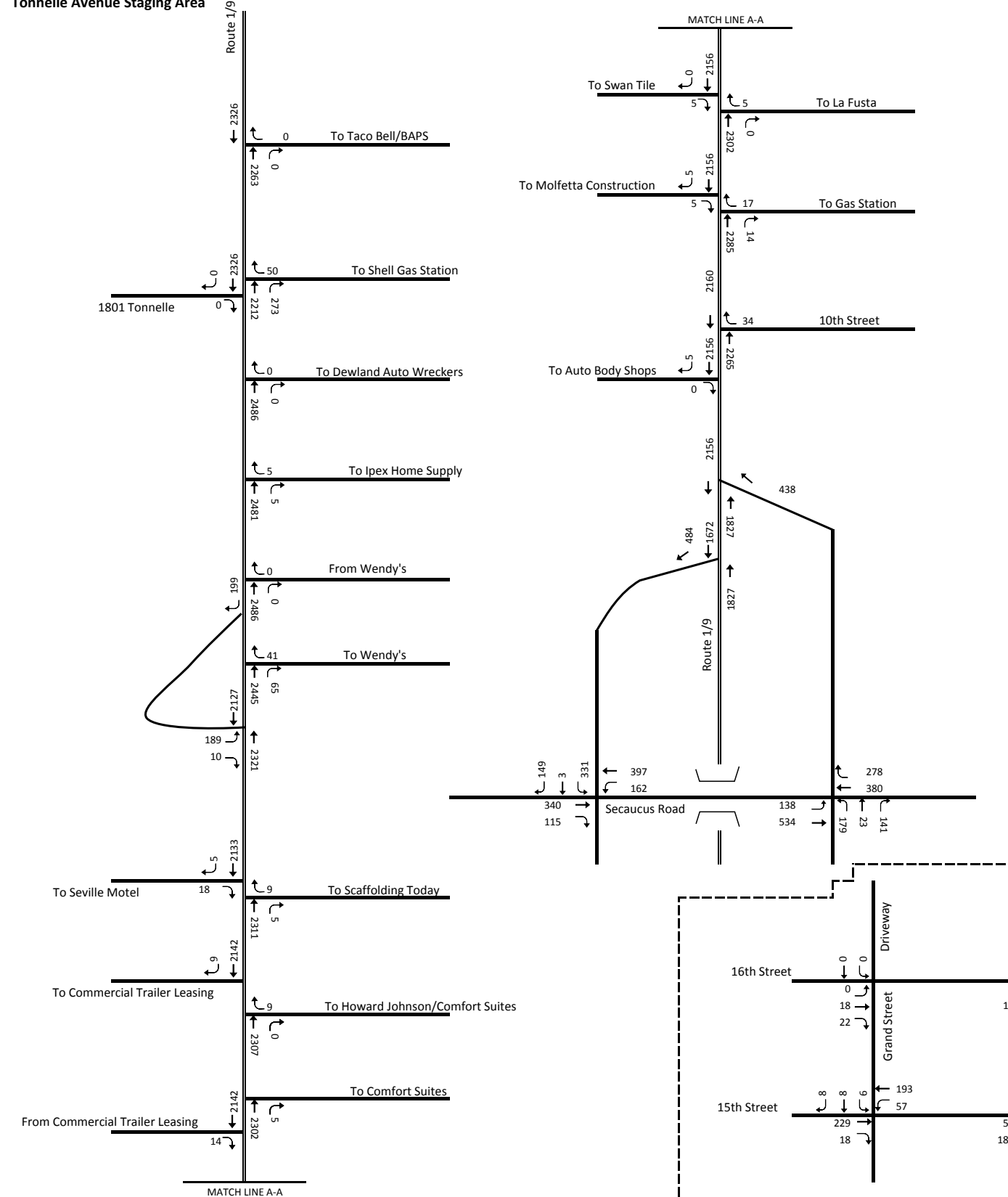
Legend

- #### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- ⋈ Break Line
- { } Overpass

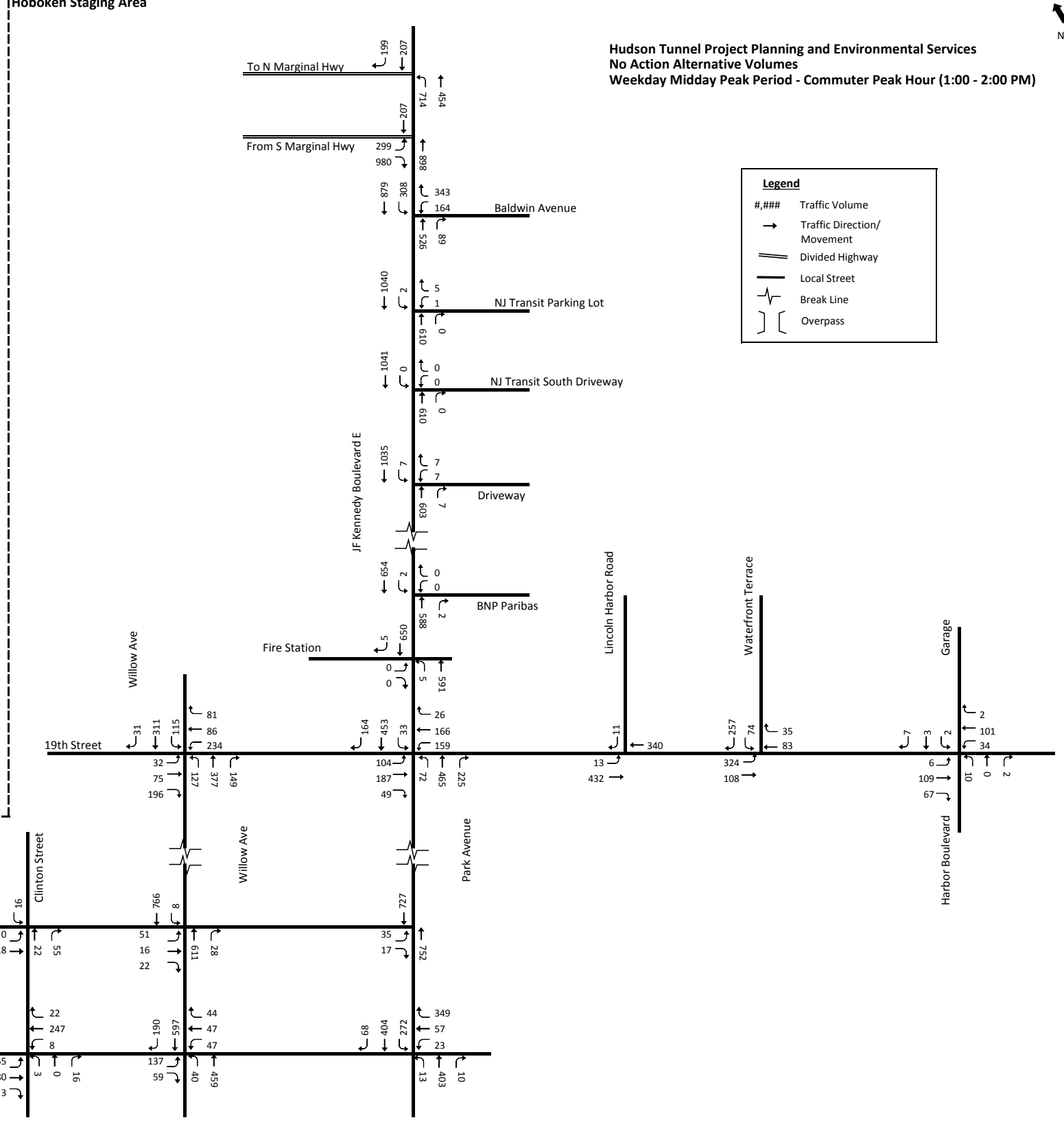
Traffic Flow Maps:
New Jersey Study Areas:
North River Tunnel Rehabilitation
Tonnelle Avenue Staging Sites

Weekday Midday Commuter Peak Period—
Background Conditions
(2032 No Action)

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 No Action Alternative Volumes
 Weekday Midday Peak Period - Commuter Peak Hour (1:00 - 2:00 PM)

Legend

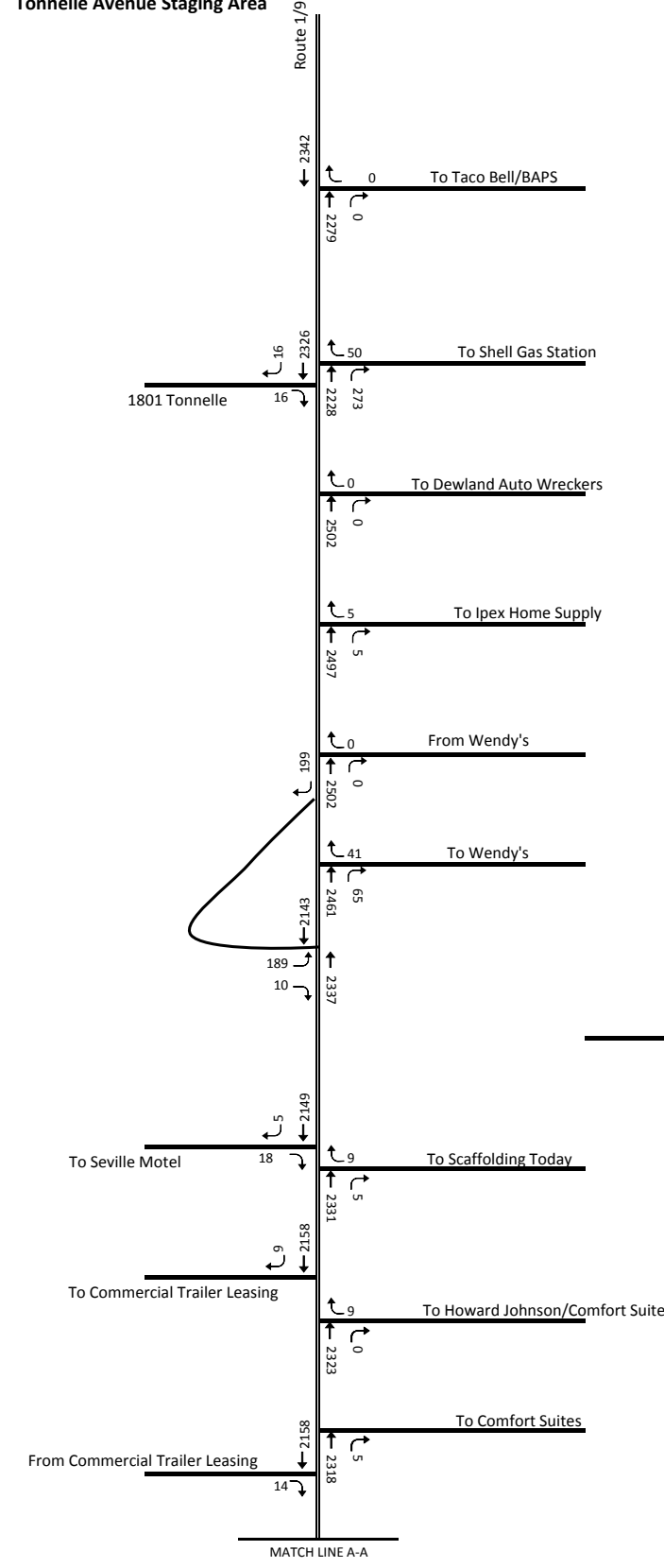
- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
- { } Overpass



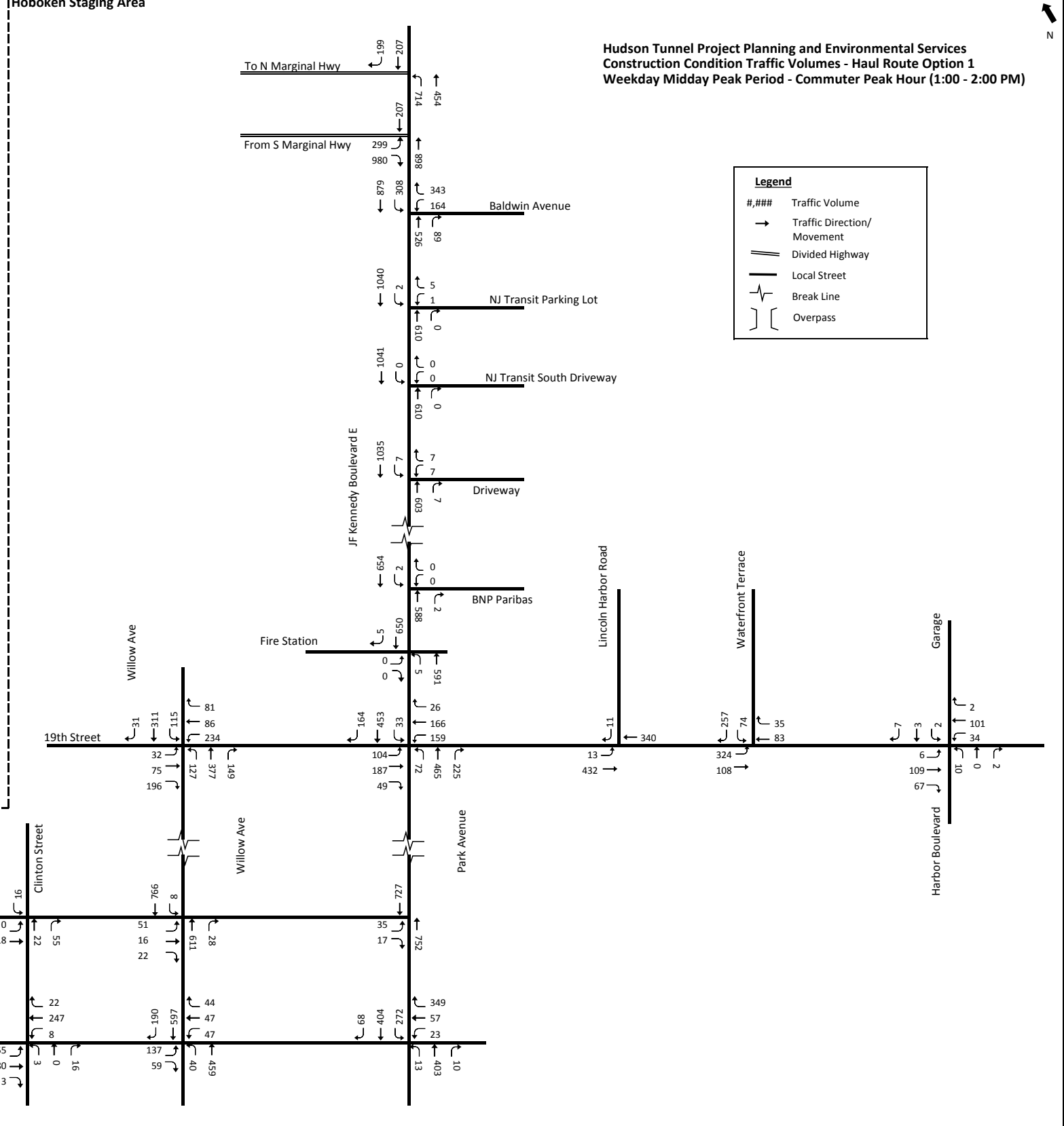
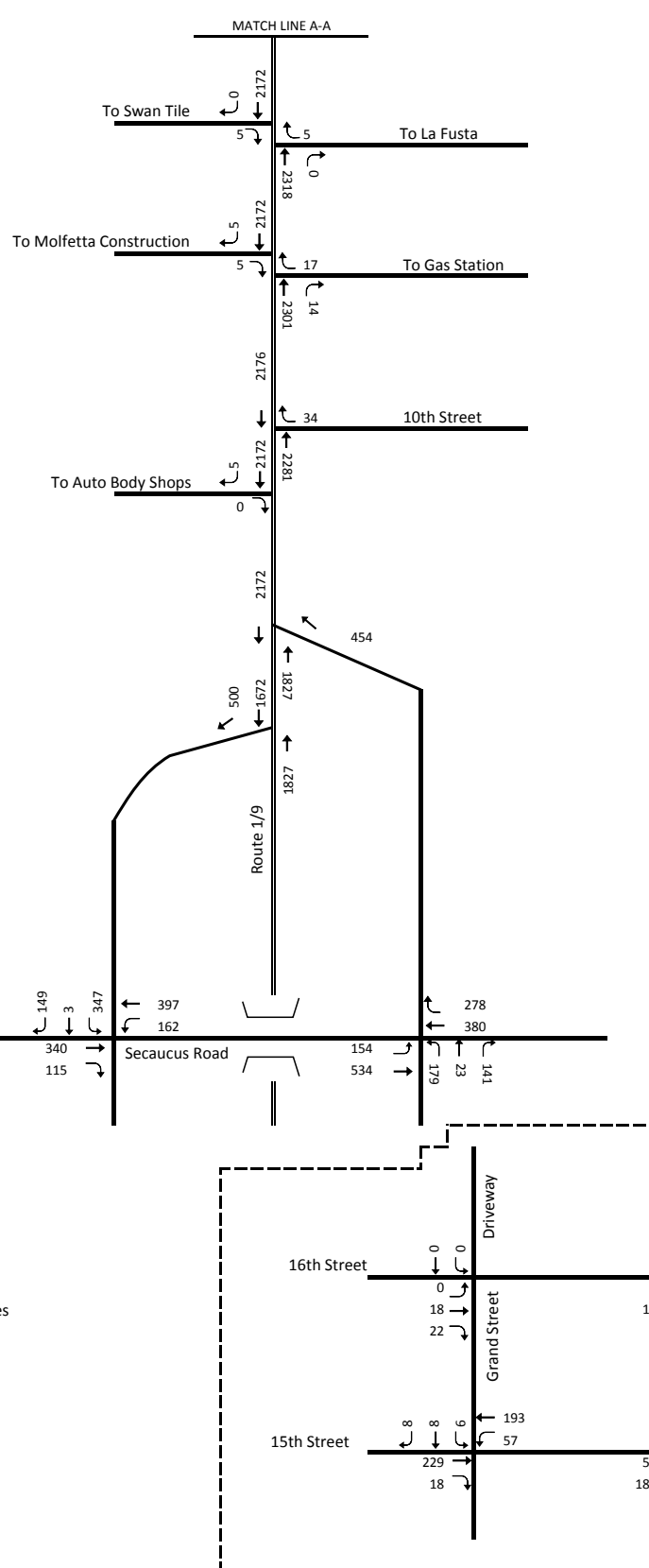
Traffic Flow Maps:
New Jersey Study Areas:
North River Tunnel Rehabilitation
Tonelle Avenue Staging Sites

Weekday Midday Commuter Peak Period—
2032 Construction Conditions

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Construction Condition Traffic Volumes - Haul Route Option 1
 Weekday Midday Peak Period - Commuter Peak Hour (1:00 - 2:00 PM)

Legend

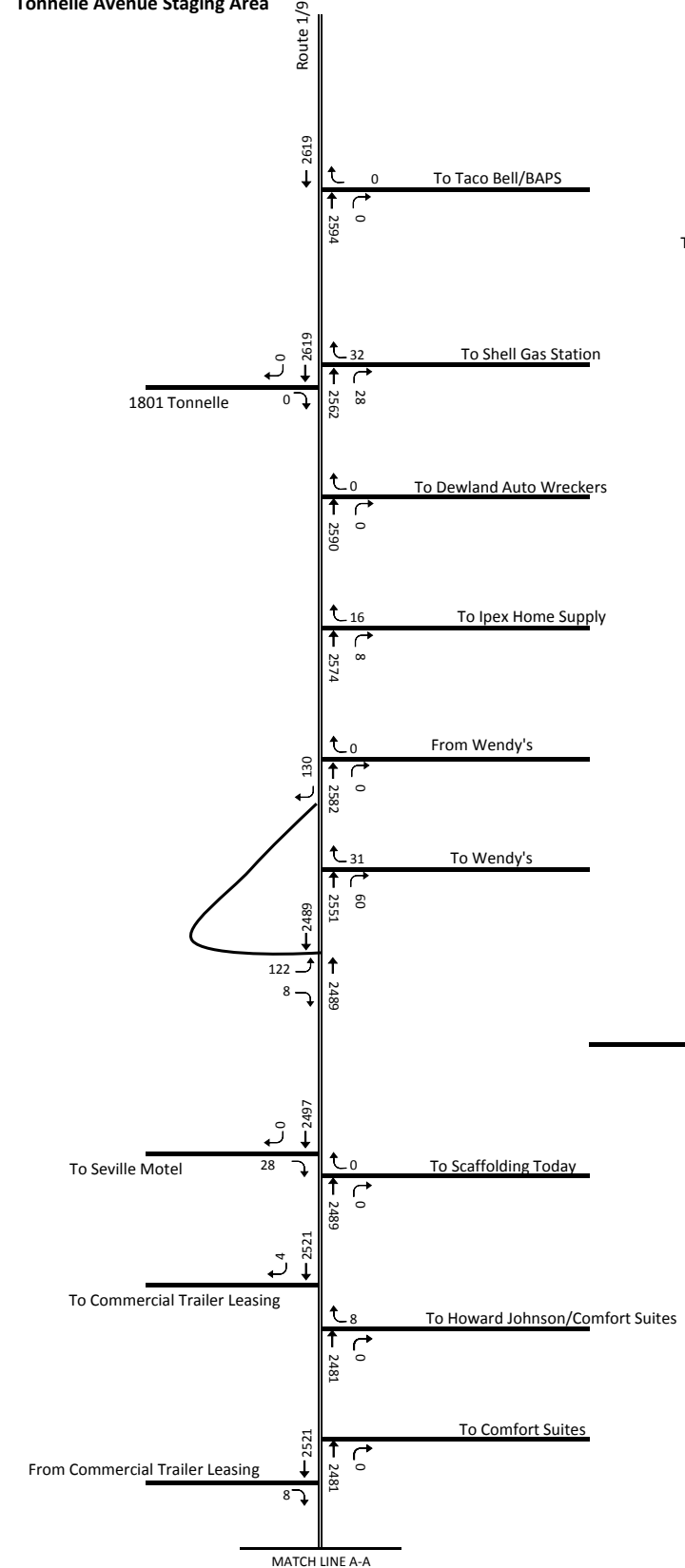
- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- |- Break Line
- { } Overpass



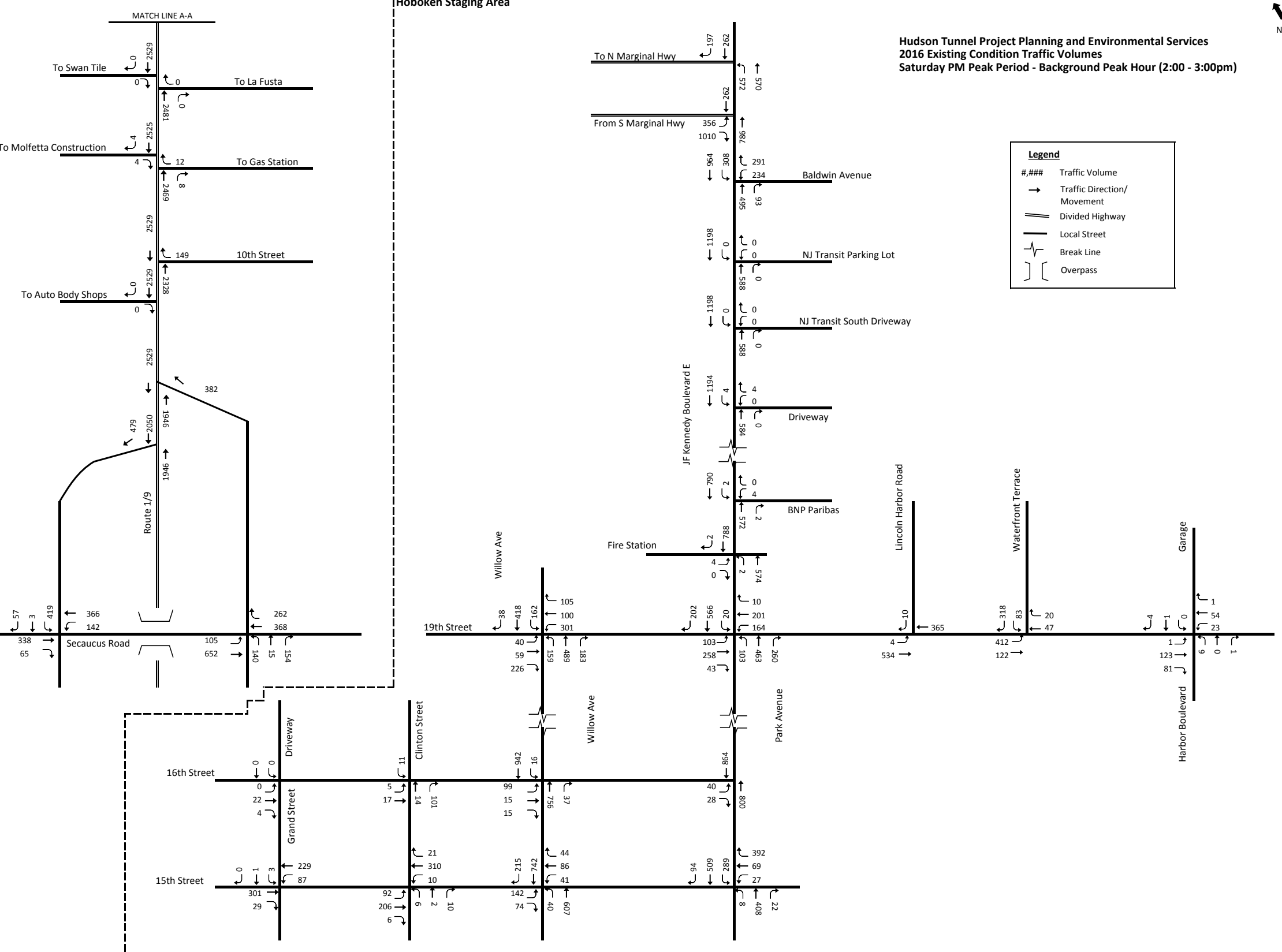
Traffic Flow Maps:
New Jersey Study Areas:
North River Tunnel Rehabilitation
Tonnelle Avenue Staging Sites

Saturday PM Commuter Peak Period—
Background Conditions
(2016 Existing and 2032 No Action)

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 2016 Existing Condition Traffic Volumes
 Saturday PM Peak Period - Background Peak Hour (2:00 - 3:00pm)

Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
- { } Overpass



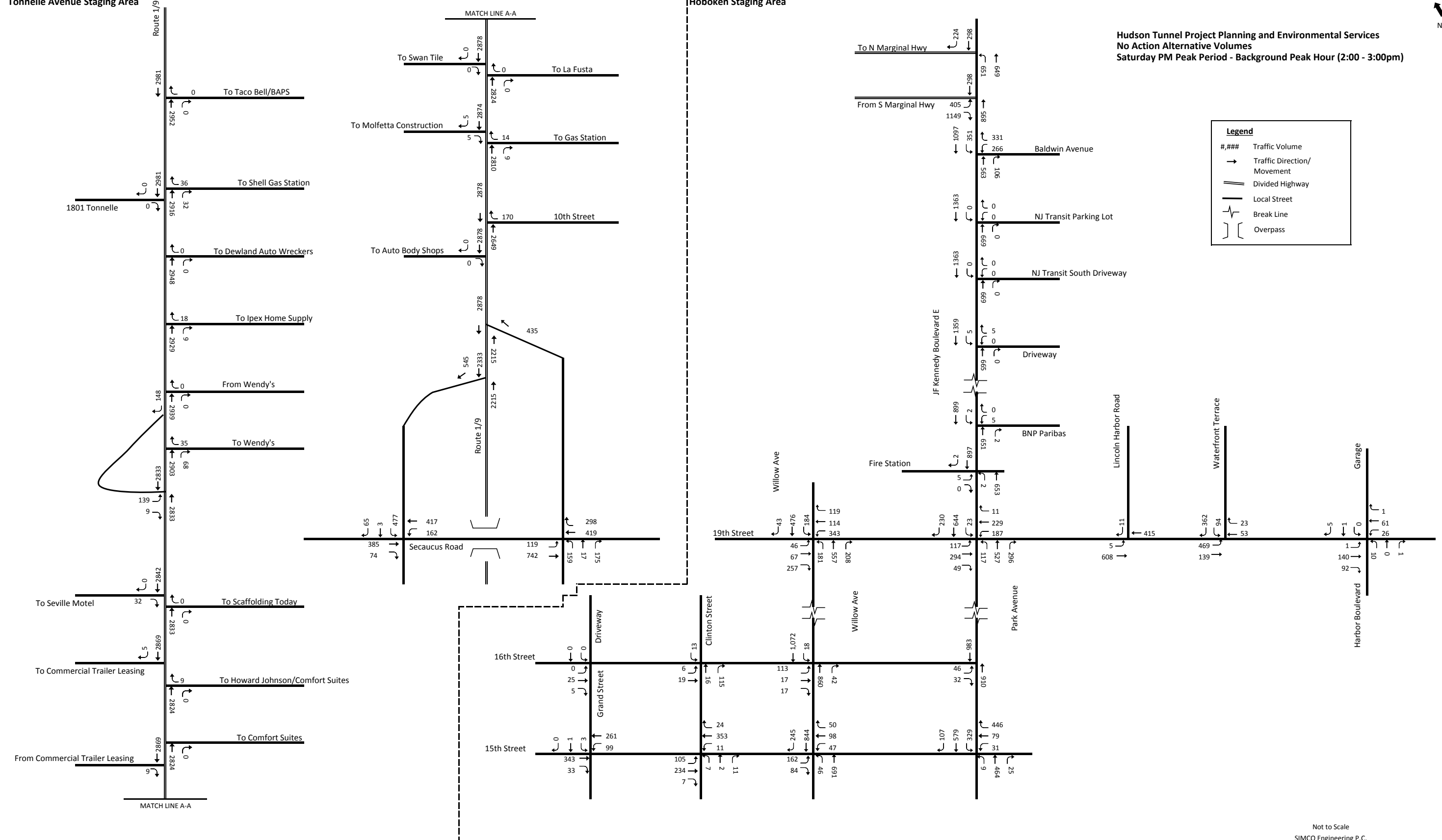
Tonnelle Avenue Staging Area

Hoboken Staging Area

Hudson Tunnel Project Planning and Environmental Services
 No Action Alternative Volumes
 Saturday PM Peak Period - Background Peak Hour (2:00 - 3:00pm)

Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
- { } Overpass



Traffic Flow Maps:
New Jersey Study Areas:
North River Tunnel Rehabilitation
Tonelle Avenue Staging Sites

Saturday PM Commuter Peak Period—
2032 Construction Conditions

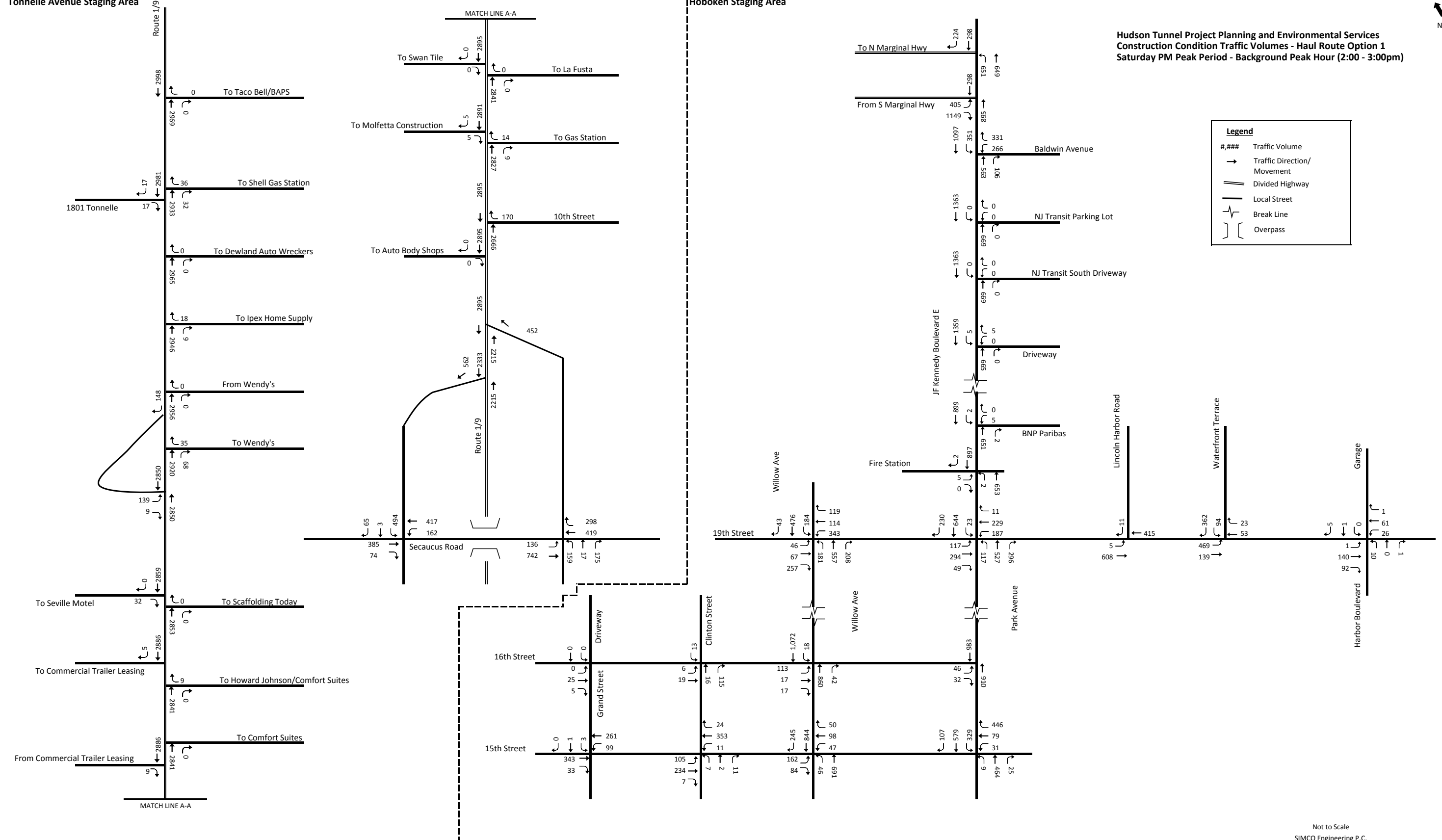
Tonnelle Avenue Staging Area

Hoboken Staging Area

**Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes - Haul Route Option 1
Saturday PM Peak Period - Background Peak Hour (2:00 - 3:00pm)**

Legend

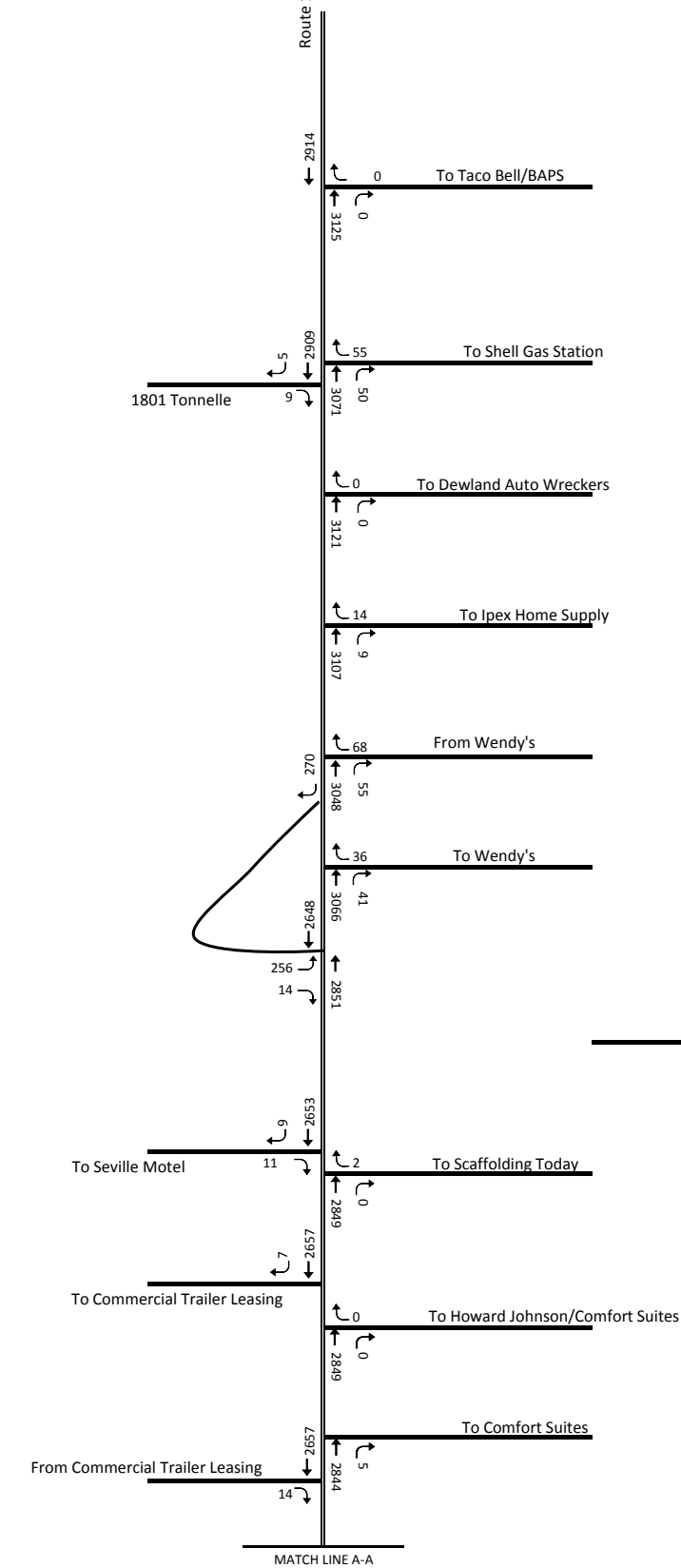
- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
- { } Overpass



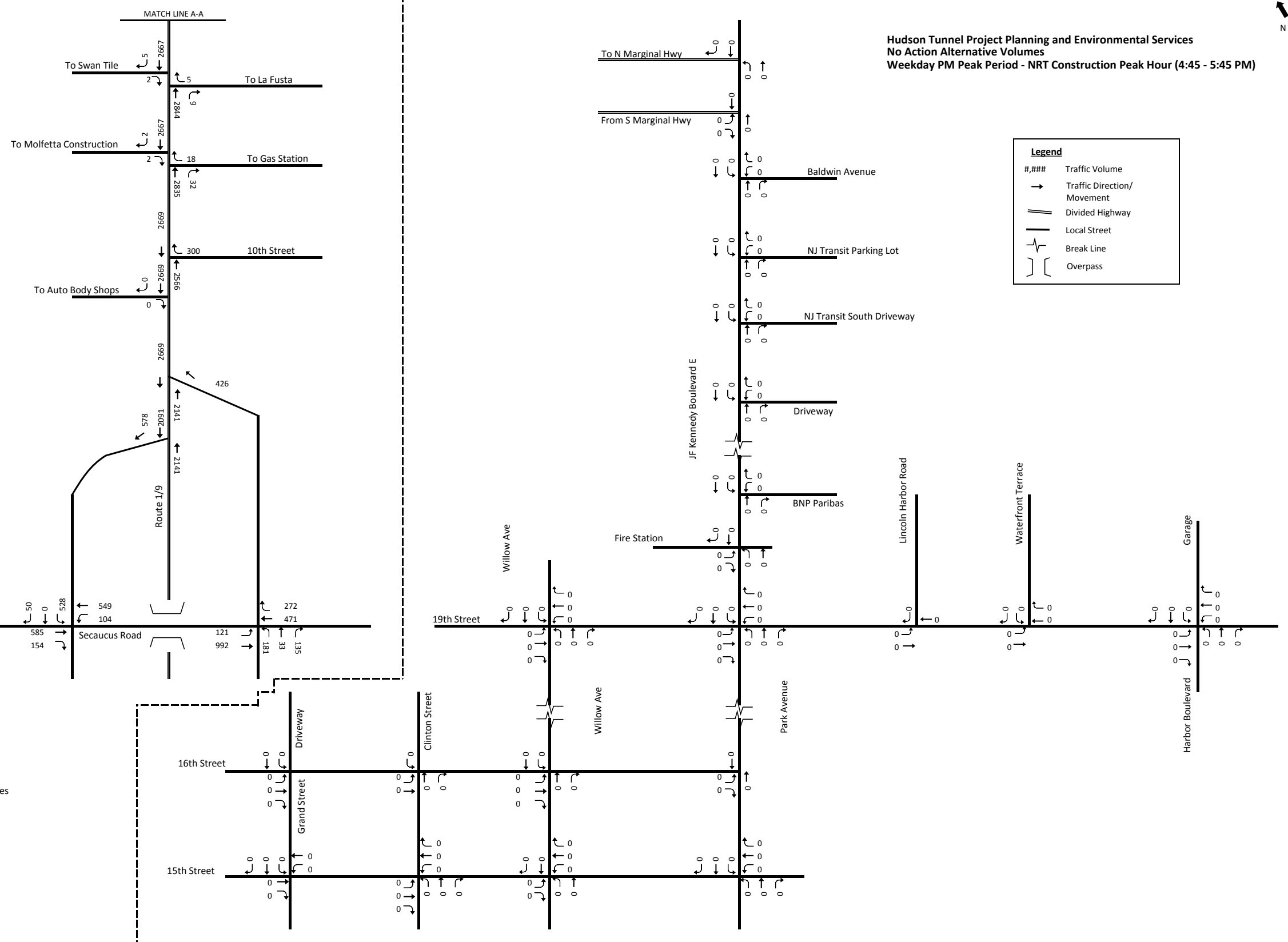
Traffic Flow Maps:
New Jersey Study Areas:
North River Tunnel Rehabilitation
Tonnelle Avenue Staging Sites

Weekday PM Construction Peak Hour—
Background Conditions
(2032 No Action)

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 No Action Alternative Volumes
 Weekday PM Peak Period - NRT Construction Peak Hour (4:45 - 5:45 PM)

Legend

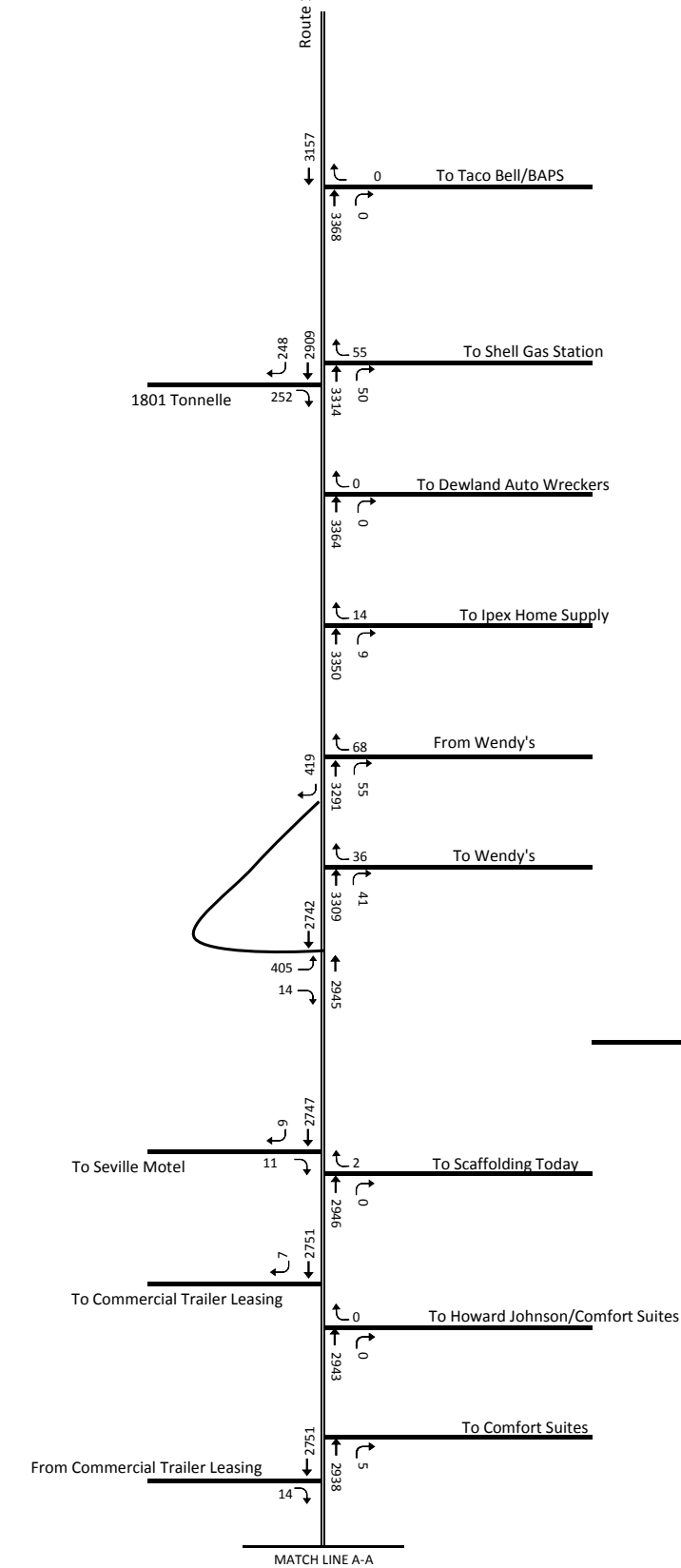
- ### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- - - Break Line
- { } Overpass



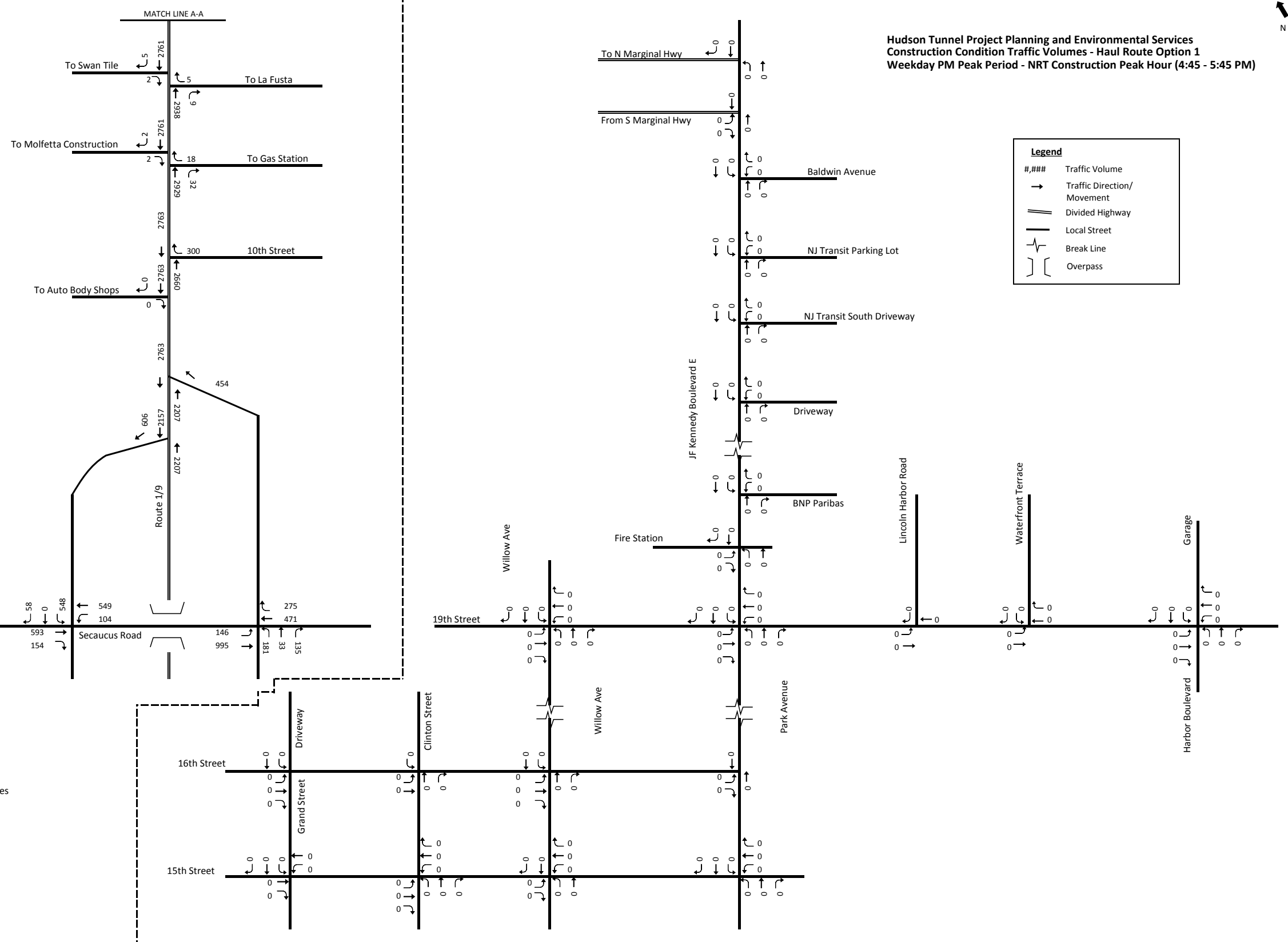
Traffic Flow Maps:
New Jersey Study Areas:
North River Tunnel Rehabilitation
Tonnelle Avenue Staging Sites

Weekday PM Construction Peak Hour—
2032 Construction Conditions

Tonnelle Avenue Staging Area



Hoboken Staging Area

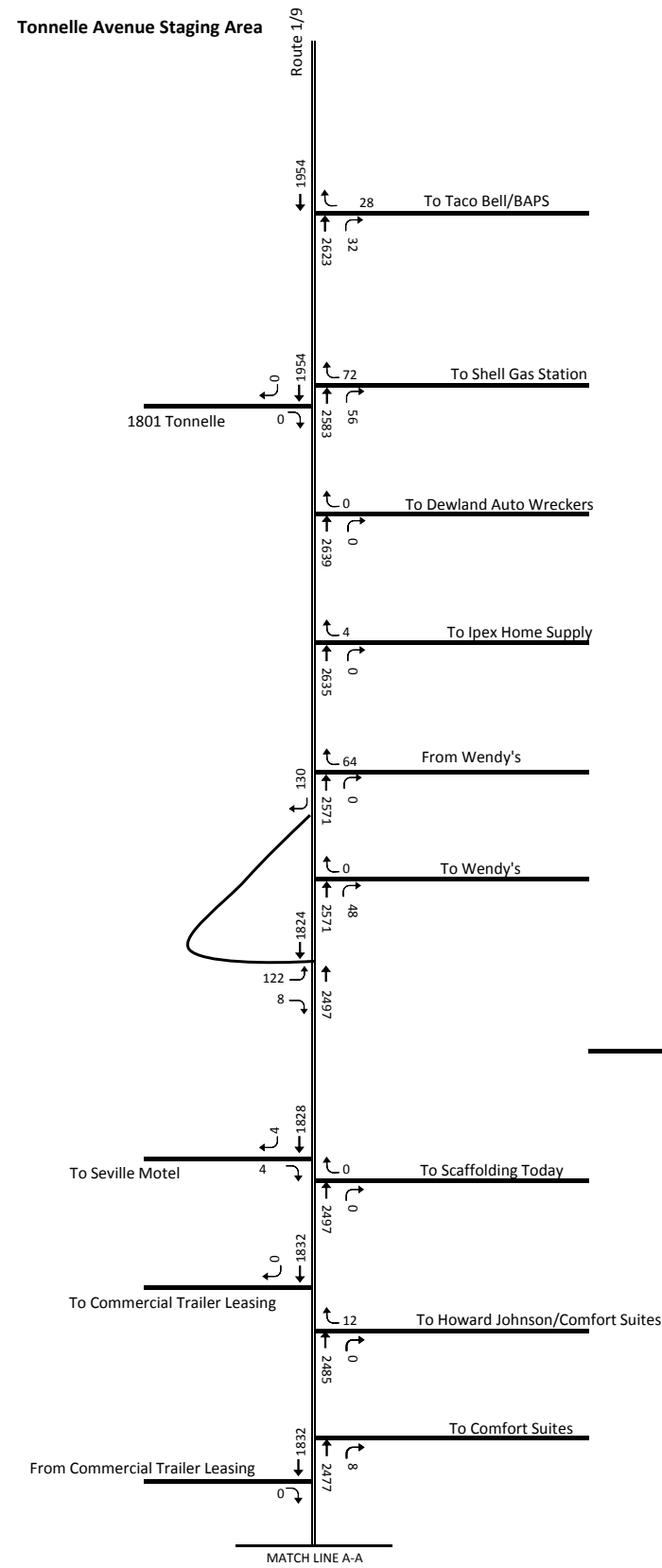


Hudson Tunnel Project Planning and Environmental Services
 Construction Condition Traffic Volumes - Haul Route Option 1
 Weekday PM Peak Period - NRT Construction Peak Hour (4:45 - 5:45 PM)

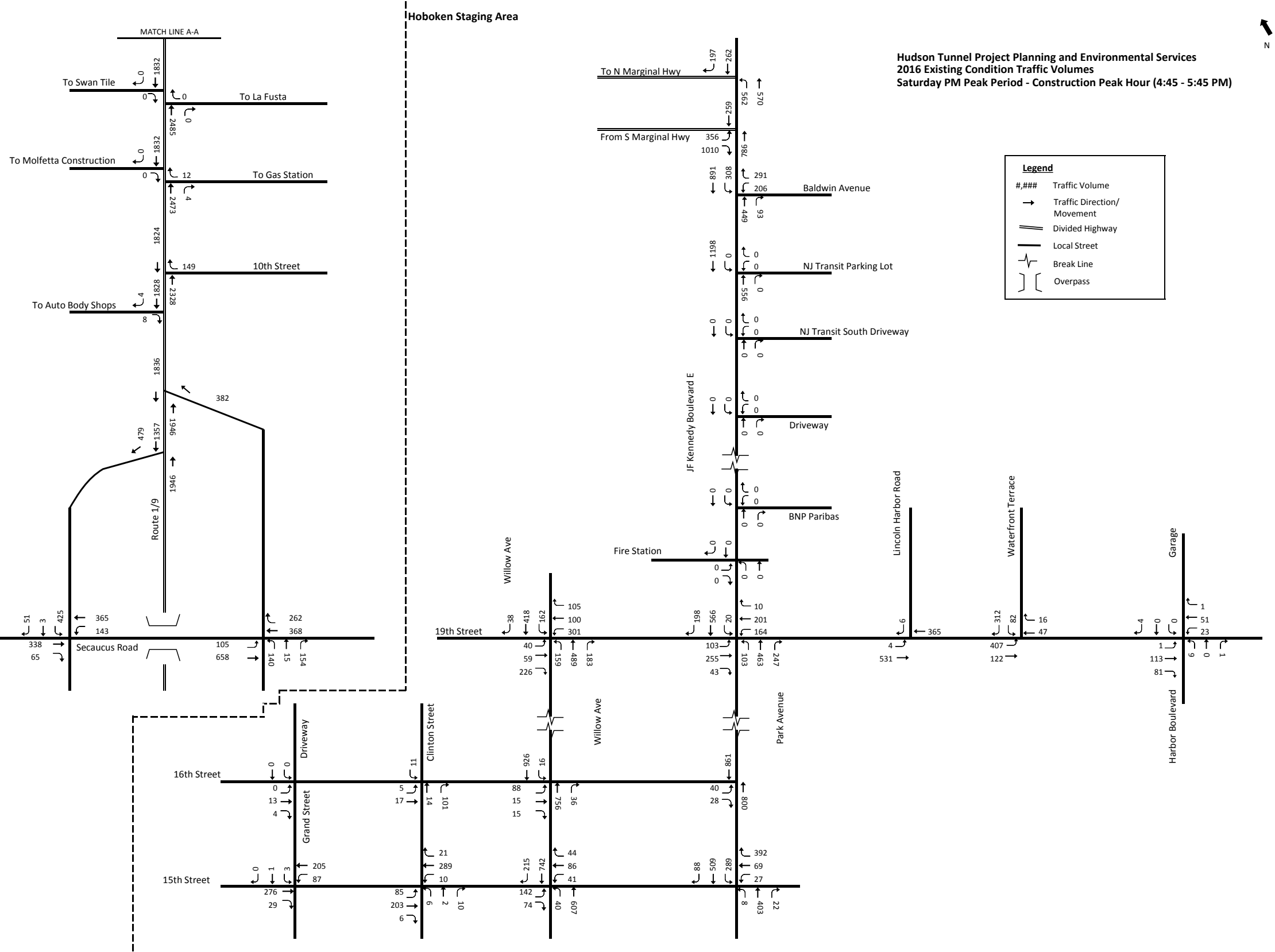
Traffic Flow Maps:
New Jersey Study Areas:
North River Tunnel Rehabilitation
Tonnelle Avenue Staging Sites

Saturday PM Construction Peak Period—
Background Conditions
(2016 Existing and 2032 No Action)

Tonnelle Avenue Staging Area



Hoboken Staging Area

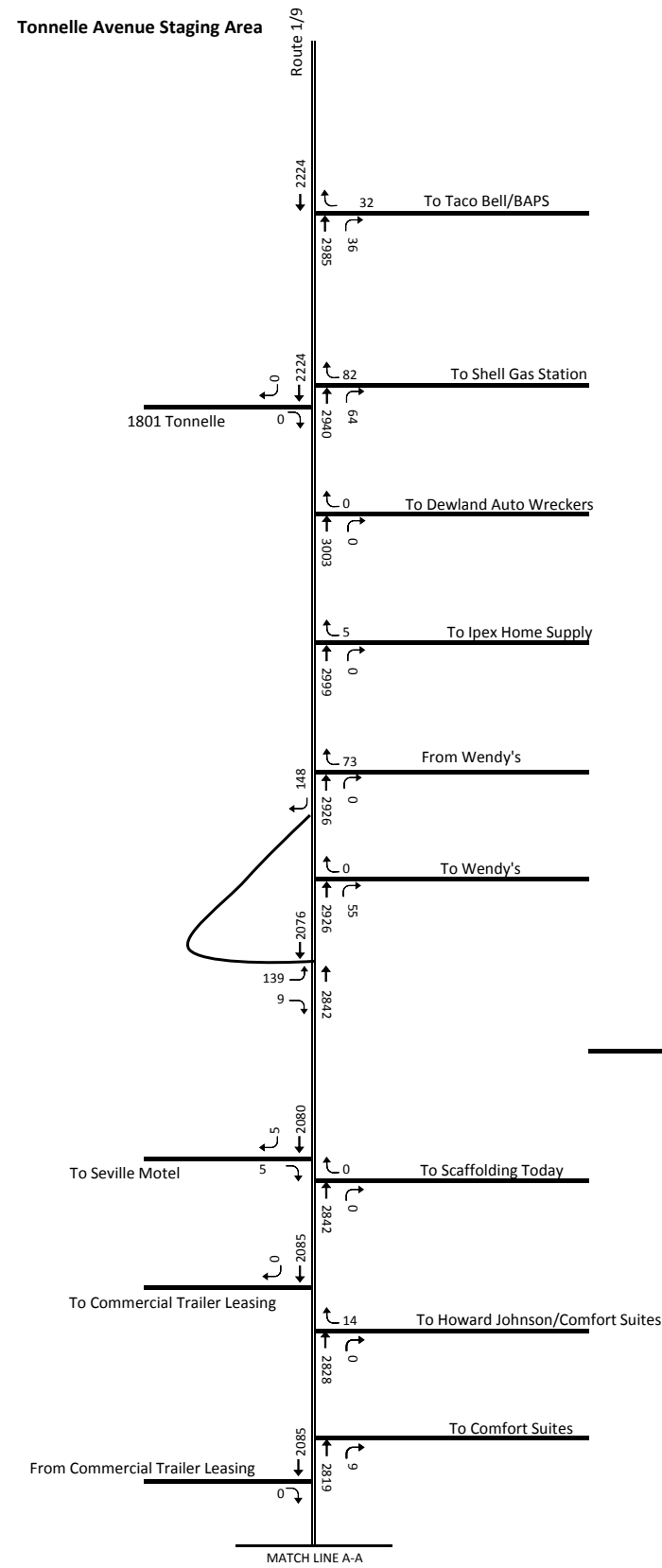


Hudson Tunnel Project Planning and Environmental Services
 2016 Existing Condition Traffic Volumes
 Saturday PM Peak Period - Construction Peak Hour (4:45 - 5:45 PM)

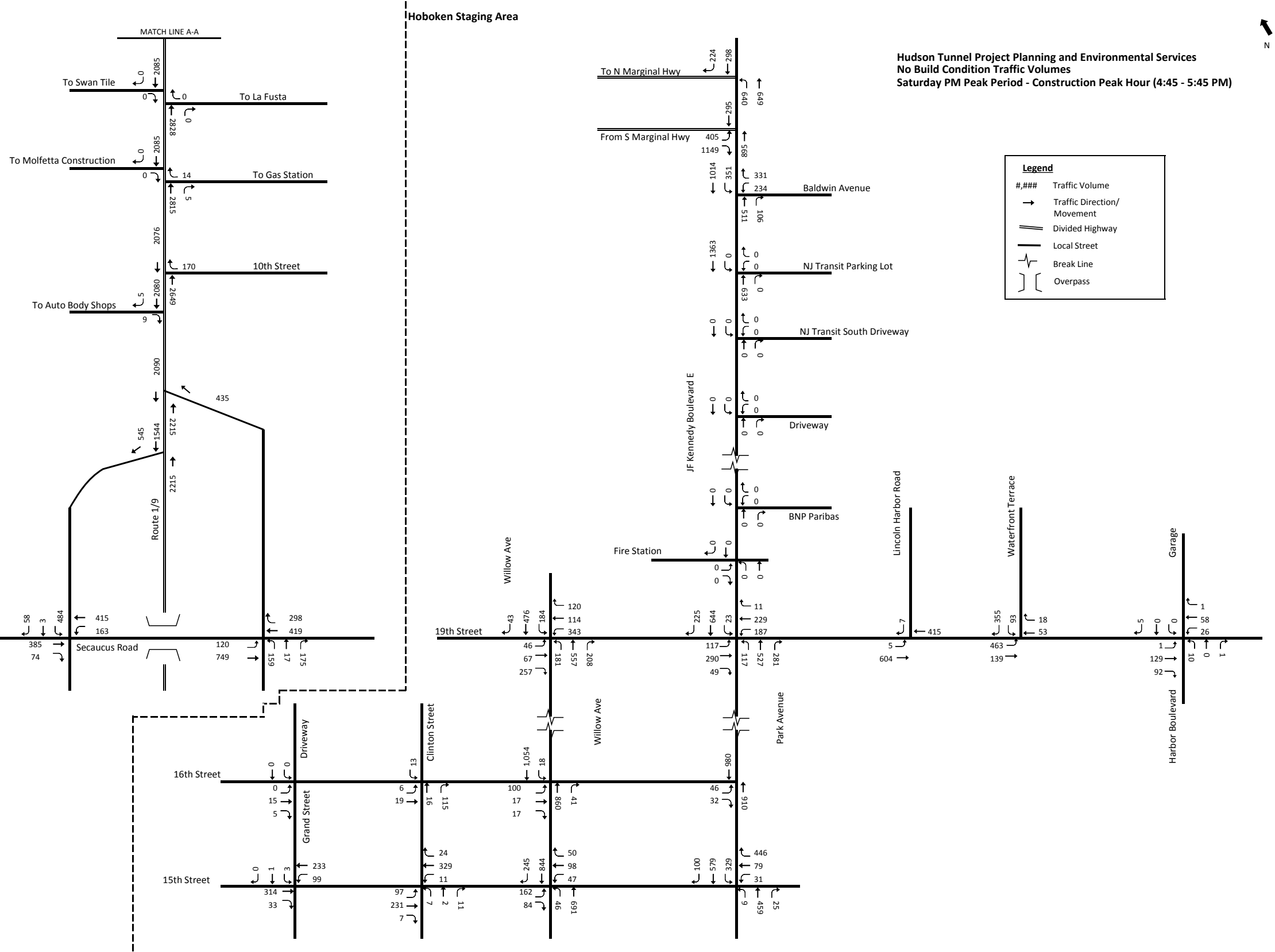
Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
- { } Overpass

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 No Build Condition Traffic Volumes
 Saturday PM Peak Period - Construction Peak Hour (4:45 - 5:45 PM)

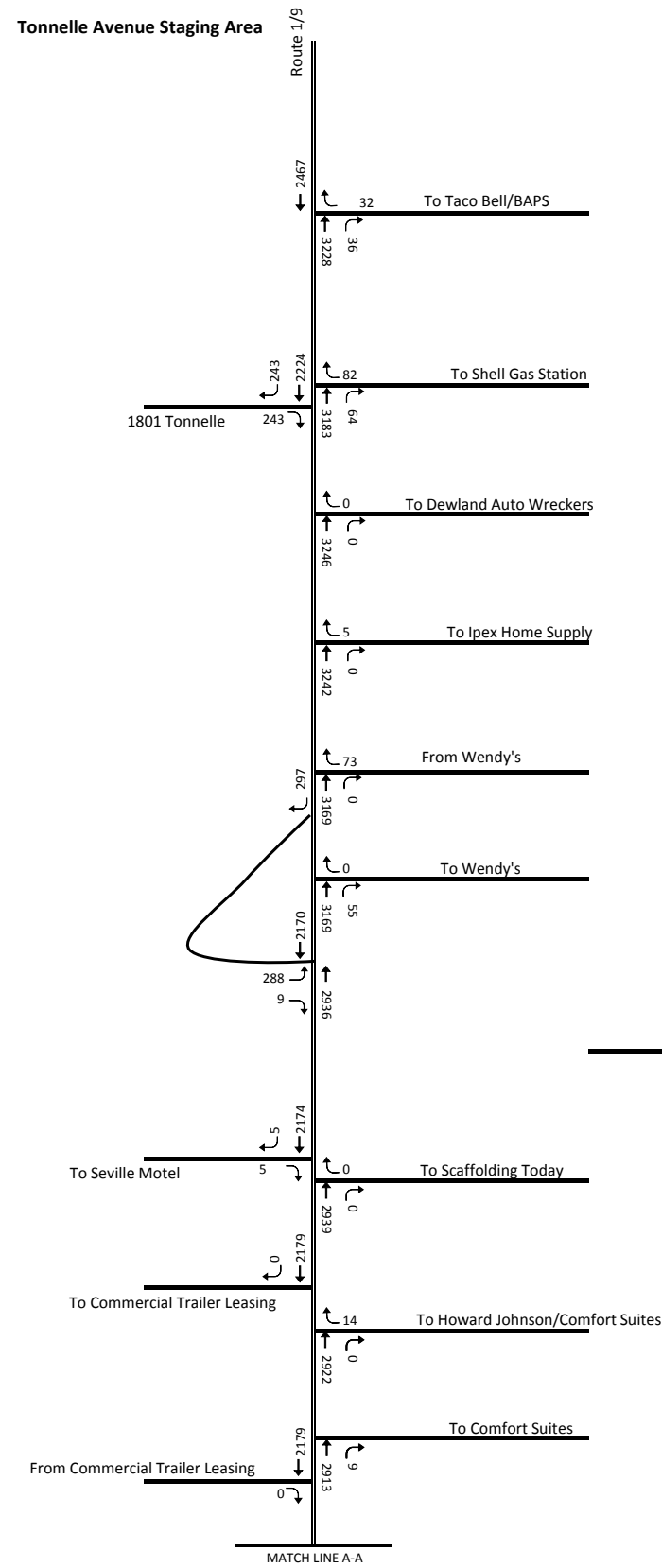
Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
- { } Overpass

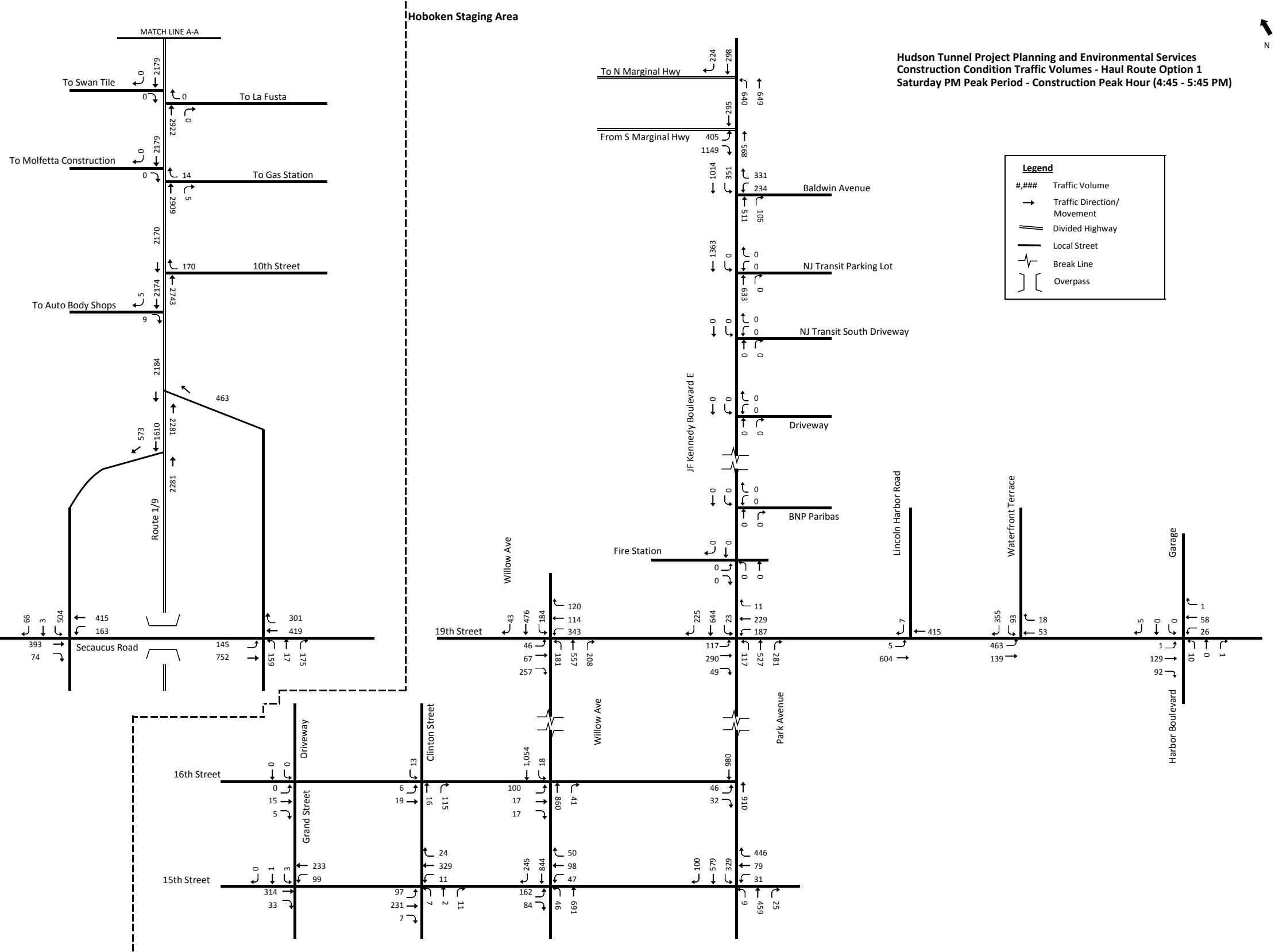
Traffic Flow Maps:
New Jersey Study Areas:
North River Tunnel Rehabilitation
Tonelle Avenue Staging Sites

Saturday PM Construction Peak Period—
2032 Construction Conditions

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Construction Condition Traffic Volumes - Haul Route Option 1
 Saturday PM Peak Period - Construction Peak Hour (4:45 - 5:45 PM)

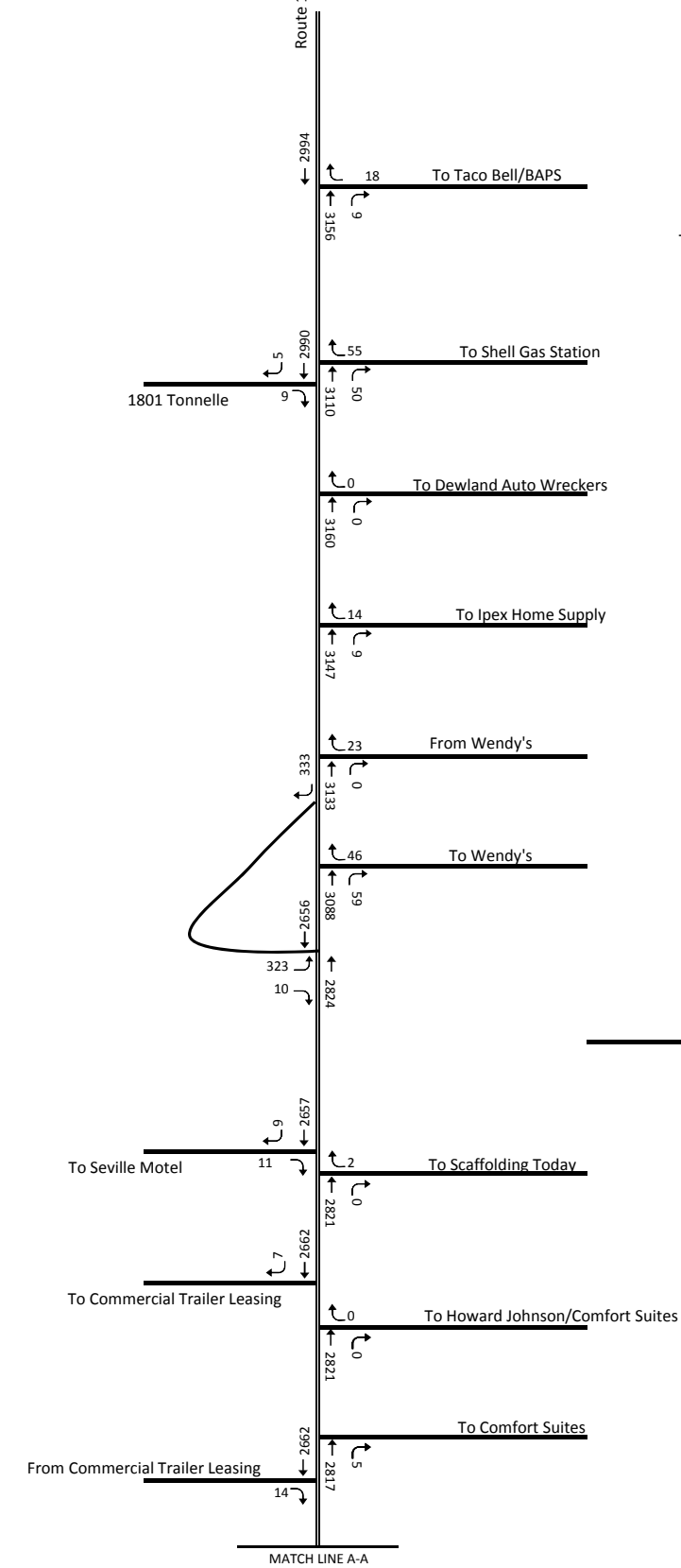
Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
- { } Overpass

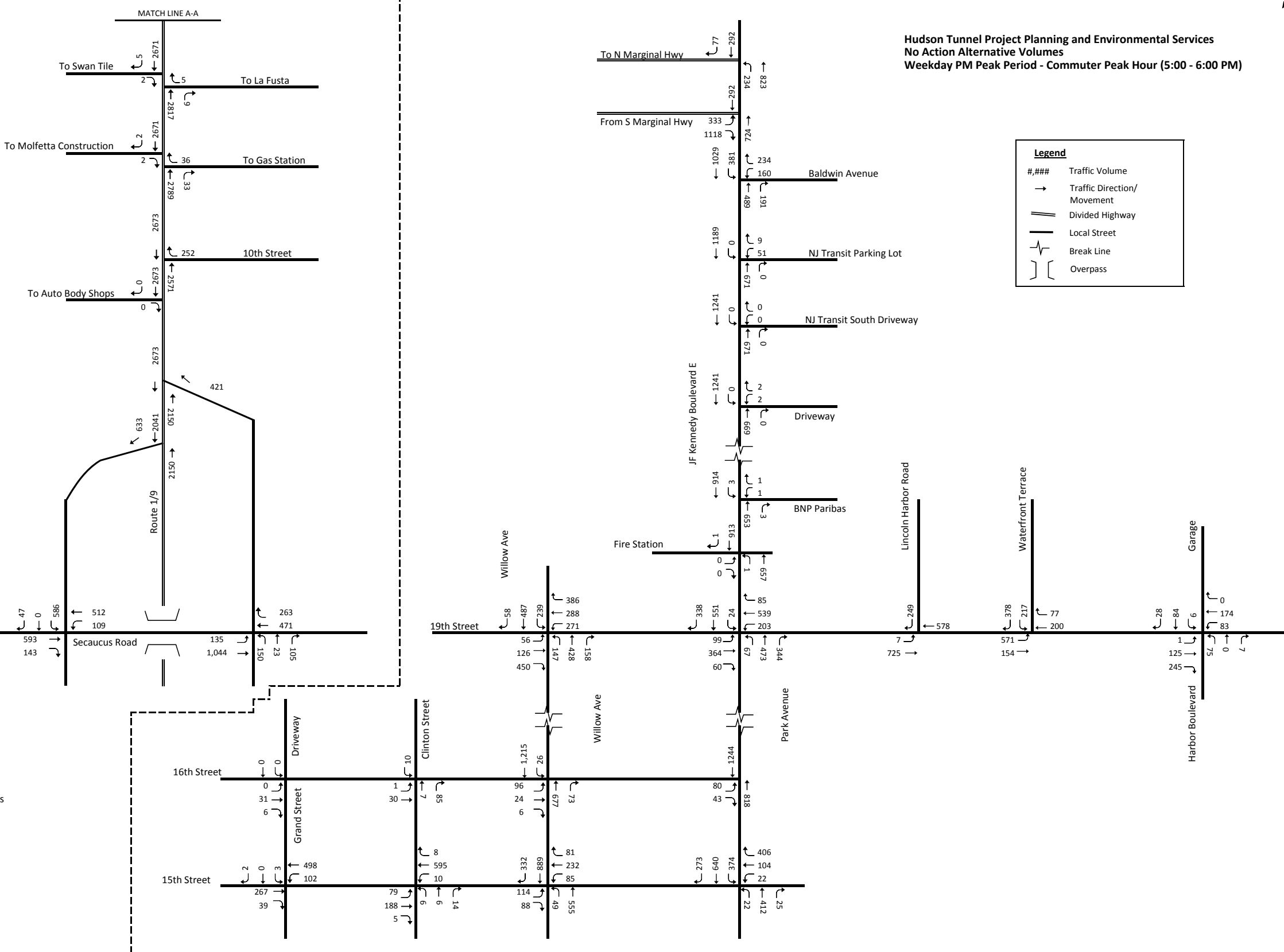
Traffic Flow Maps:
New Jersey Study Areas:
North River Tunnel Rehabilitation
Tonnelle Avenue Staging Sites

Weekday PM Commuter Peak Hour—
Background Conditions
(2032 No Action)

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
No Action Alternative Volumes
Weekday PM Peak Period - Commuter Peak Hour (5:00 - 6:00 PM)

Legend

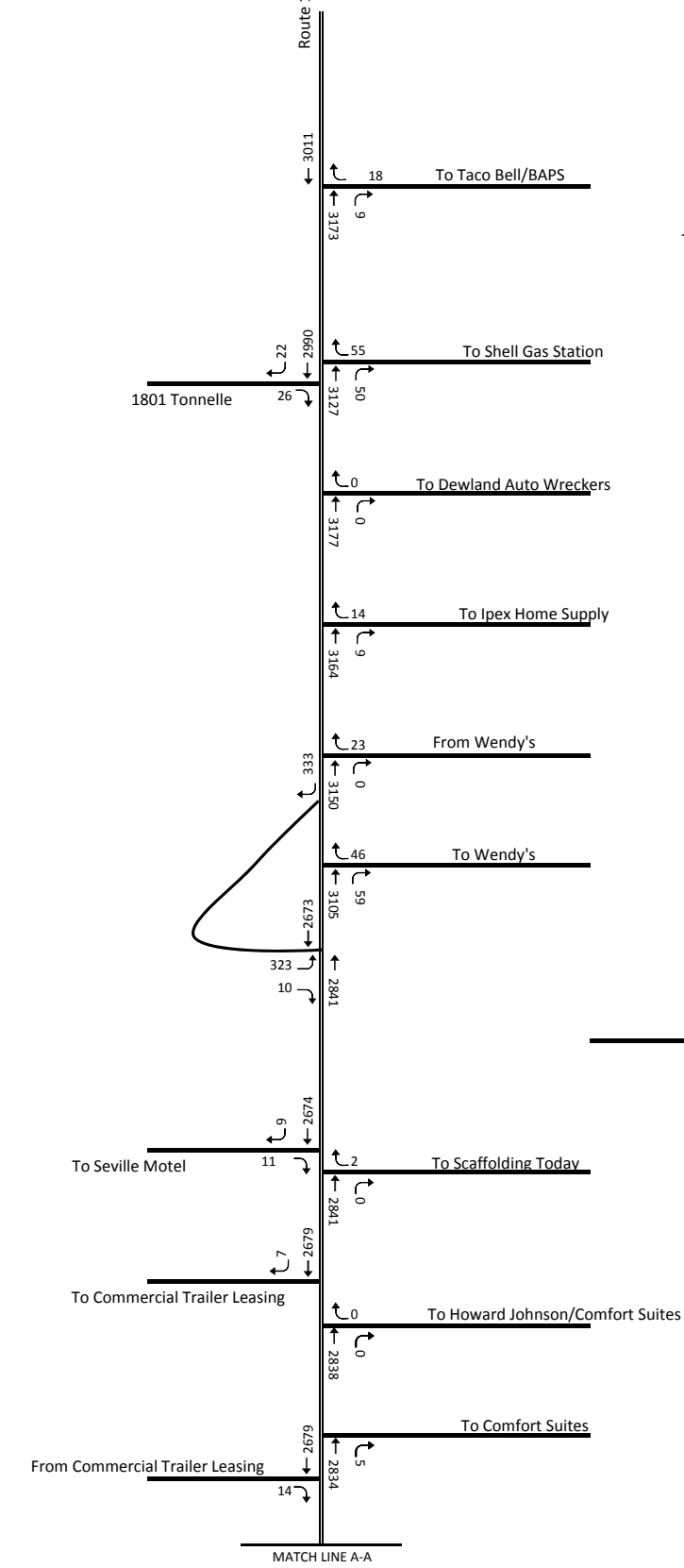
- #,### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- - - Break Line
- { } Overpass



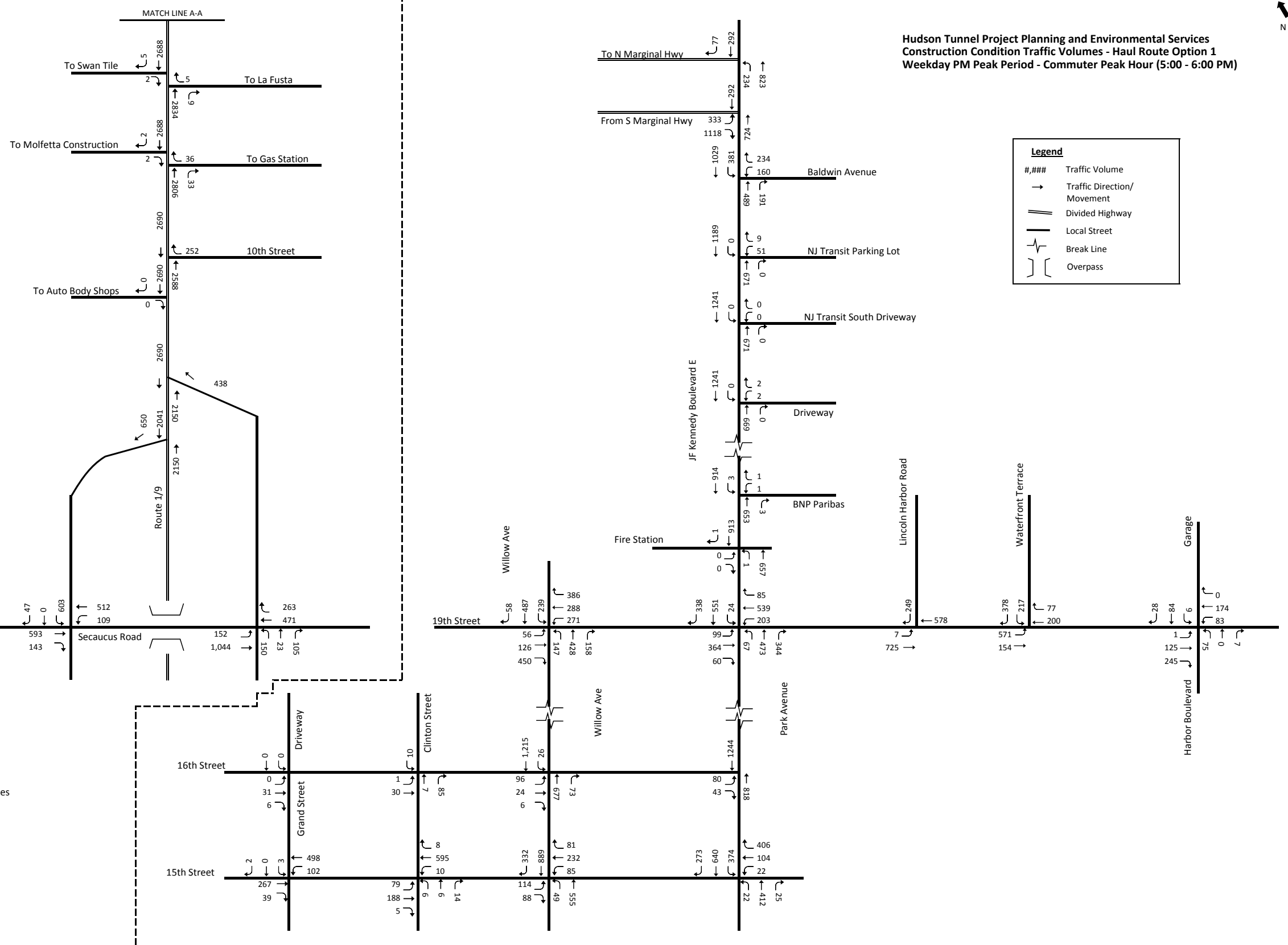
Traffic Flow Maps:
New Jersey Study Areas:
North River Tunnel Rehabilitation
Tonnelle Avenue Staging Sites

Weekday PM Commuter Peak Hour—
2032 Construction Conditions

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Construction Condition Traffic Volumes - Haul Route Option 1
 Weekday PM Peak Period - Commuter Peak Hour (5:00 - 6:00 PM)

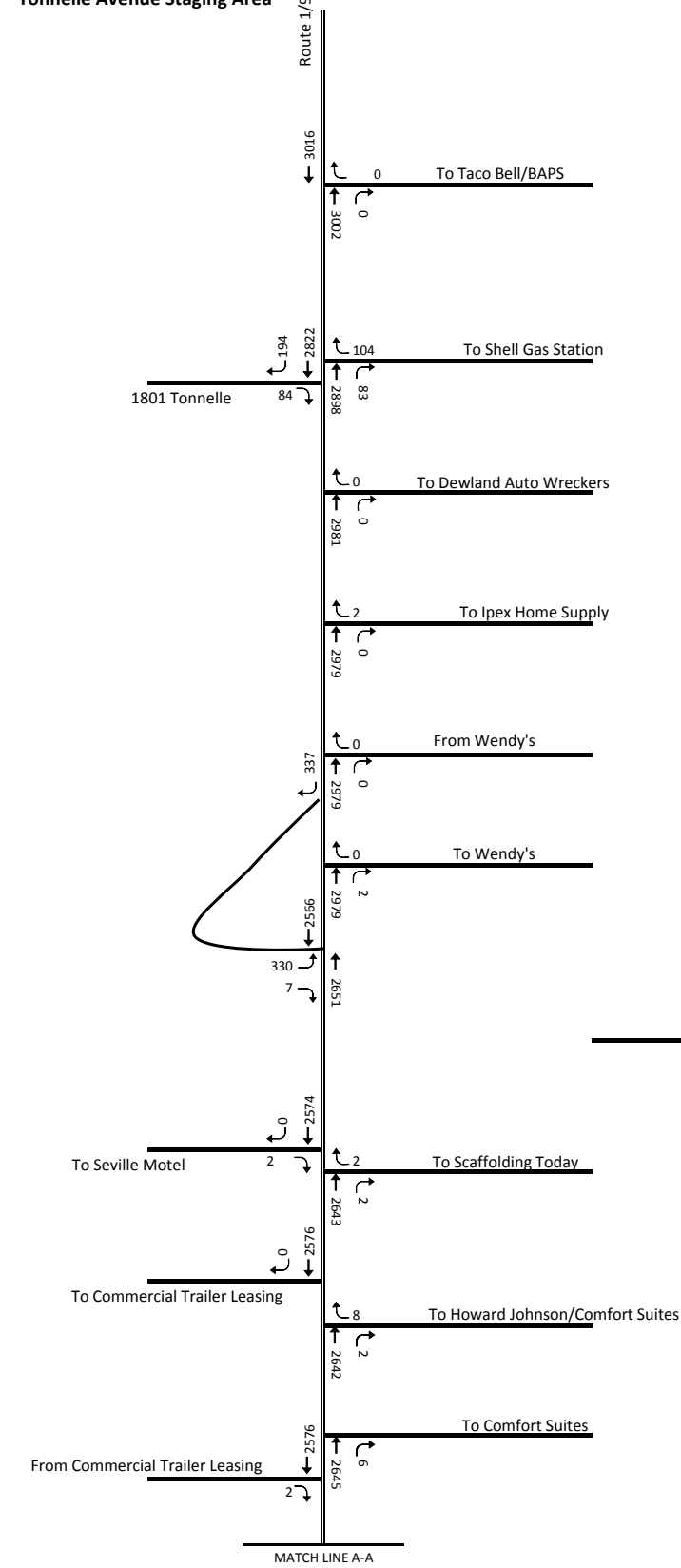
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- ### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- - - Break Line
- { } Overpass

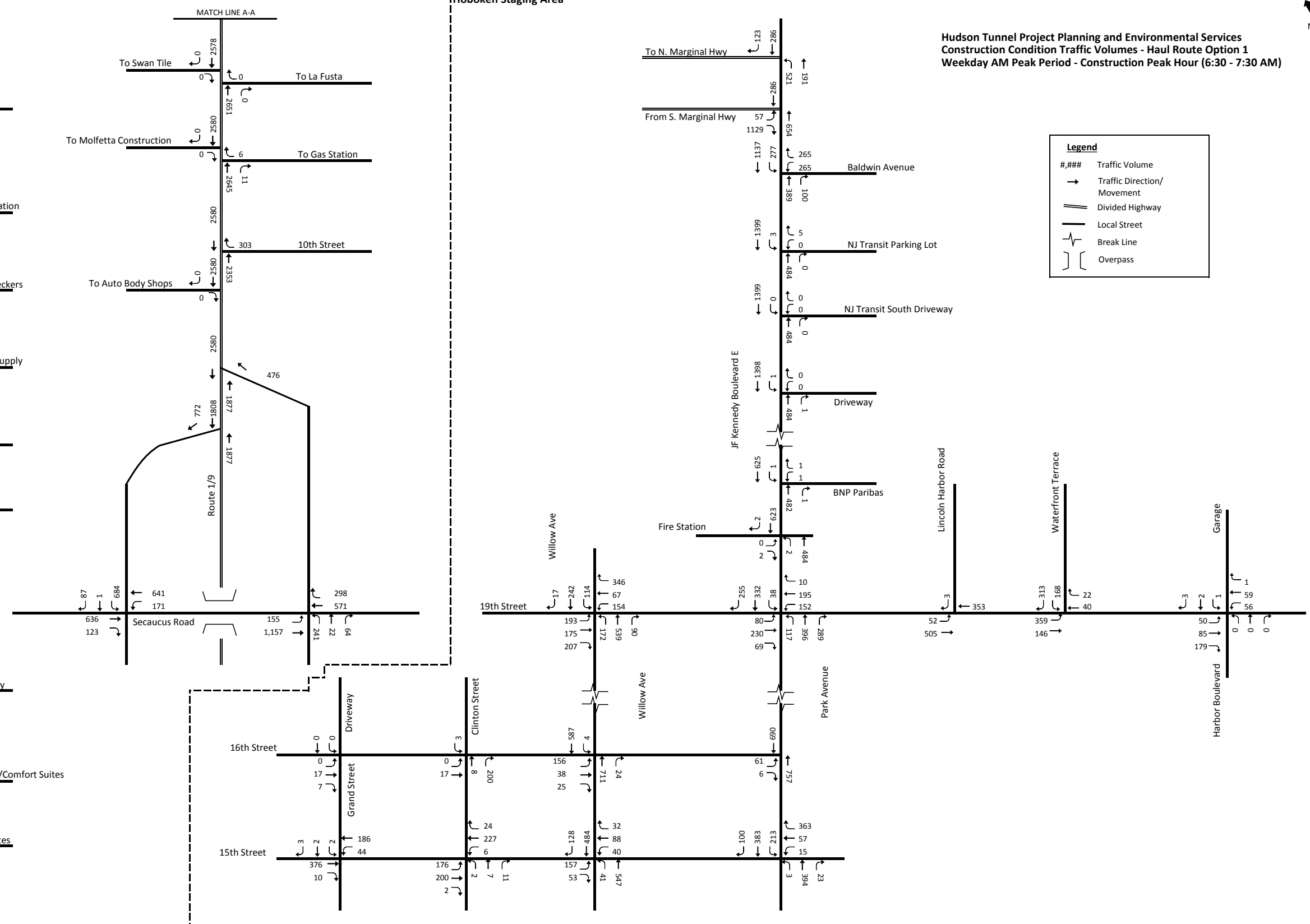
Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction
Hoboken Staging Site—Haul Route Option 1

Weekday AM Construction Peak Hours
2025 Construction Conditions

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Construction Condition Traffic Volumes - Haul Route Option 1
 Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)

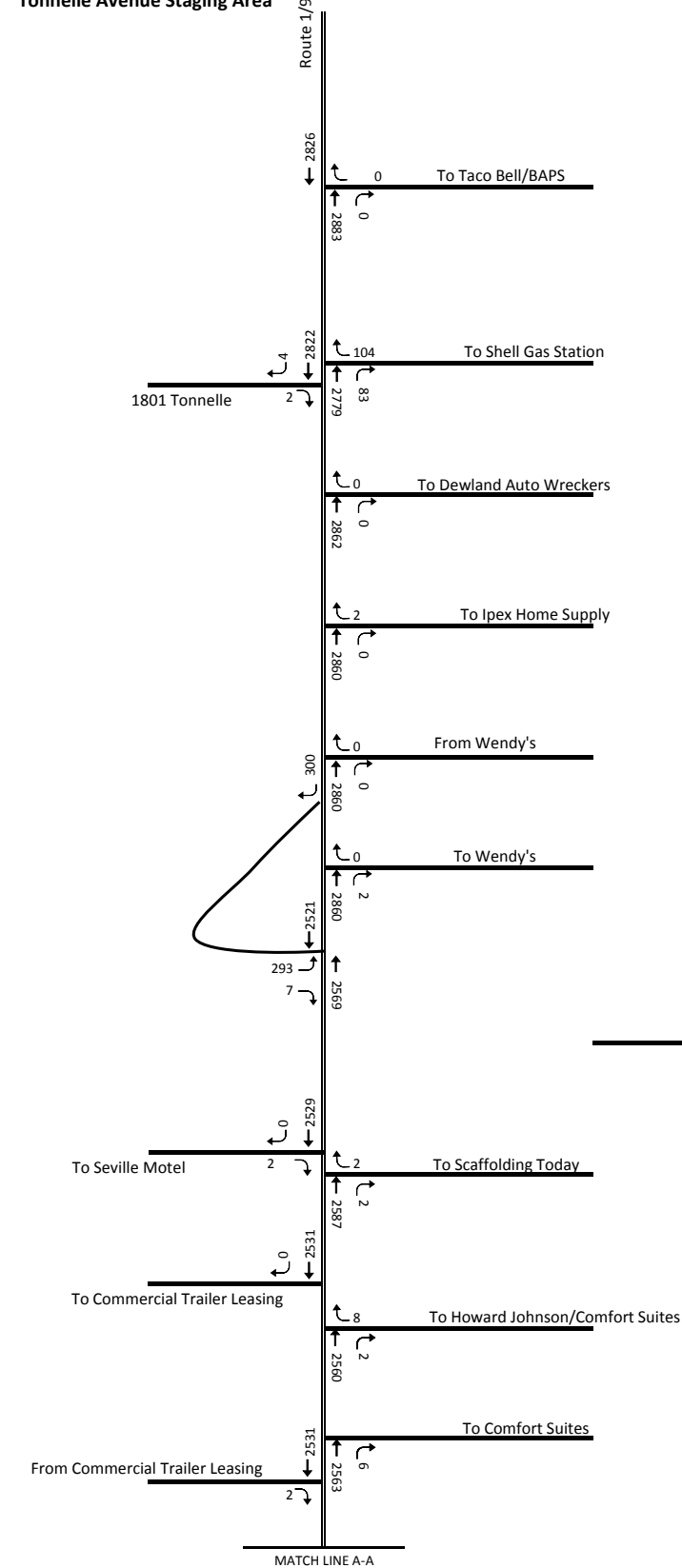
Legend

- ### Traffic Volume
- Traffic Direction/Movement
- == Divided Highway
- Local Street
- ~ Break Line
- { } Overpass

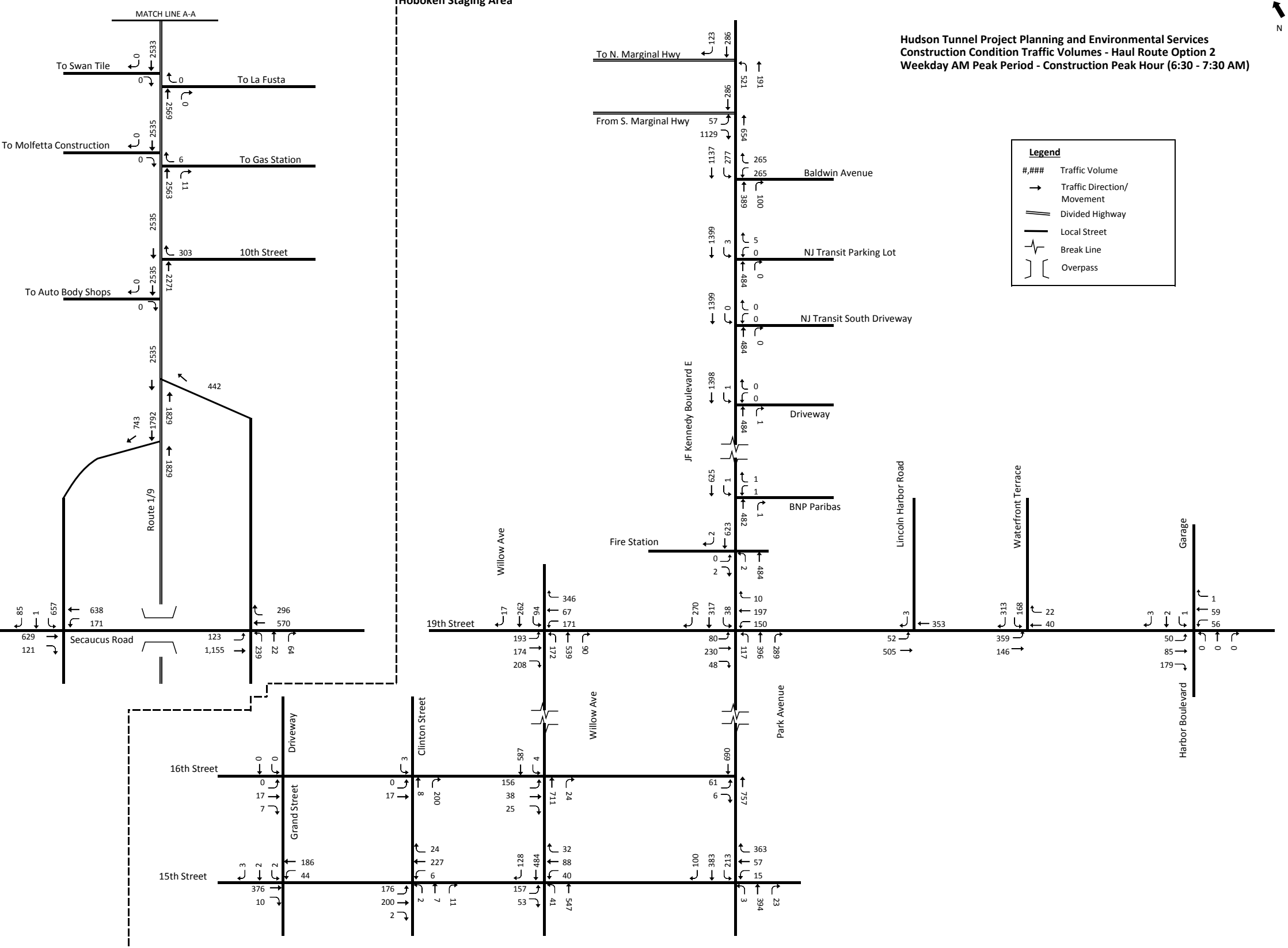
Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction
Hoboken Staging Site—Haul Route Option 2

Weekday AM Construction Peak Hour—
2025 Construction Conditions

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes - Haul Route Option 2
Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)

Legend

- ### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- - - Break Line
- { } Overpass



Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction
Hoboken Staging Site—Haul Route Option 3

Weekday AM Construction Peak Hour—
2025 Construction Conditions

Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction
Hoboken Staging Site—Haul Route Option 1

Weekday AM Commuter Peak Hours
2025 Construction Conditions

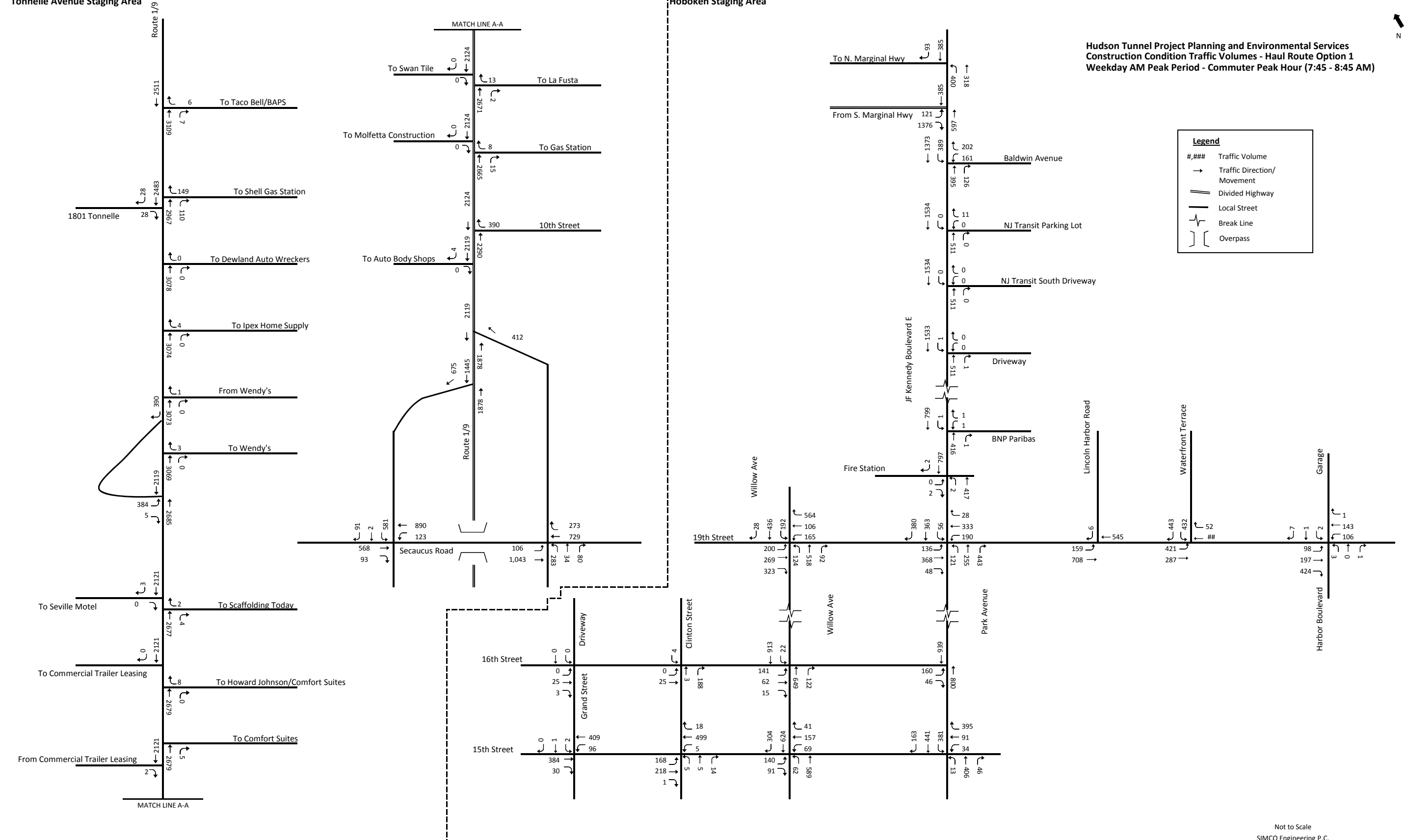
Tonnelle Avenue Staging Area

Hoboken Staging Area

Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes - Haul Route Option 1
Weekday AM Peak Period - Commuter Peak Hour (7:45 - 8:45 AM)

Legend

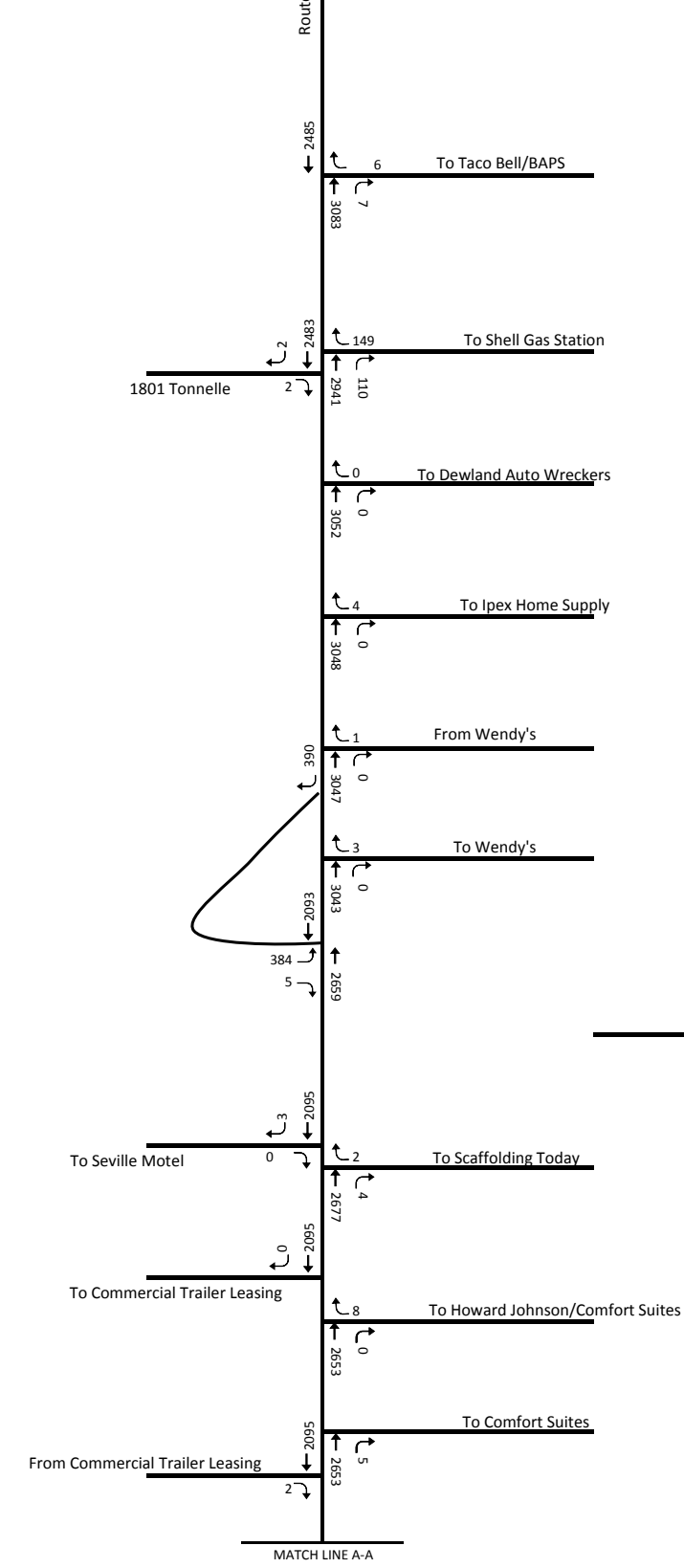
- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
- { } Overpass



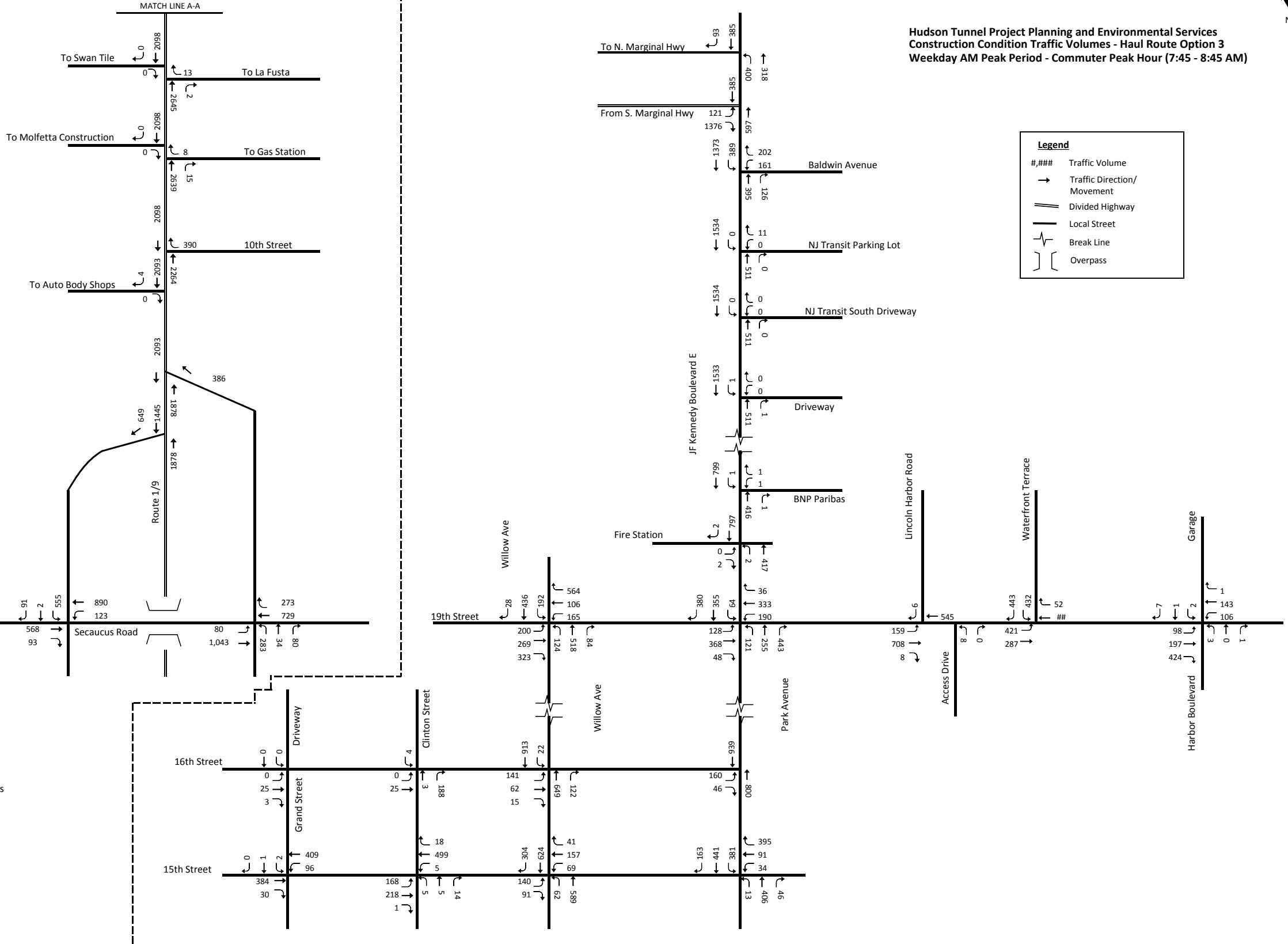
Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction
Hoboken Staging Site—Haul Route Option 3

Weekday AM Commuter Peak Hour—
2025 Construction Conditions

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes - Haul Route Option 3
Weekday AM Peak Period - Commuter Peak Hour (7:45 - 8:45 AM)

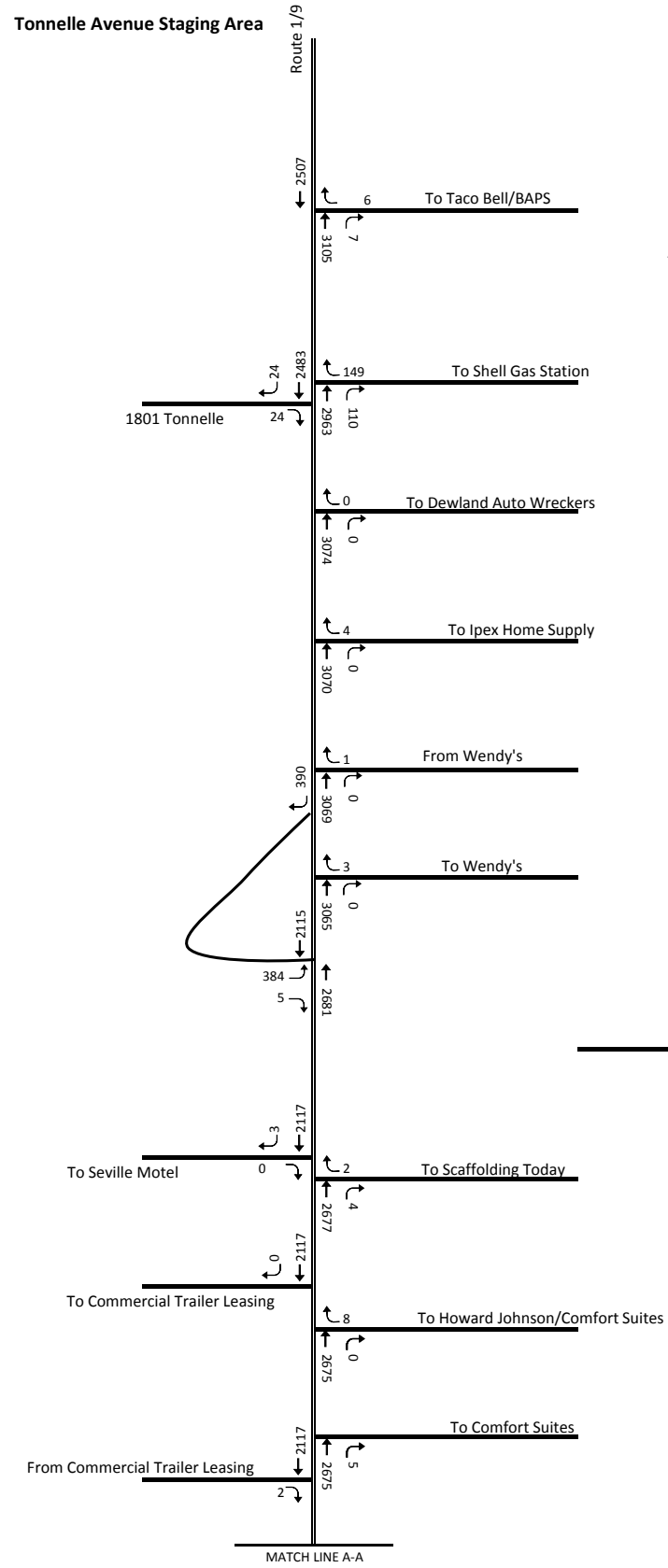
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- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- ~ Break Line
- { } Overpass

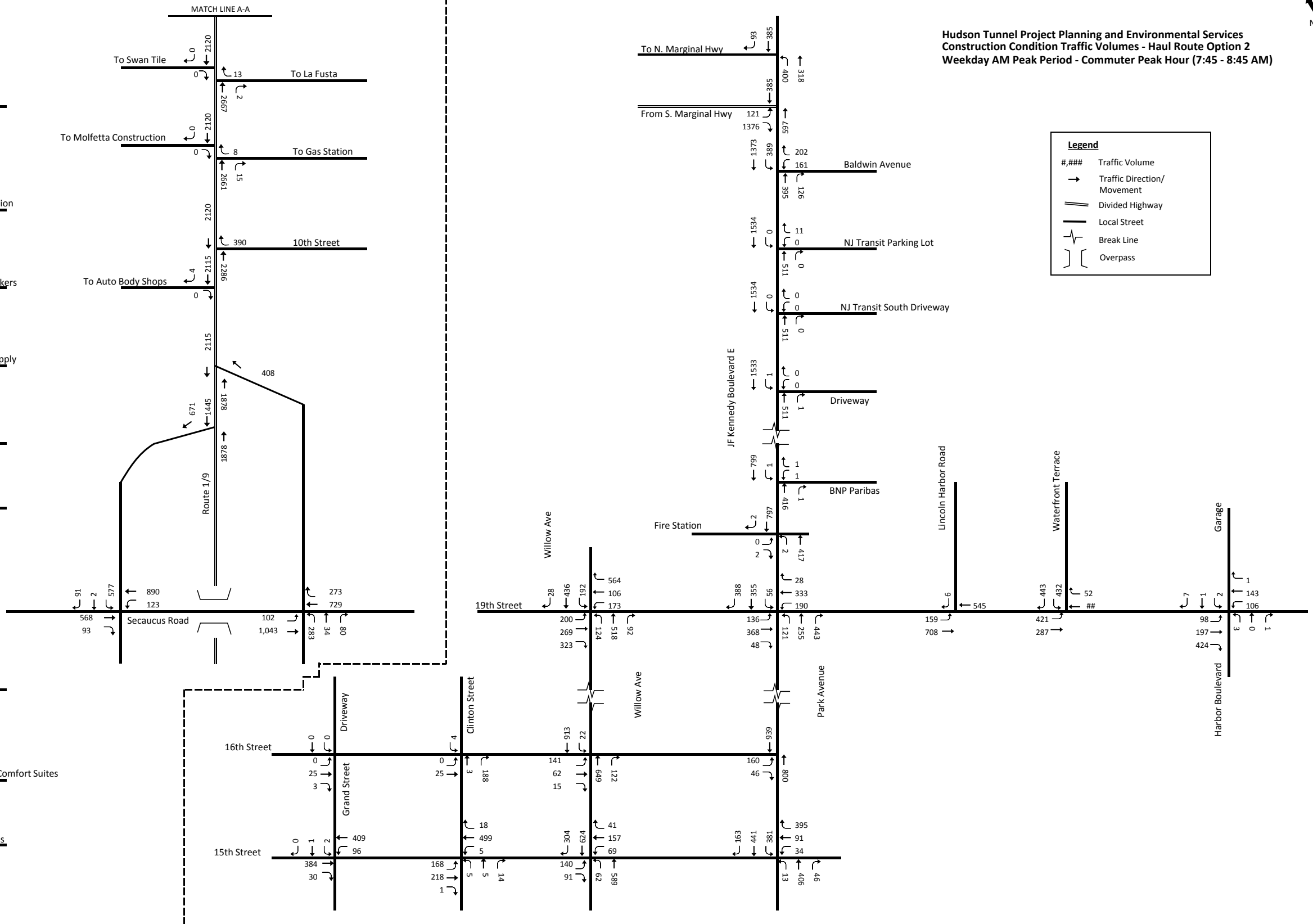
Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction
Hoboken Staging Site—Haul Route Option 2

Weekday AM Commuter Peak Hour—
2025 Construction Conditions

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Construction Condition Traffic Volumes - Haul Route Option 2
 Weekday AM Peak Period - Commuter Peak Hour (7:45 - 8:45 AM)

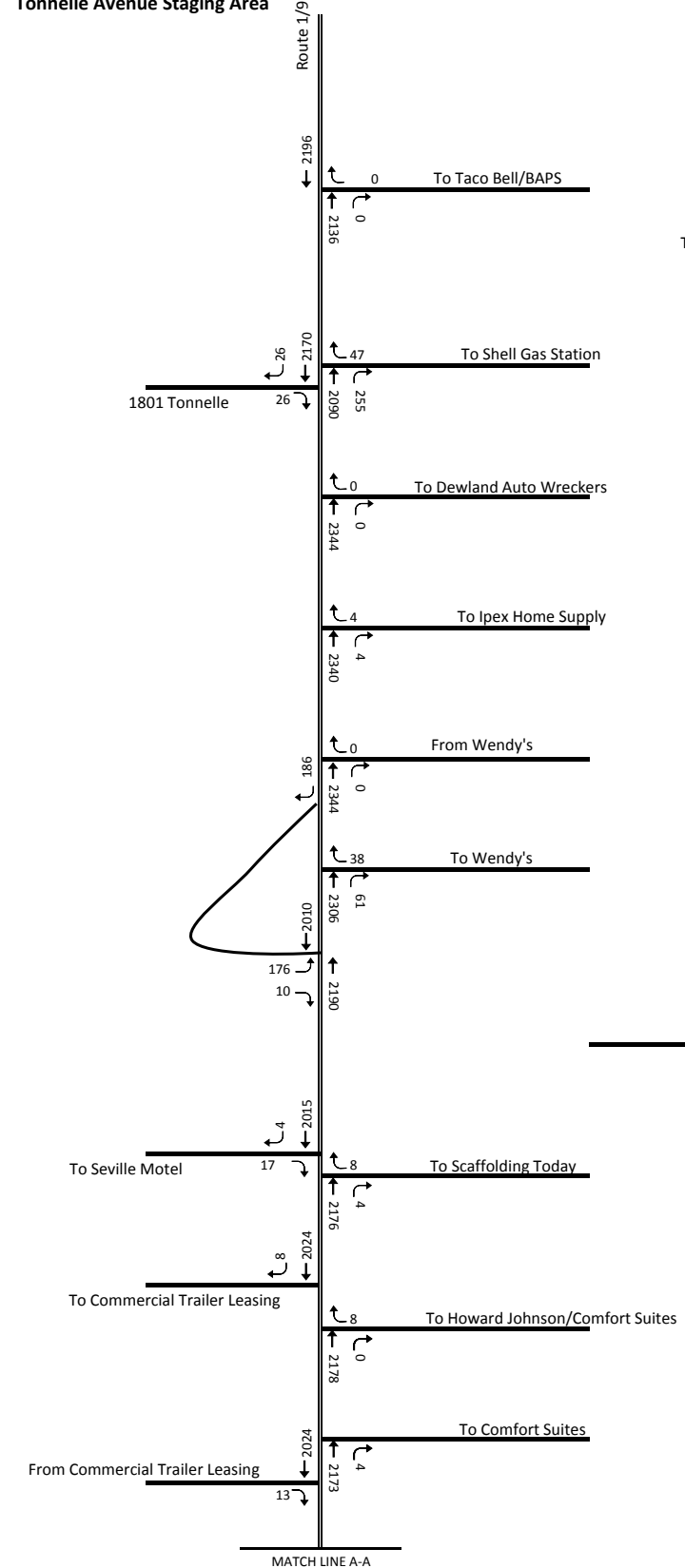
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- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
- { } Overpass

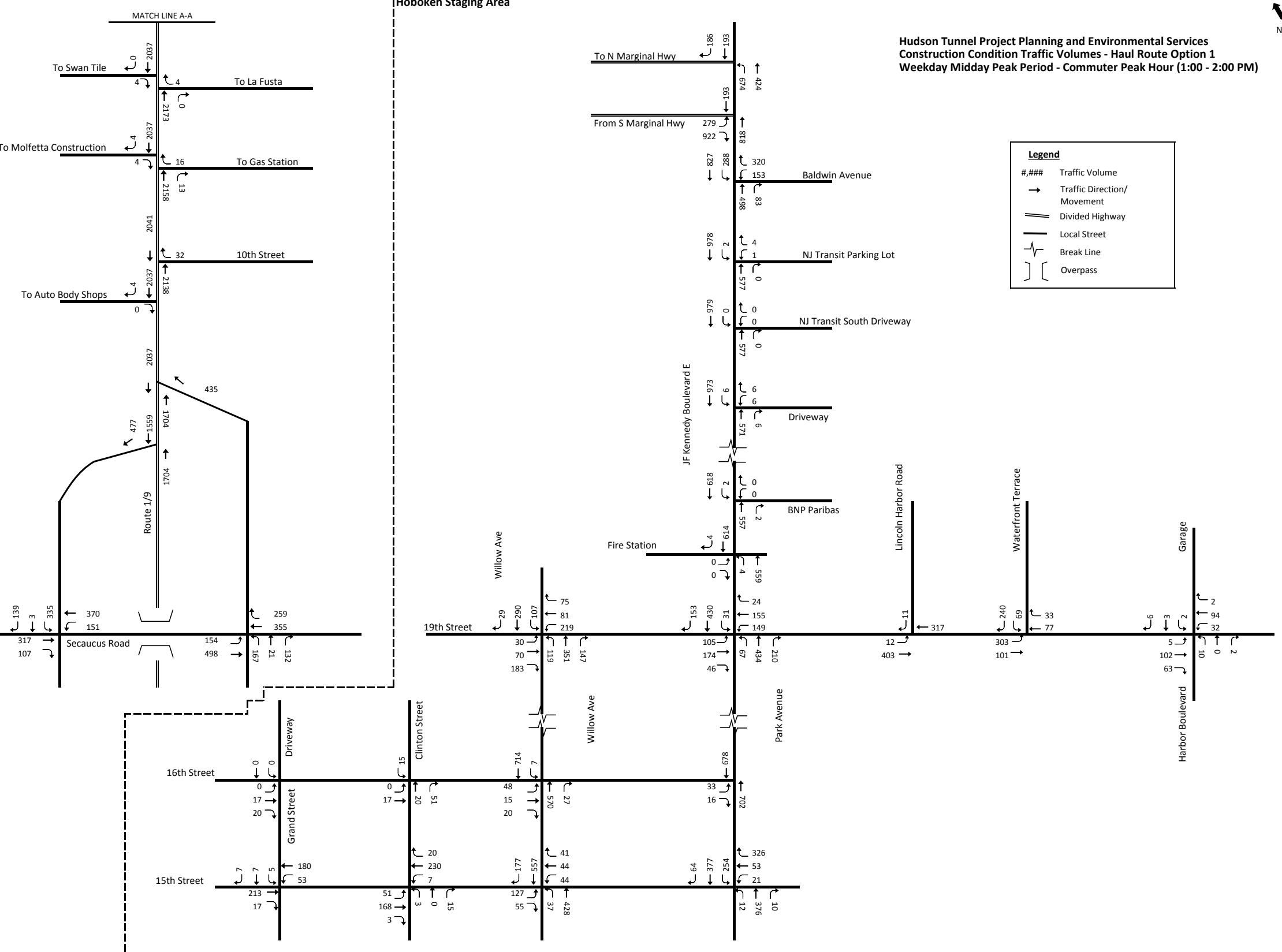
Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction
Hoboken Staging Site—Haul Route Option 1

Weekday Midday Commuter Peak Hours
2025 Construction Conditions

Tonnelle Avenue Staging Area



Hoboken Staging Area



**Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes - Haul Route Option 1
Weekday Midday Peak Period - Commuter Peak Hour (1:00 - 2:00 PM)**

Legend

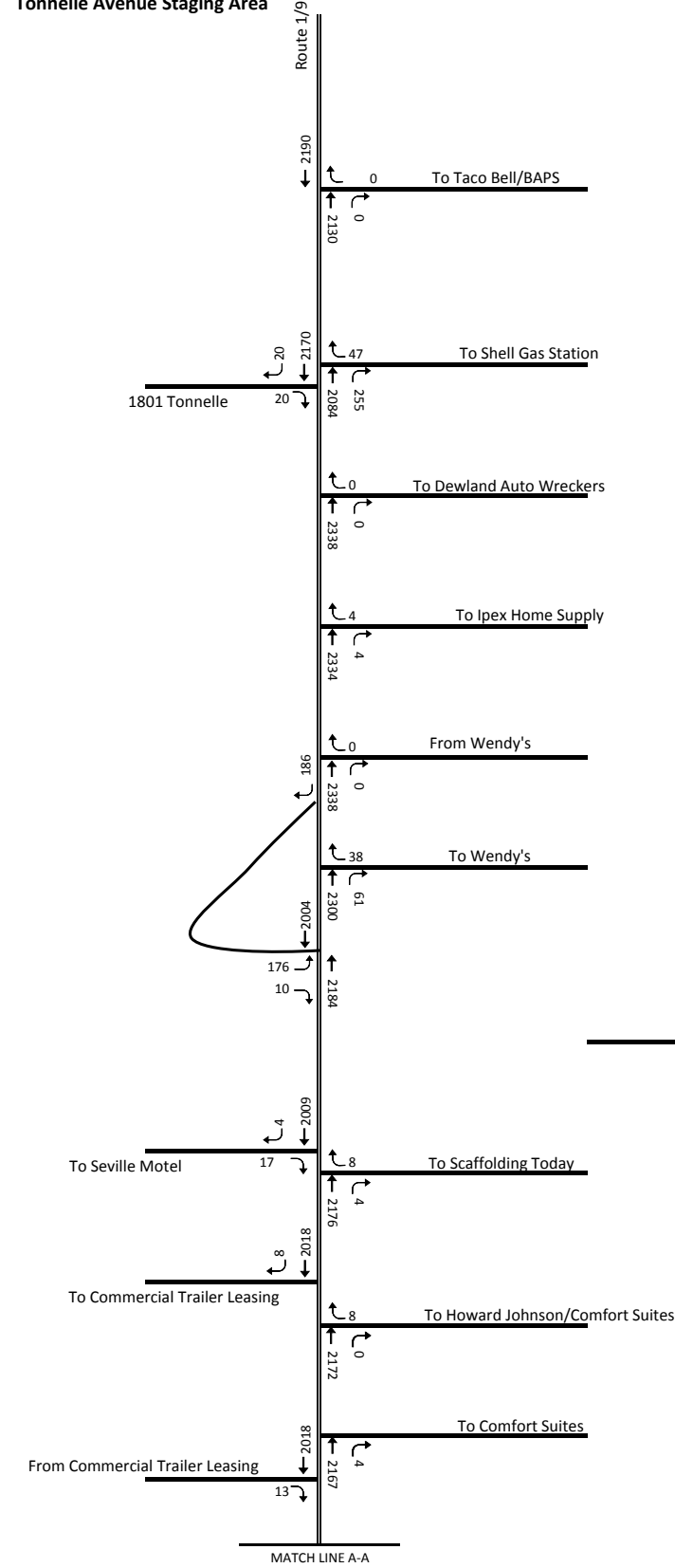
- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
- { } Overpass



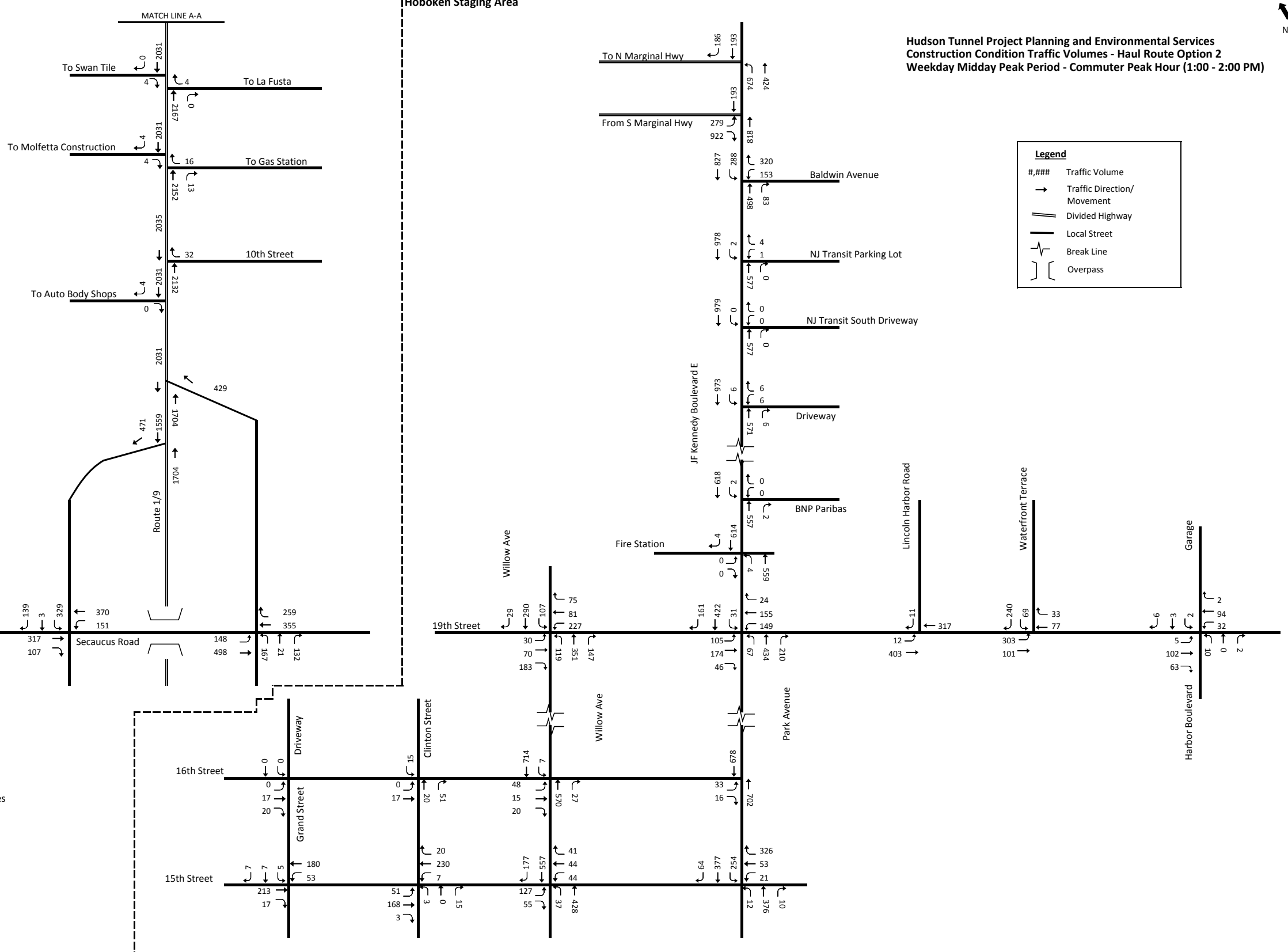
Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction
Hoboken Staging Site—Haul Route Option 2

Weekday Midday Commuter Peak Period—
2025 Construction Conditions

Tonnelle Avenue Staging Area



Hoboken Staging Area



**Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes - Haul Route Option 2
Weekday Midday Peak Period - Commuter Peak Hour (1:00 - 2:00 PM)**

Legend

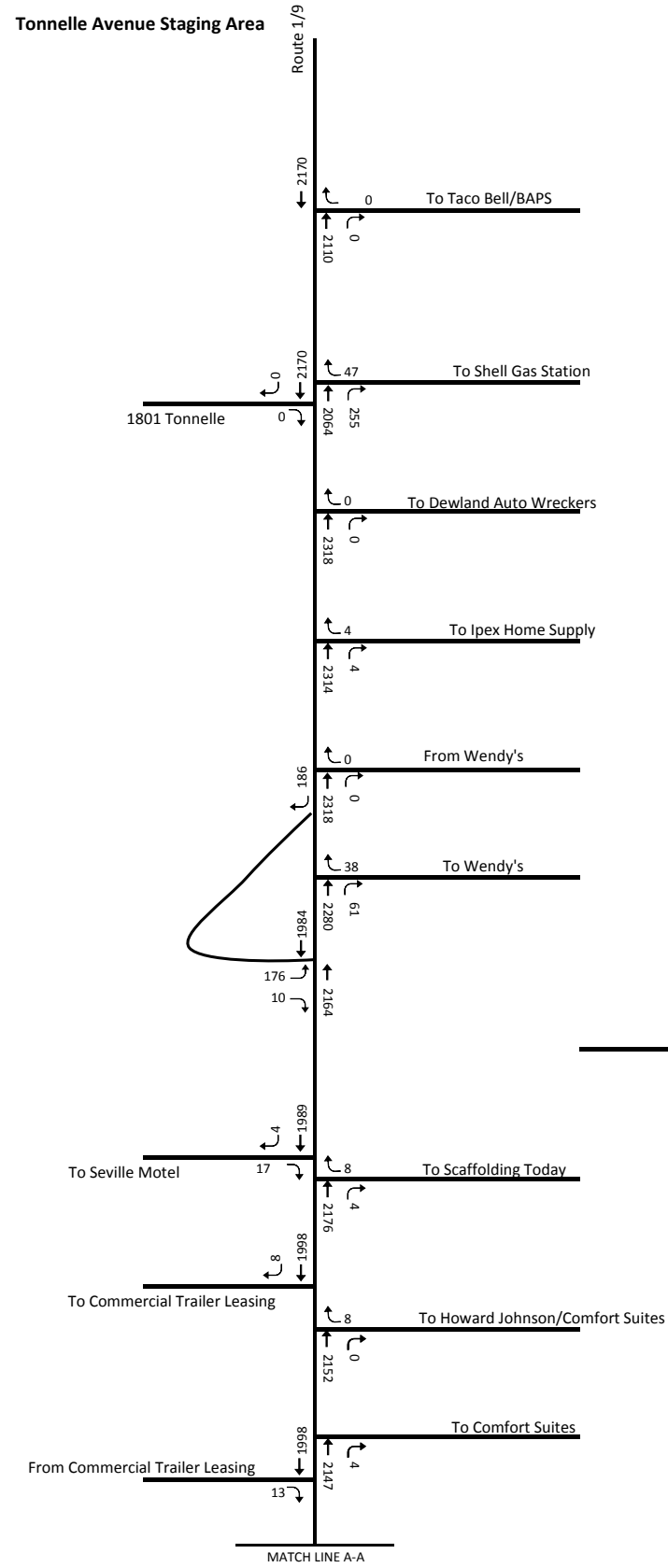
- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
- { } Overpass



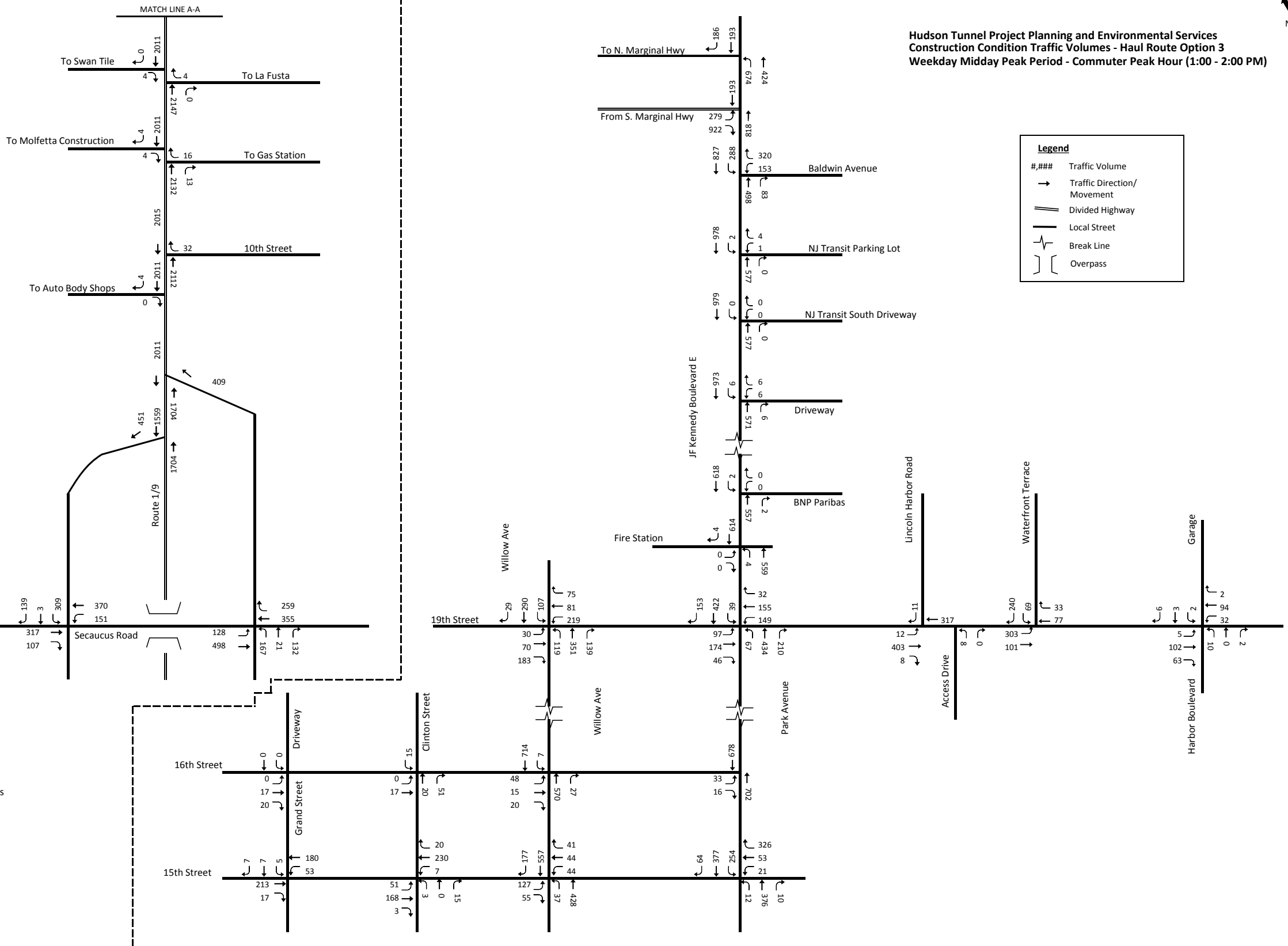
Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction
Hoboken Staging Site—Haul Route Option 3

Weekday Midday Commuter Peak Period—
2025 Construction Conditions

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Construction Condition Traffic Volumes - Haul Route Option 3
 Weekday Midday Peak Period - Commuter Peak Hour (1:00 - 2:00 PM)

Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- ⋈ Break Line
- { } Overpass

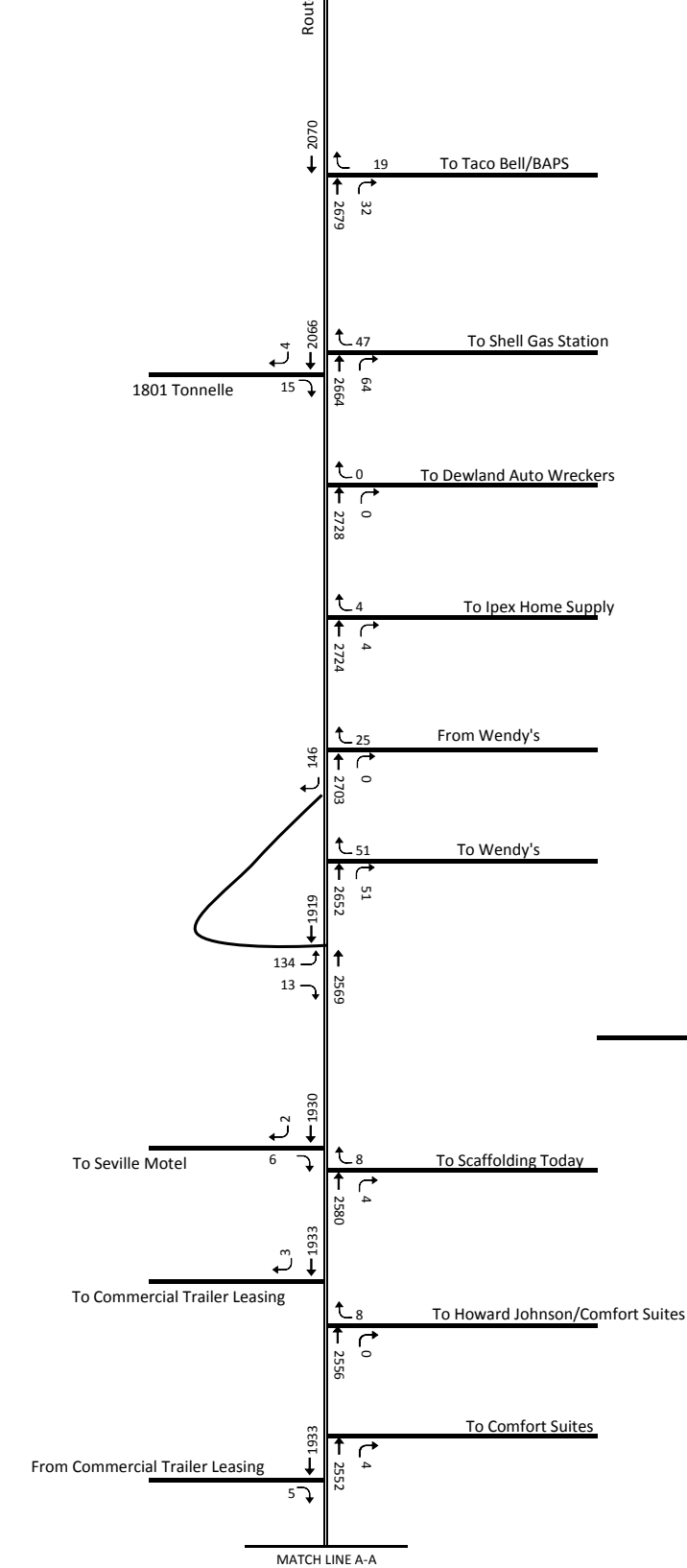
Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction
Hoboken Staging Site—Haul Route Option 1

Weekday PM Construction Peak Hours
2025 Construction Conditions

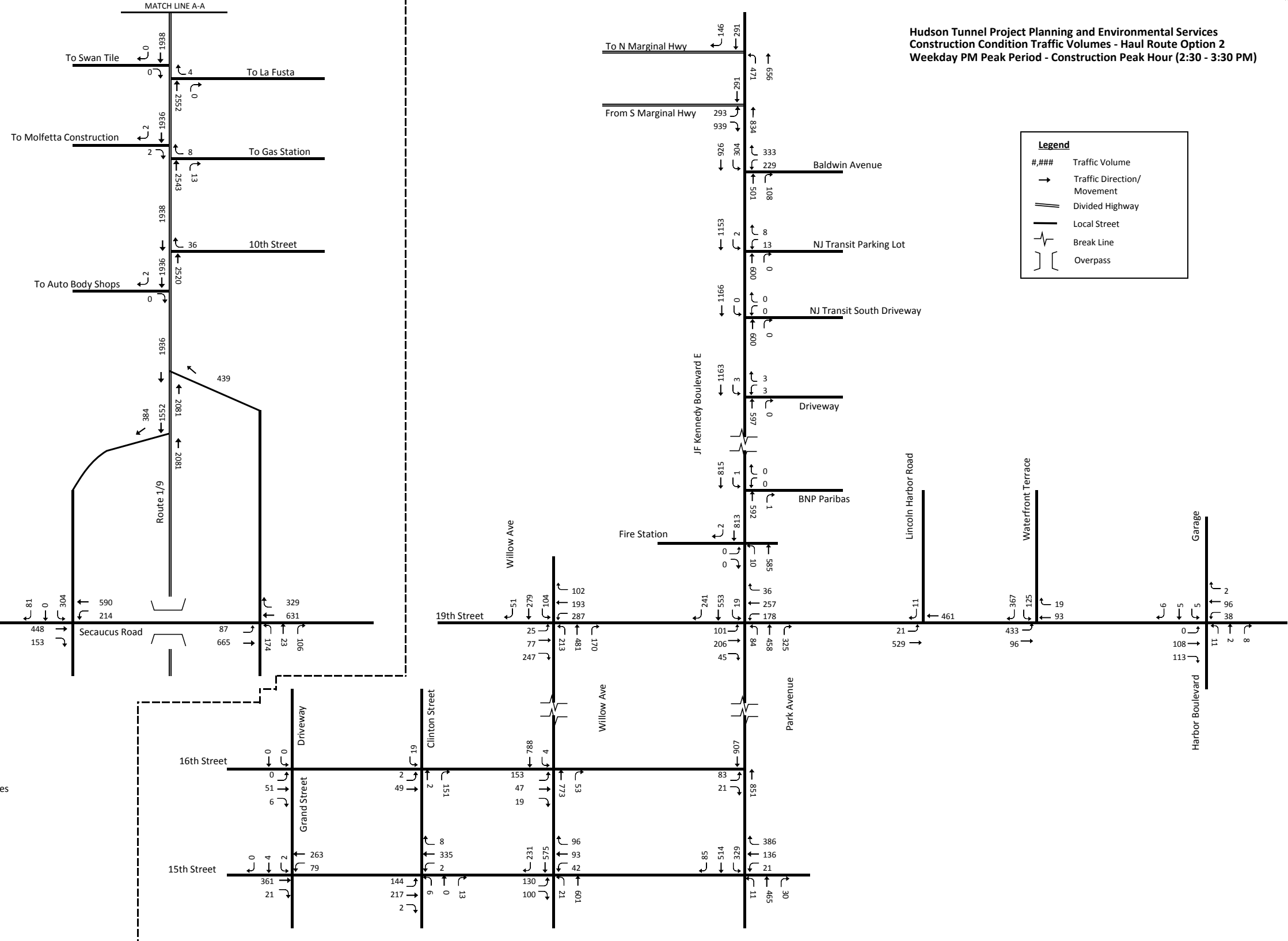
Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction
Hoboken Staging Site—Haul Route Option 2

Weekday PM Construction Peak Hour—
2025 Construction Conditions

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Construction Condition Traffic Volumes - Haul Route Option 2
 Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)

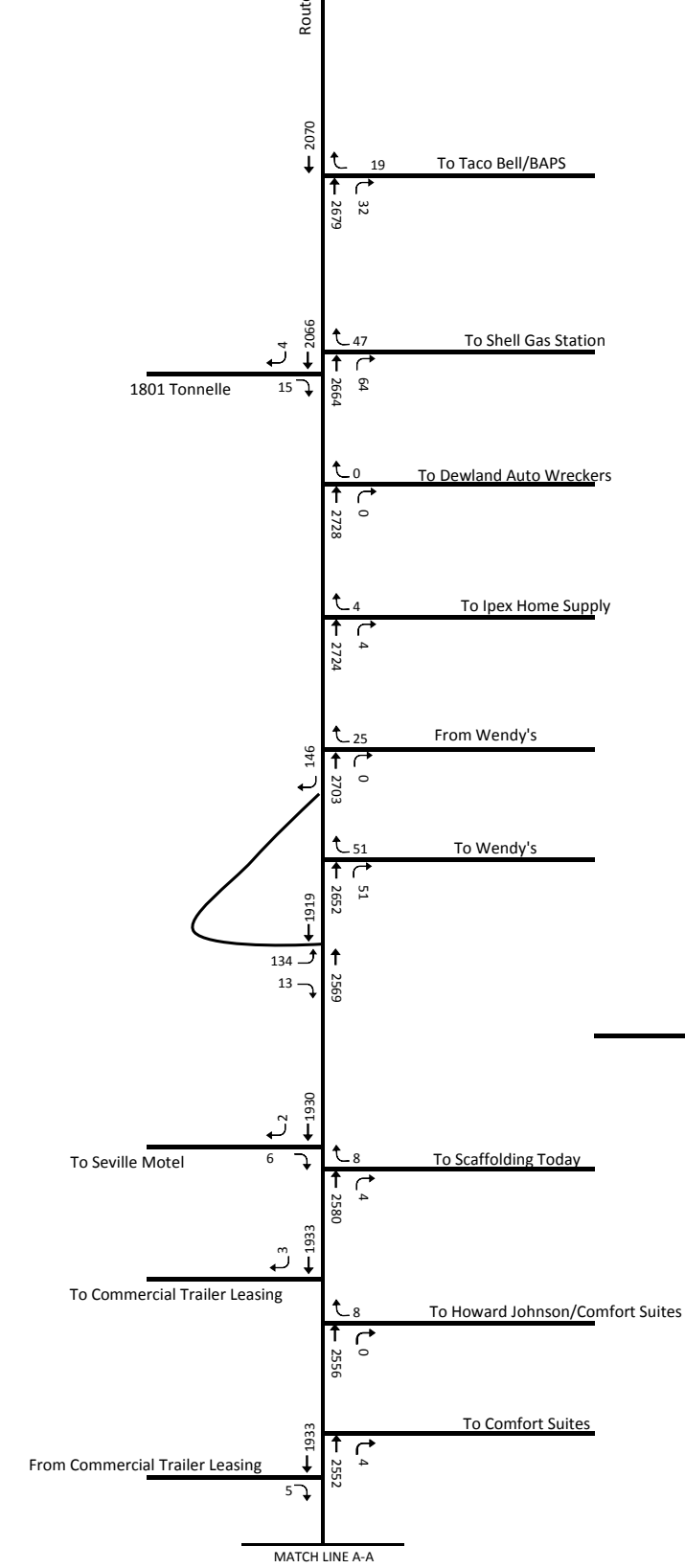
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- #,### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- - - Break Line
- { } Overpass

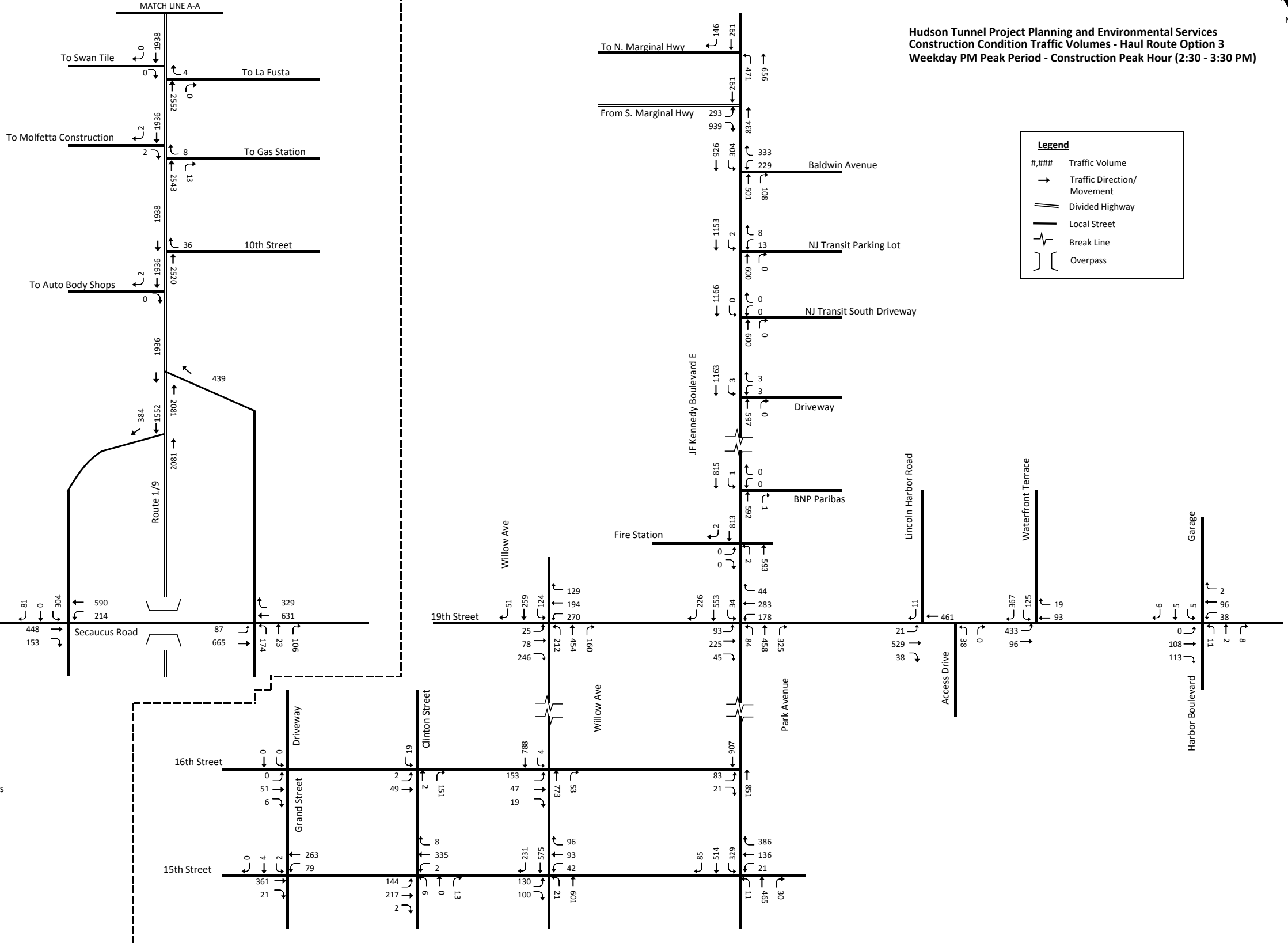
Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction
Hoboken Staging Site—Haul Route Option 3

Weekday PM Construction Peak Hour—
2025 Construction Conditions

Tonnelle Avenue Staging Area



Hoboken Staging Area



**Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes - Haul Route Option 3
Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)**

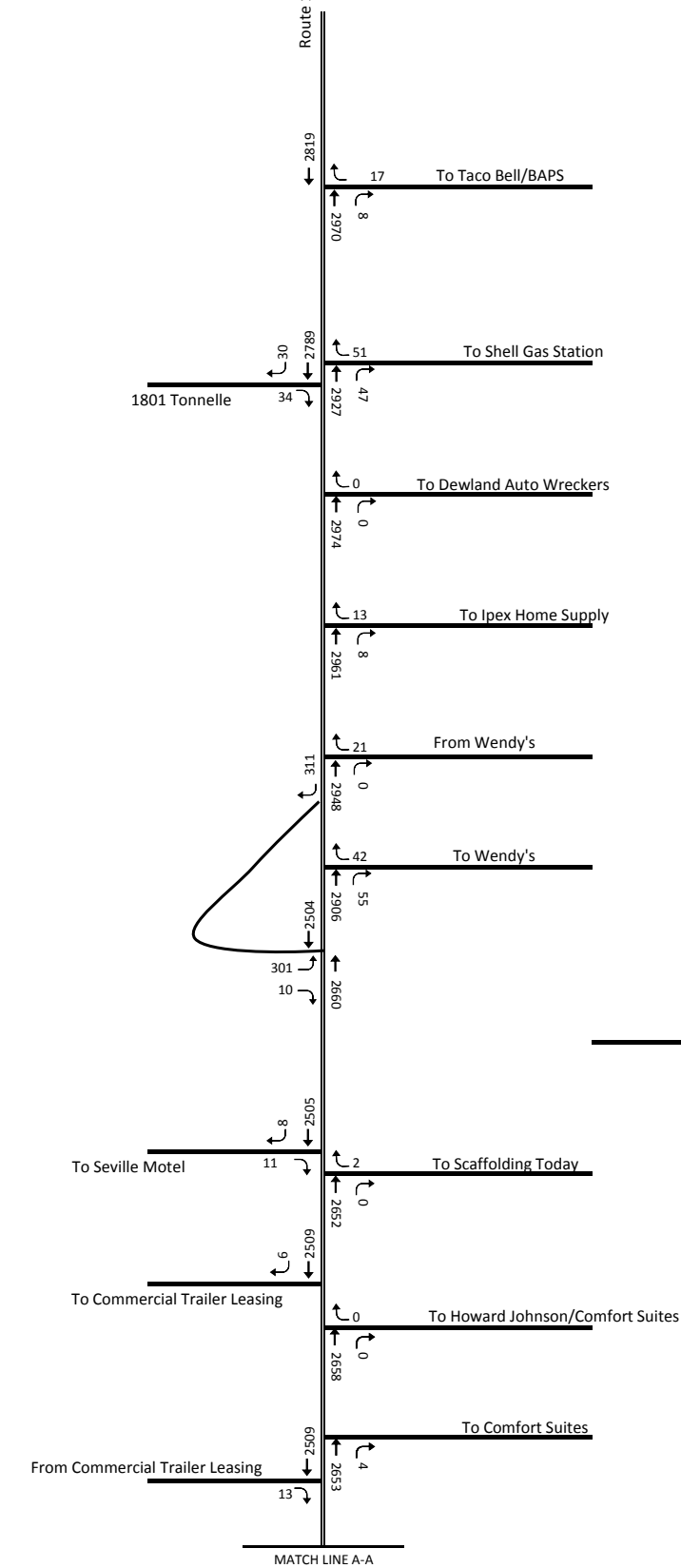
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- #,### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- ~ Break Line
- { } Overpass

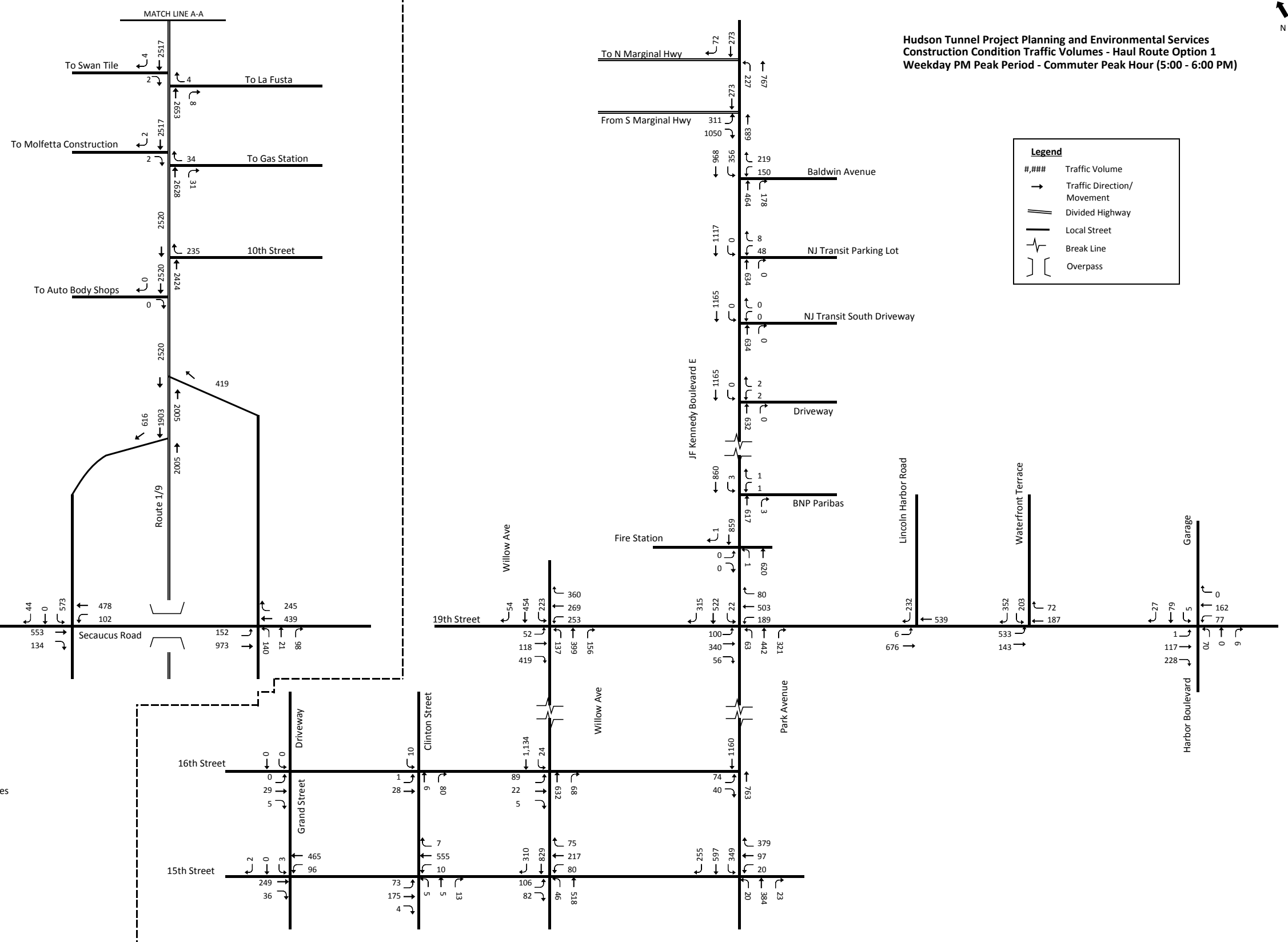
Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction
Hoboken Staging Site—Haul Route Option 1

Weekday PM Commuter Peak Hours
2025 Construction Conditions

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Construction Condition Traffic Volumes - Haul Route Option 1
 Weekday PM Peak Period - Commuter Peak Hour (5:00 - 6:00 PM)

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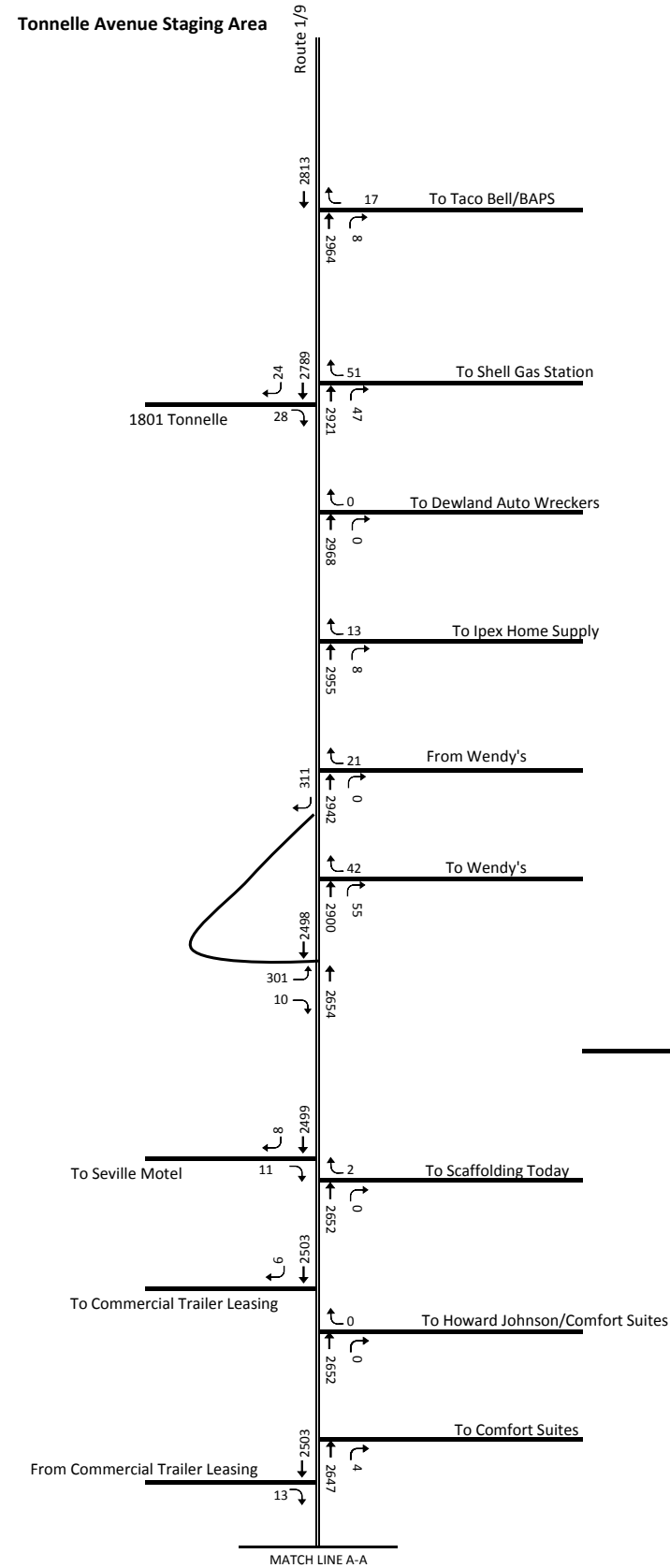
- #,### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- ⋈ Break Line
- { } Overpass



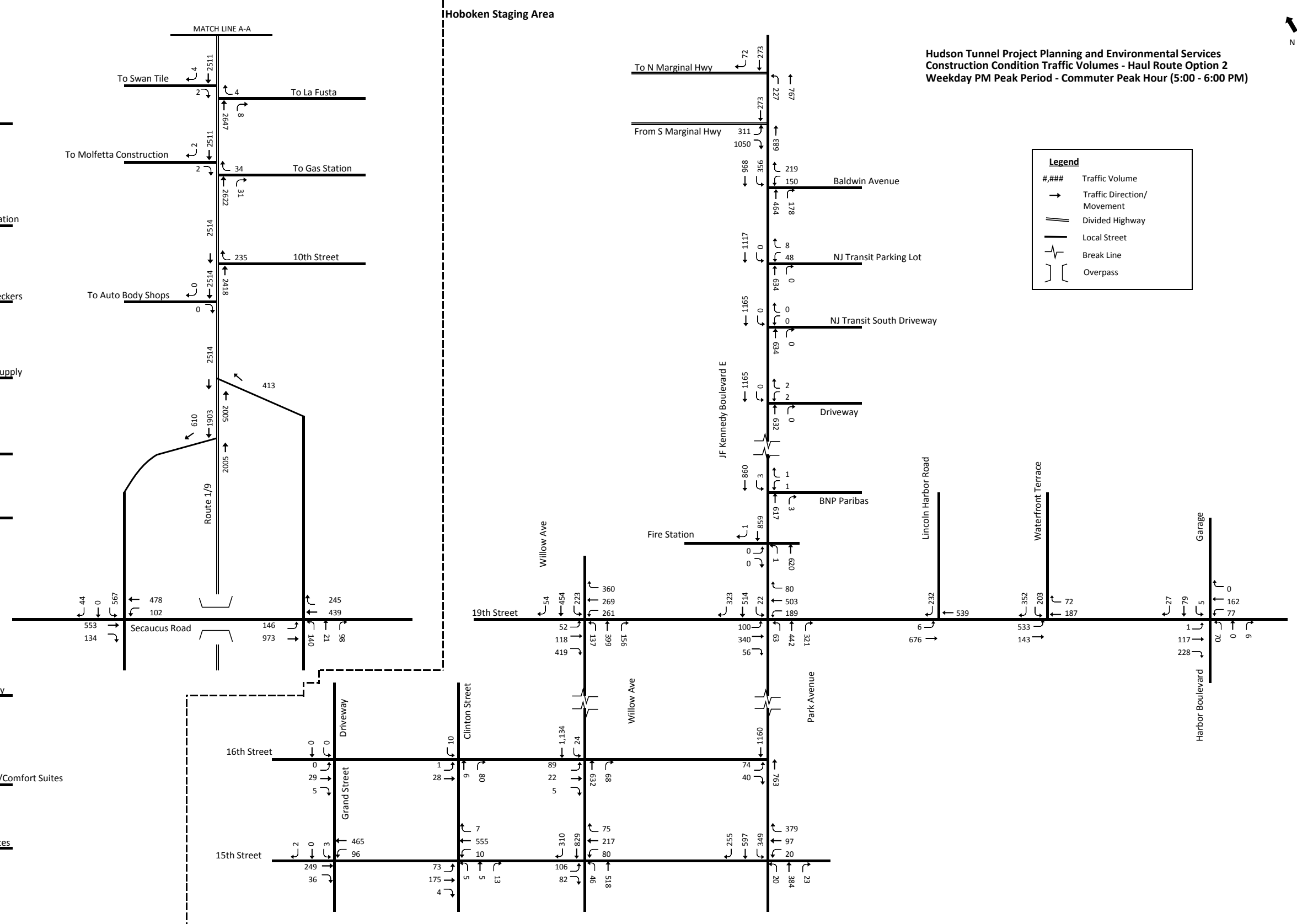
Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction
Hoboken Staging Site—Haul Route Option 2

Weekday PM Commuter Peak Hour—
2025 Construction Conditions

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes - Haul Route Option 2
Weekday PM Peak Period - Commuter Peak Hour (5:00 - 6:00 PM)

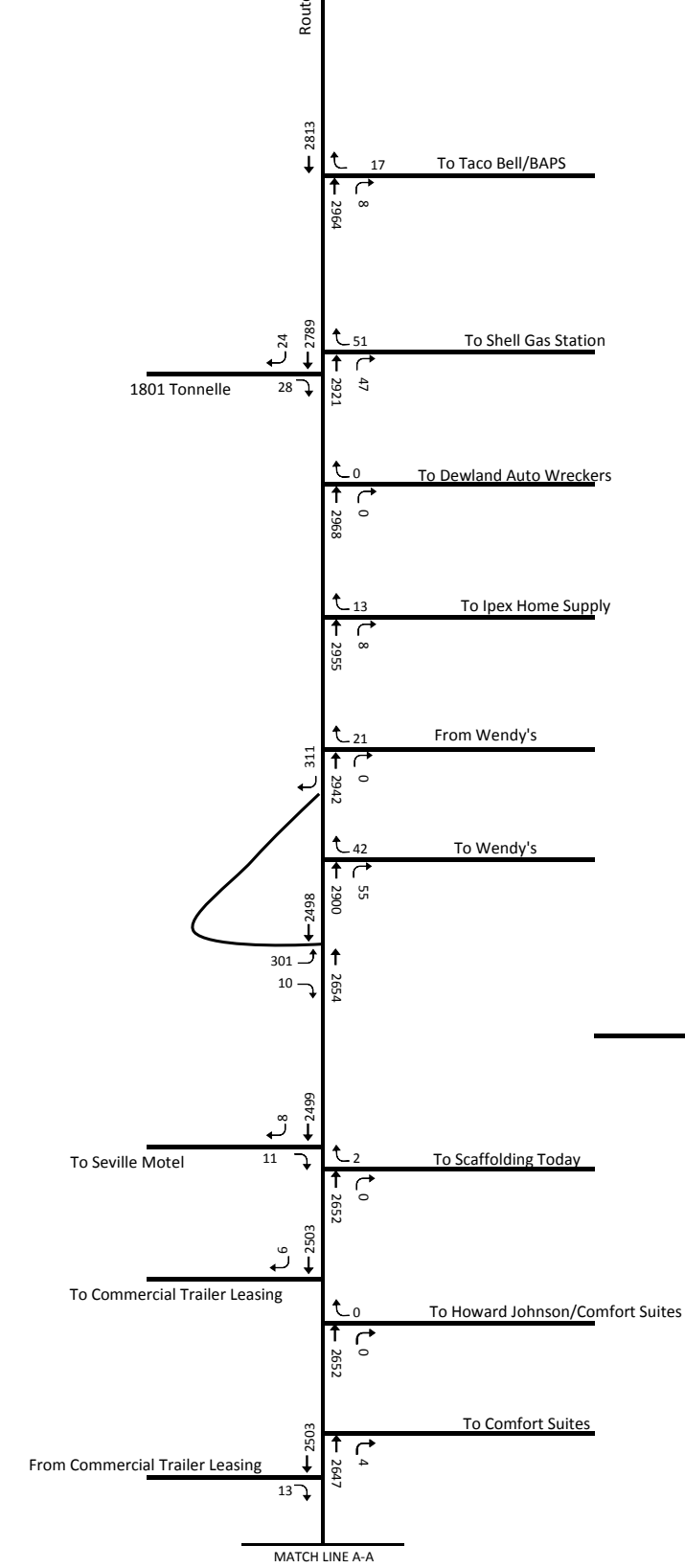
Legend

- ### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- - - Break Line
- { } Overpass

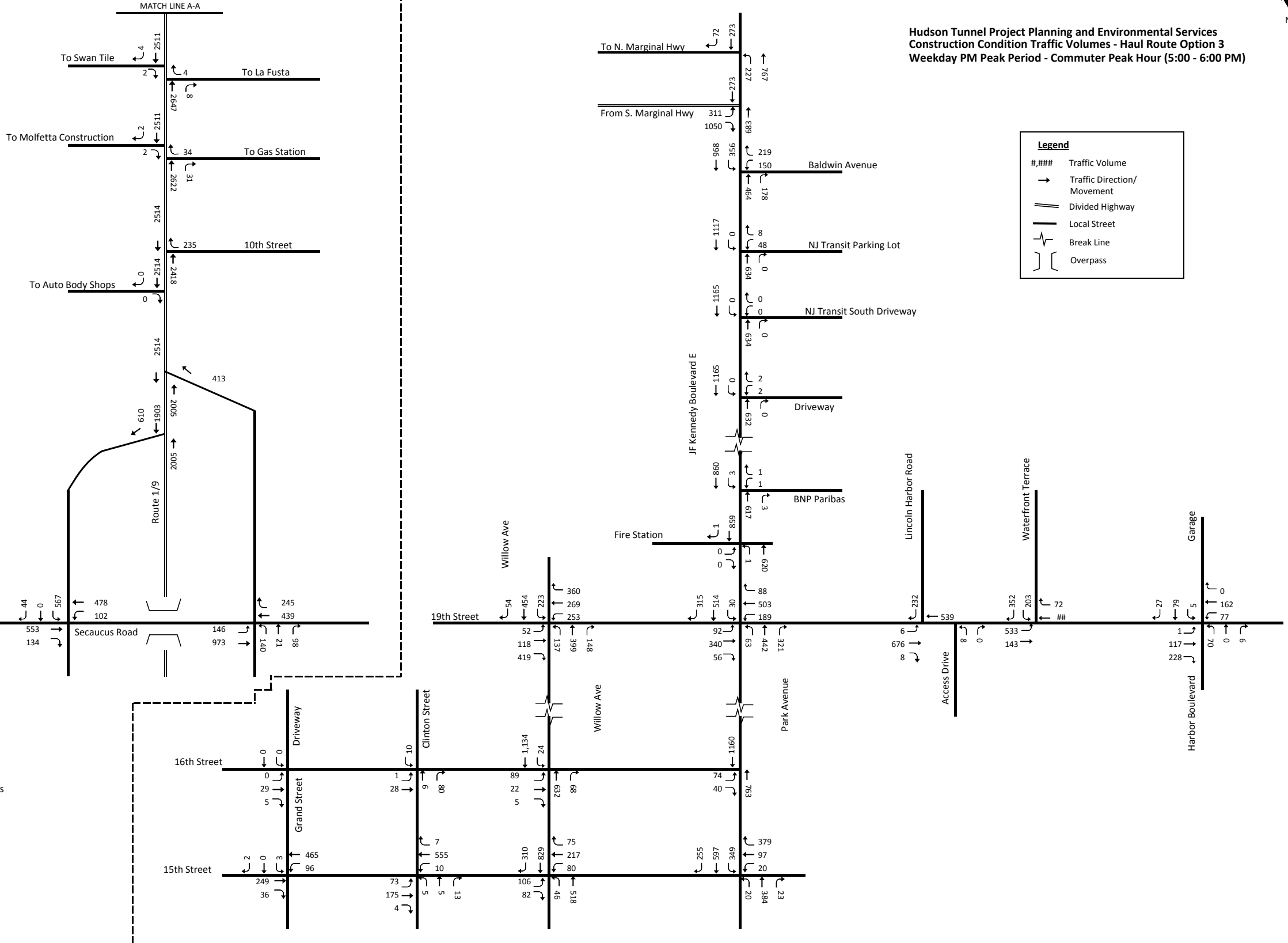
Traffic Flow Maps:
New Jersey Study Areas:
New Tunnel Construction
Hoboken Staging Site—Haul Route Option 3

Weekday PM Commuter Peak Hour—
2025 Construction Conditions

Tonnelle Avenue Staging Area



Hoboken Staging Area



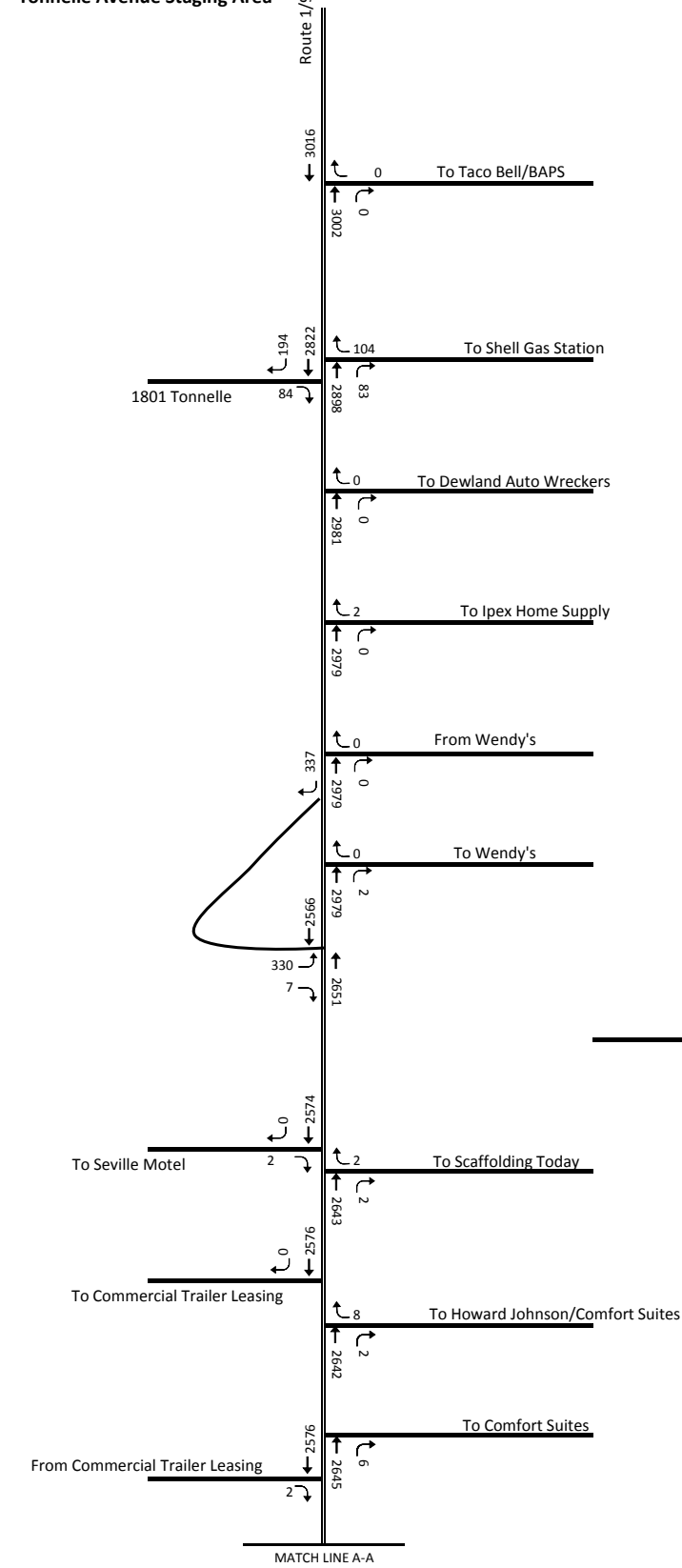
Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes - Haul Route Option 3
Weekday PM Peak Period - Commuter Peak Hour (5:00 - 6:00 PM)

Legend

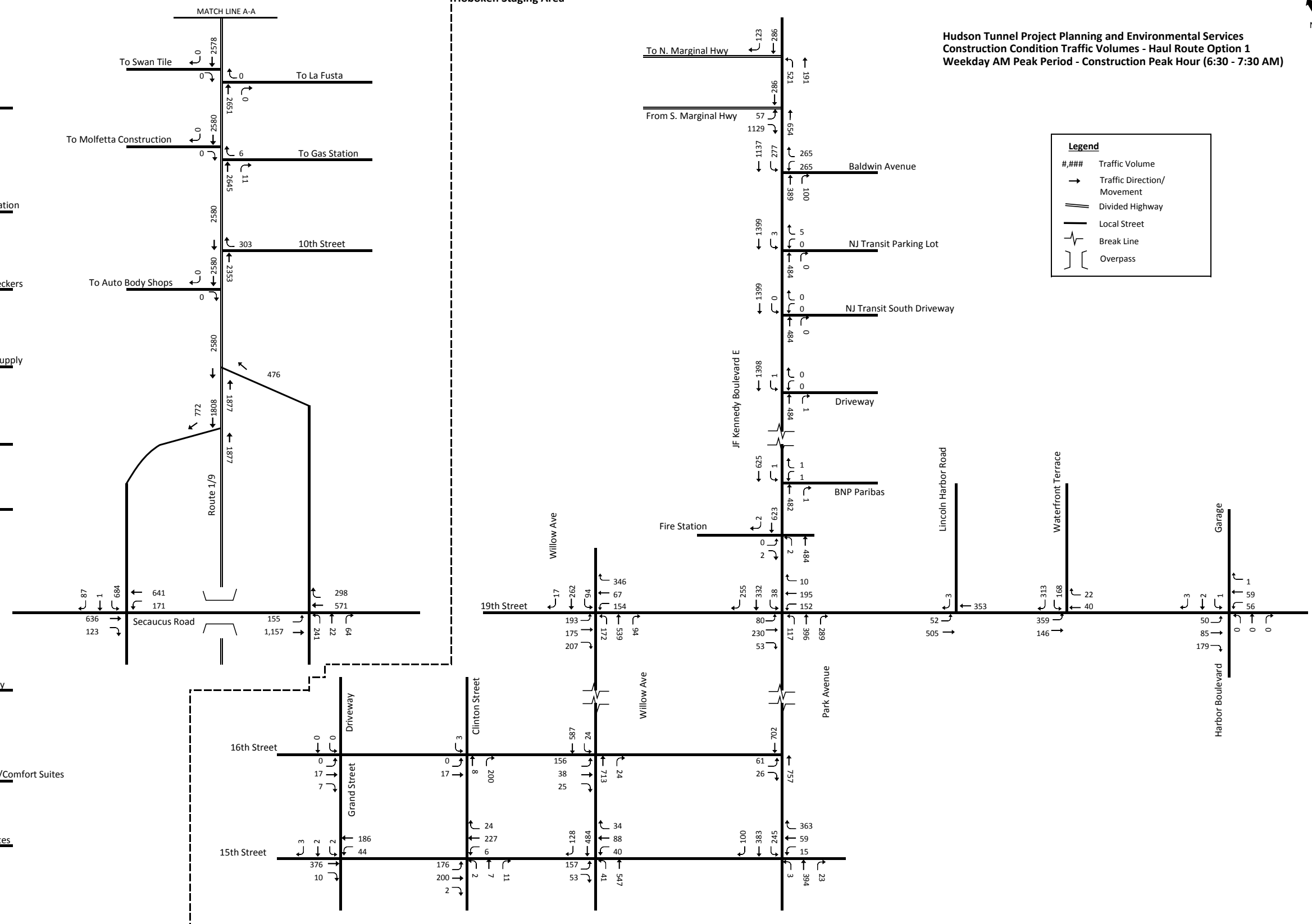
- #,### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- ~ Break Line
- { } Overpass

Traffic Flow Maps:
New Jersey—Hoboken Staging Site
Off-Site Worker Parking Scenario
Haul Route Option 1
2025 Construction Conditions
(AM and PM Construction Peak Hours)

Tonnelle Avenue Staging Area



Hoboken Staging Area



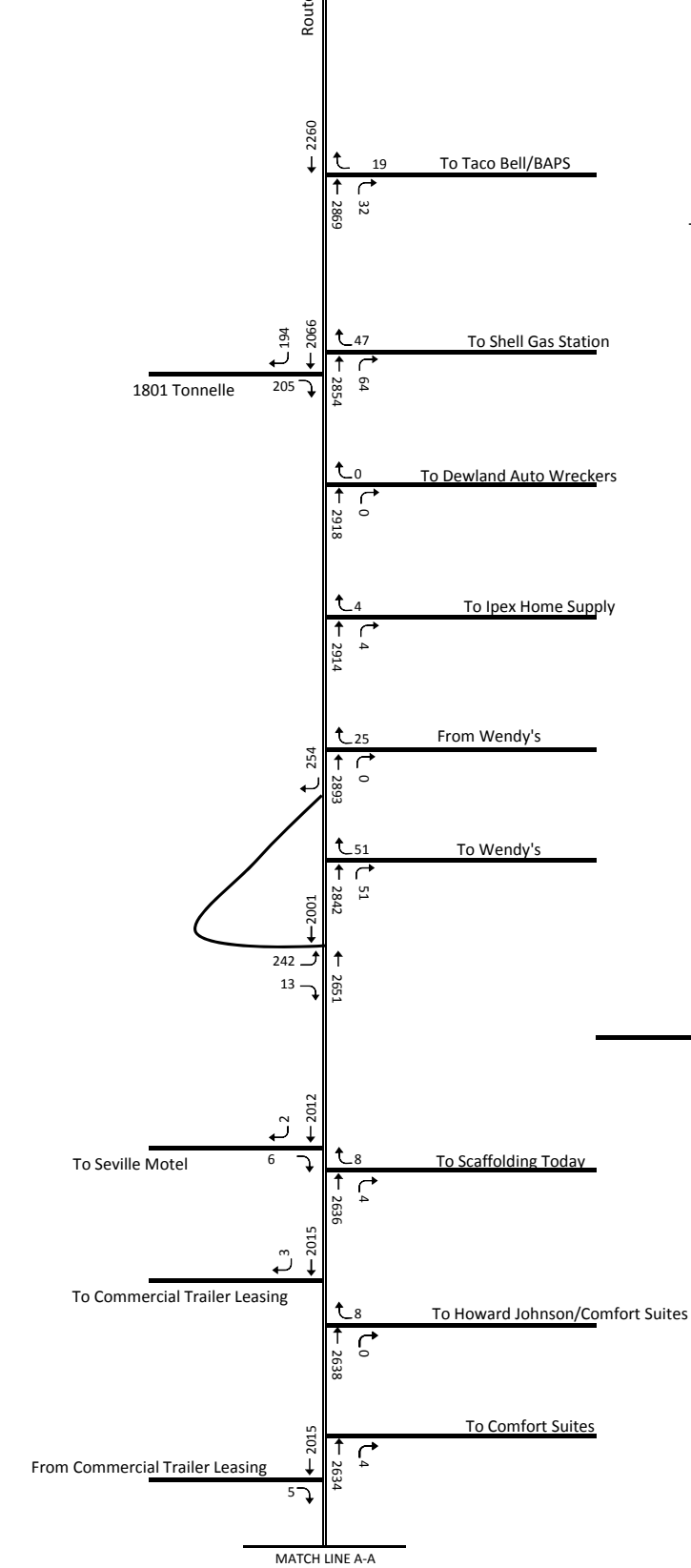
Hudson Tunnel Project Planning and Environmental Services
 Construction Condition Traffic Volumes - Haul Route Option 1
 Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)

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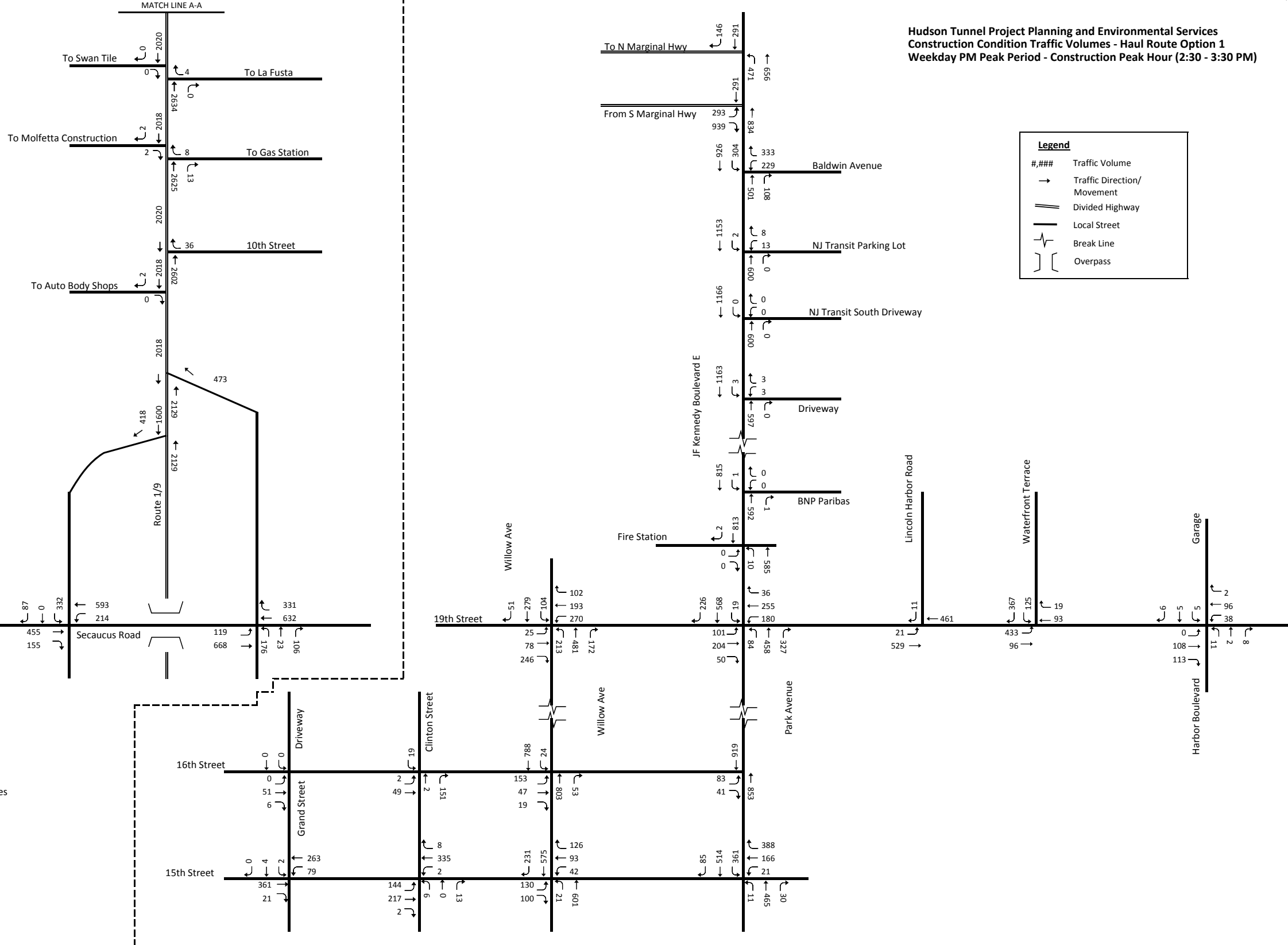
- ### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- ~ Break Line
- { } Overpass



Tonnelle Avenue Staging Area



Hoboken Staging Area



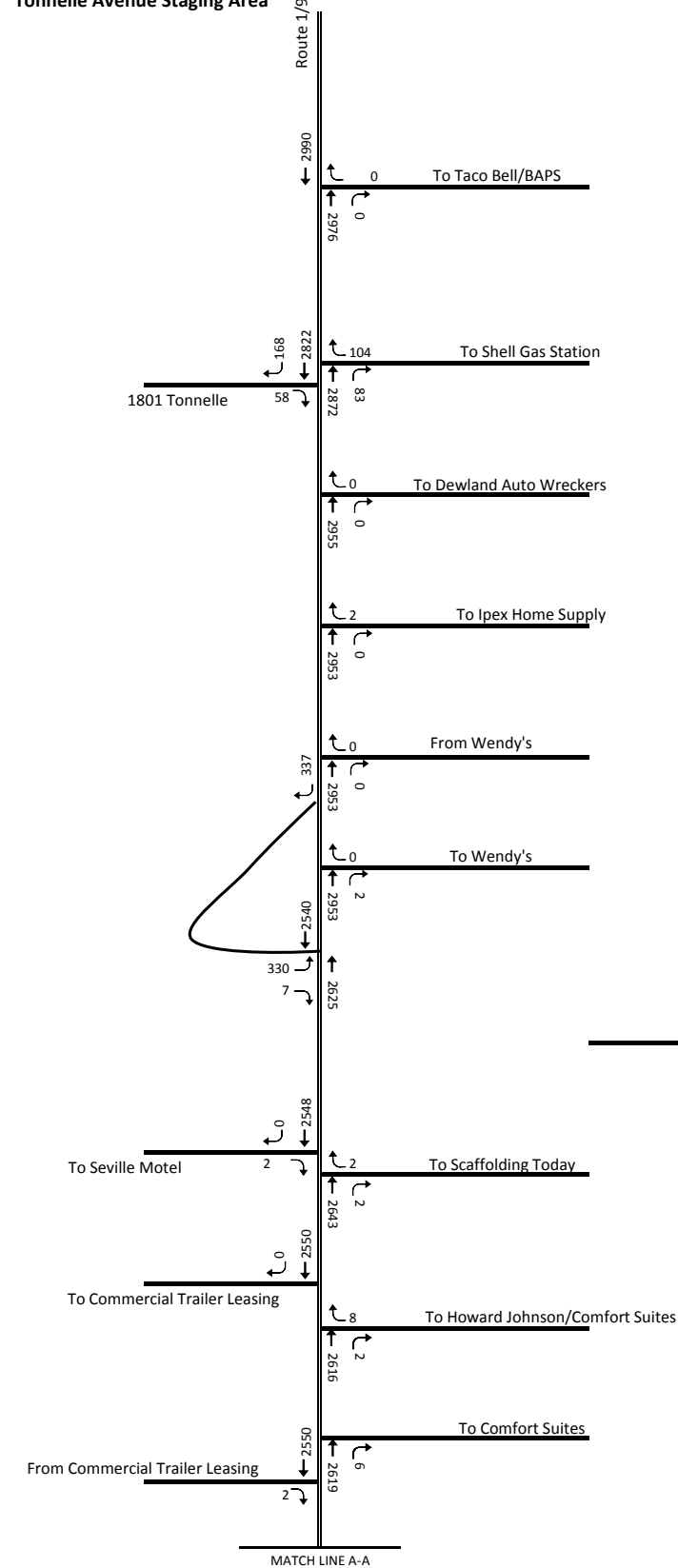
Hudson Tunnel Project Planning and Environmental Services
 Construction Condition Traffic Volumes - Haul Route Option 1
 Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)

Legend

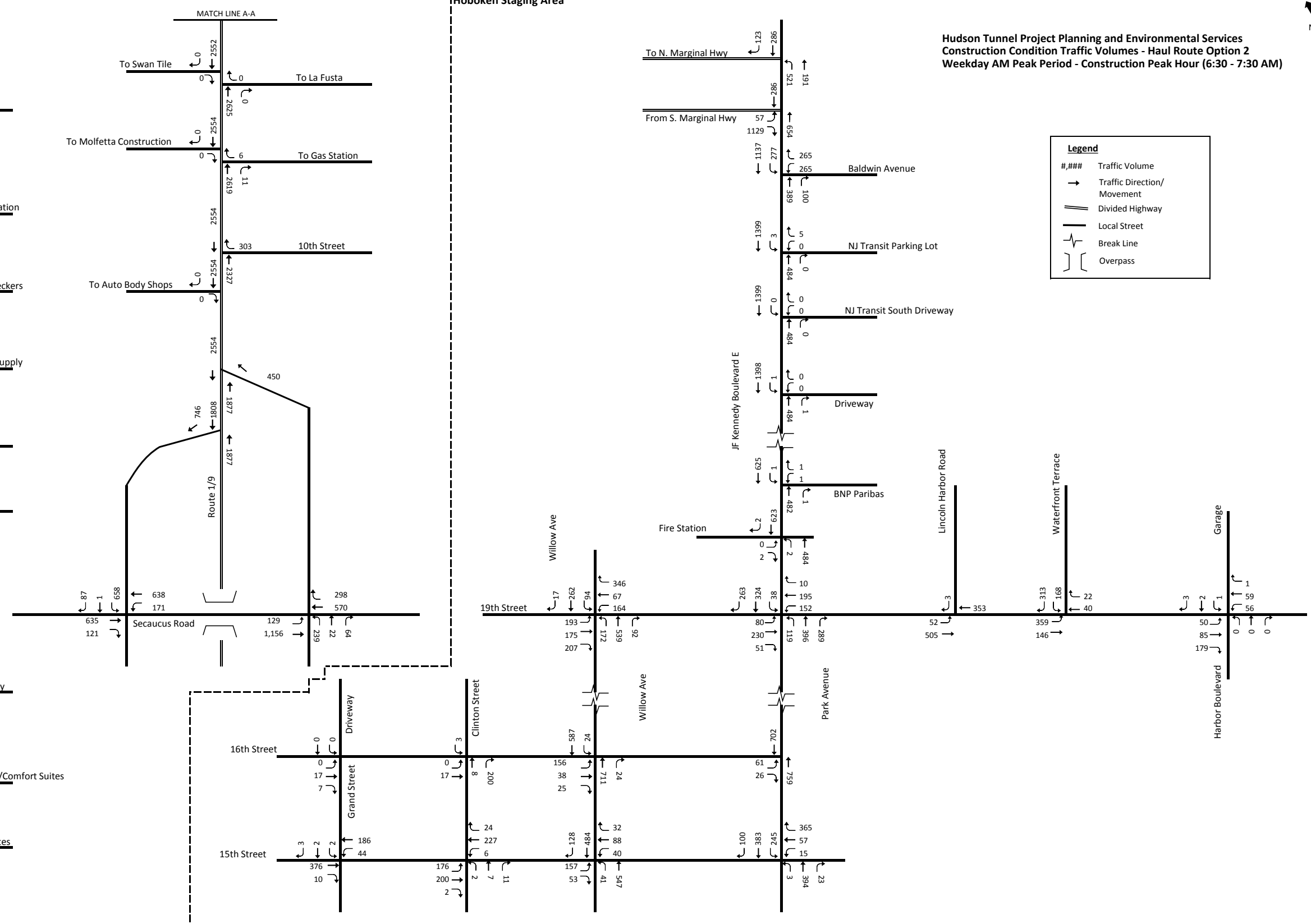
- #,### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- - - Break Line
- { } Overpass

Traffic Flow Maps:
New Jersey—Hoboken Staging Site
Off-Site Worker Parking Scenario
Haul Route Option 2
Construction Conditions
(AM and PM Construction Peak Hours)

Tonnelle Avenue Staging Area



Hoboken Staging Area



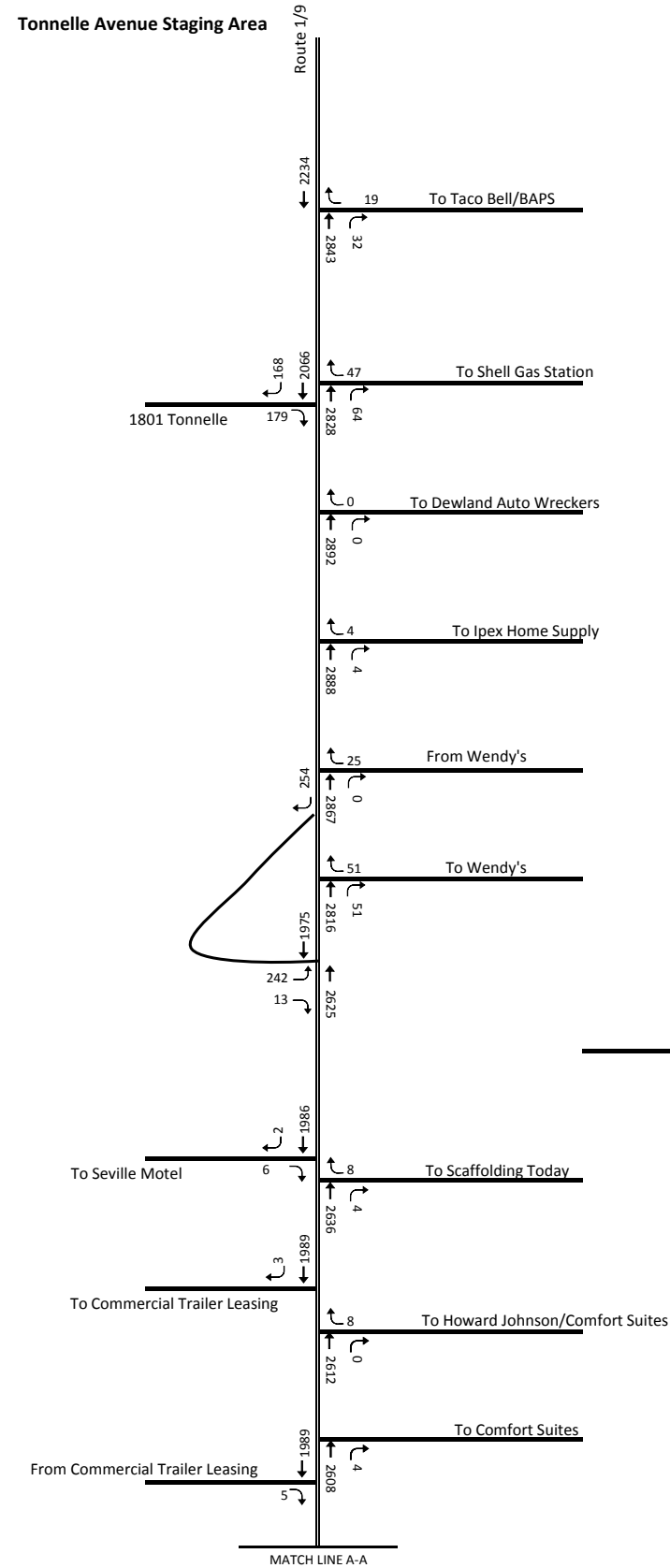
Hudson Tunnel Project Planning and Environmental Services
 Construction Condition Traffic Volumes - Haul Route Option 2
 Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)

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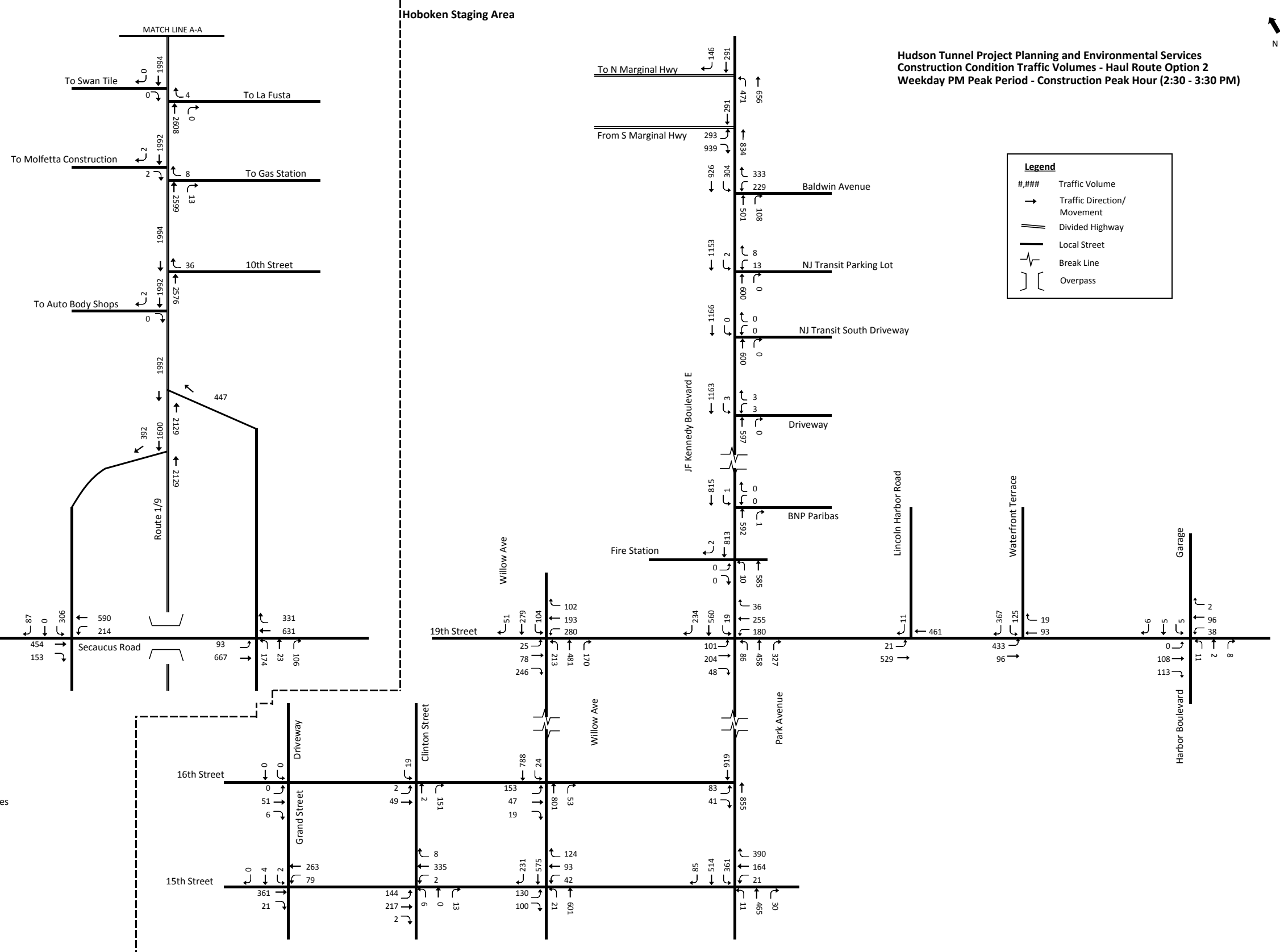
- ### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- ~ Break Line
- { } Overpass



Tonnelle Avenue Staging Area



Hoboken Staging Area



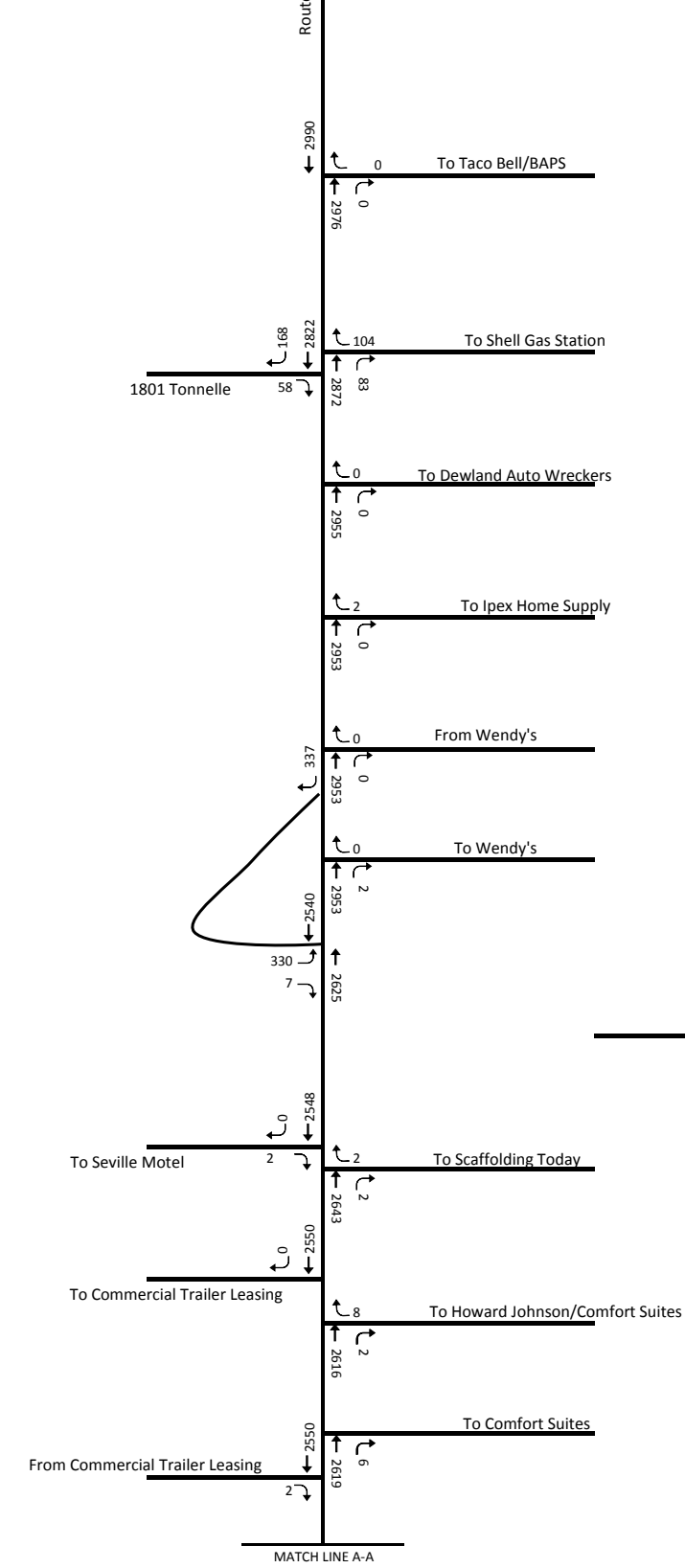
Hudson Tunnel Project Planning and Environmental Services
 Construction Condition Traffic Volumes - Haul Route Option 2
 Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)

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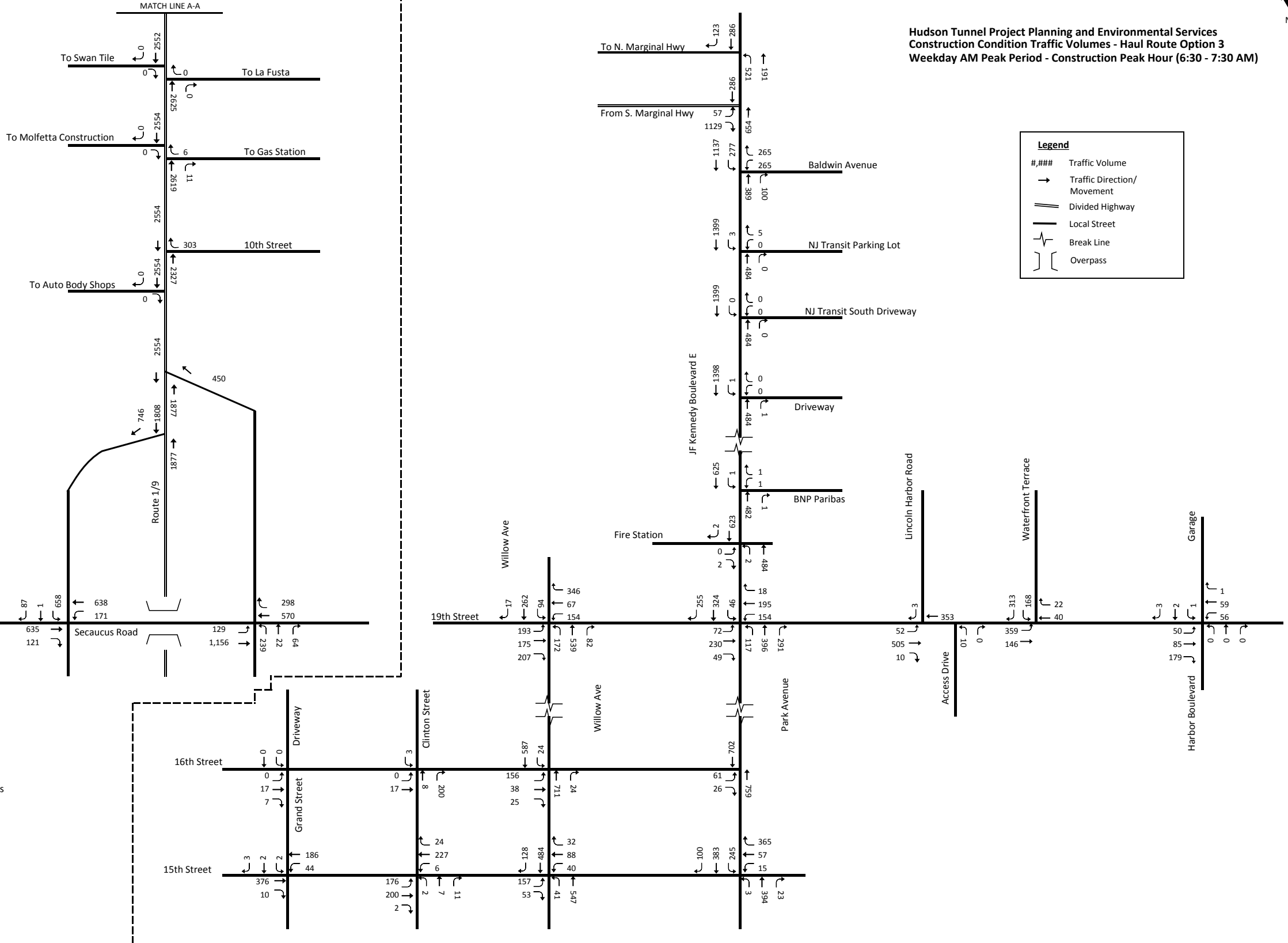
- ### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- - - Break Line
- { } Overpass

Traffic Flow Maps:
New Jersey—Hoboken Staging Site
Off-Site Worker Parking Scenario
Haul Route Option 3
2025 Construction Conditions
(AM and PM Construction Peak Hours)

Tonnelle Avenue Staging Area



Hoboken Staging Area

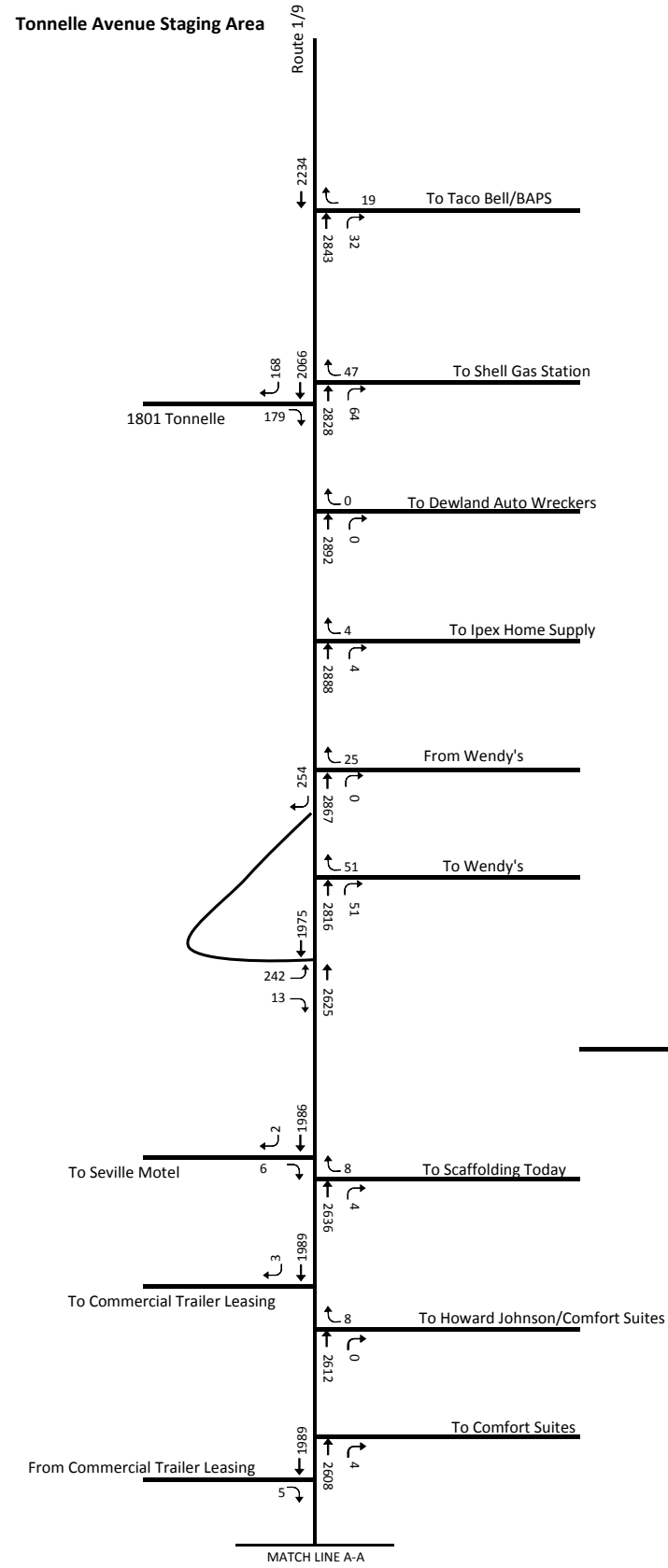


**Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes - Haul Route Option 3
Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)**

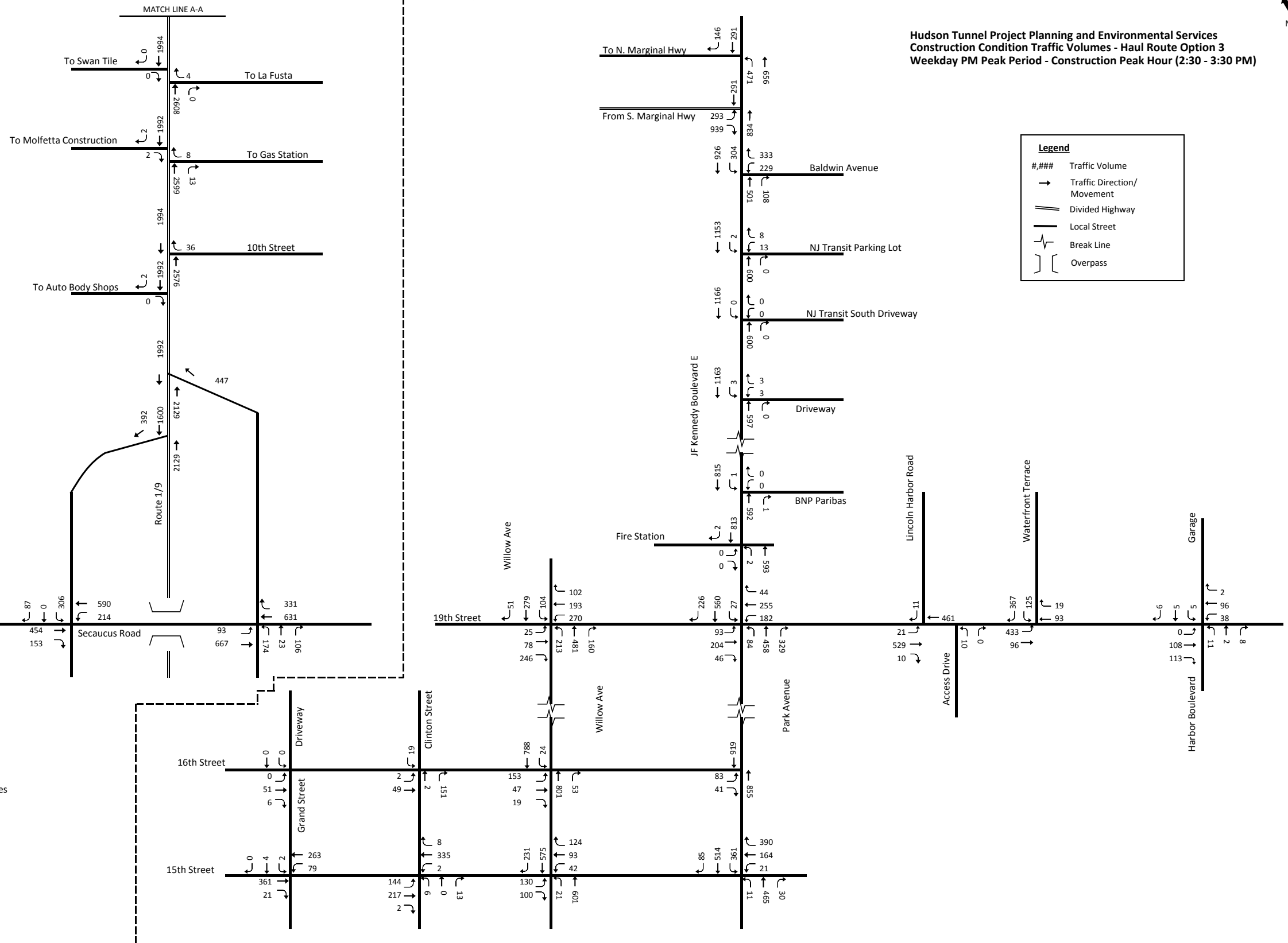
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- ### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
- { } Overpass

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Construction Condition Traffic Volumes - Haul Route Option 3
 Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)

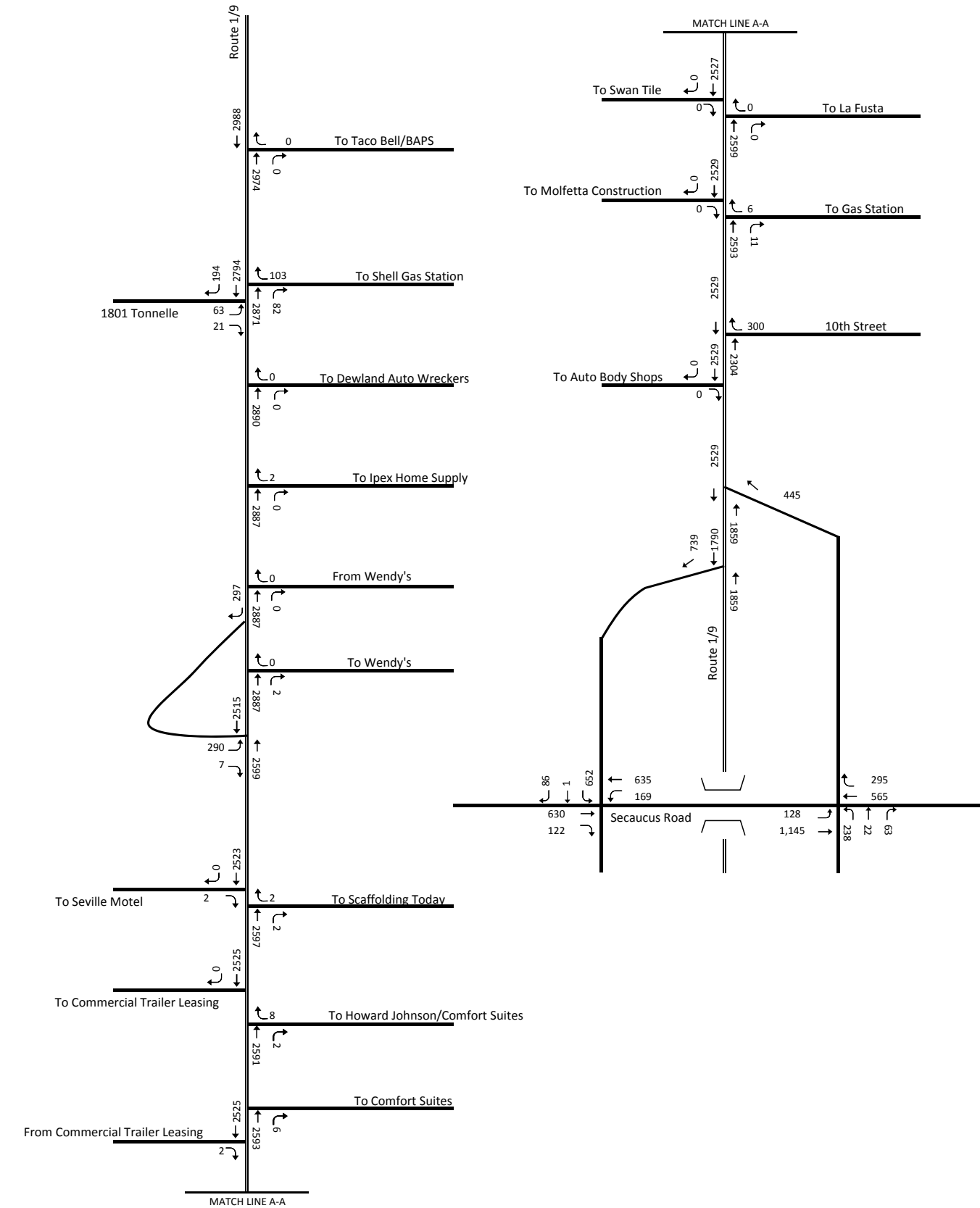
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- #,### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- ~ Break Line
- { } Overpass

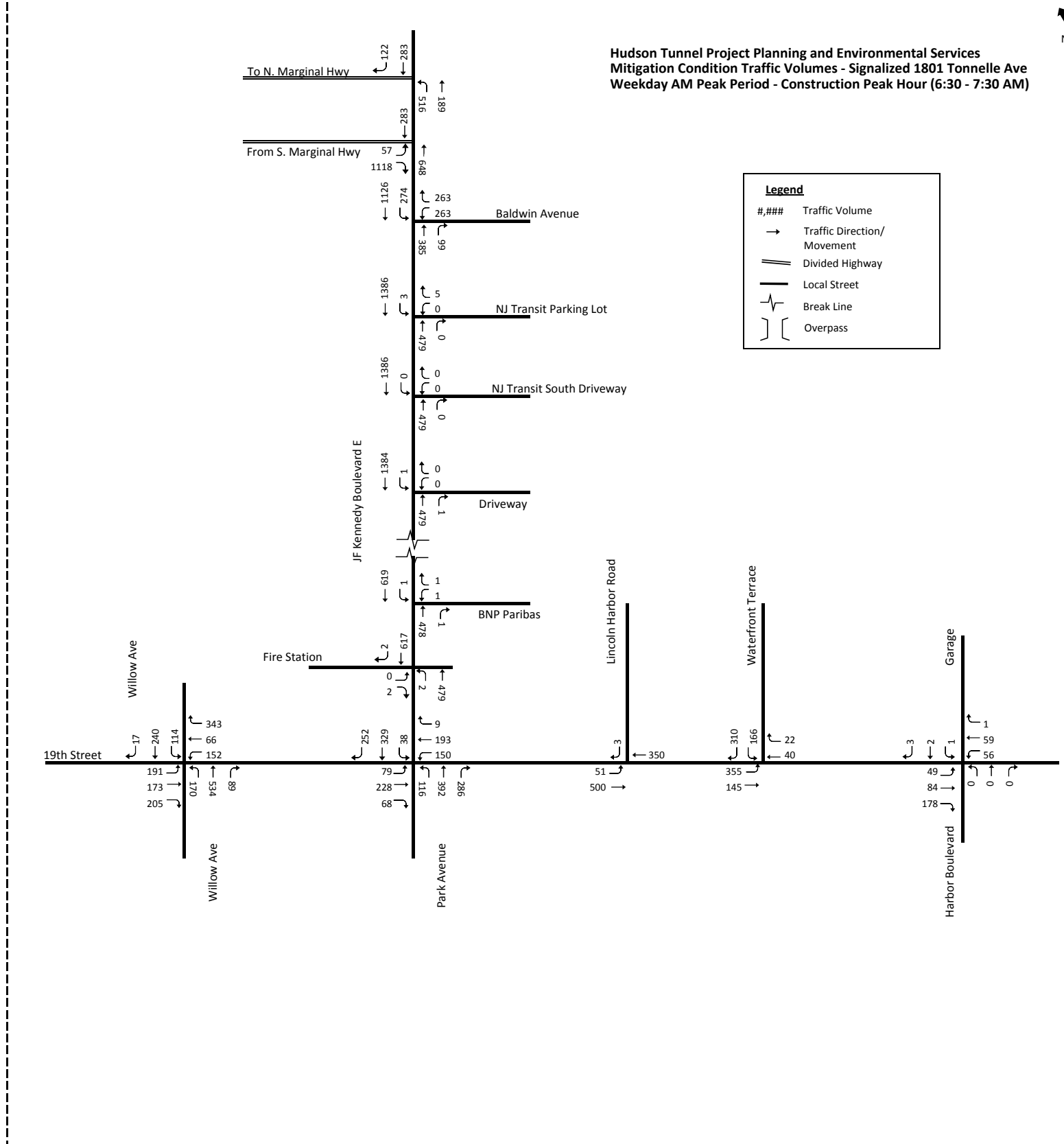
Traffic Flow Maps:
New Jersey Study Areas—
New Tunnel Construction
Tonnelle Avenue Staging Site

Weekday AM Construction Peak Hour—2024
Construction Conditions with New Intersection
at 1801 Tonnelle Avenue and other Mitigation

Tonnelle Avenue Staging Area



Hoboken Staging Area



**Hudson Tunnel Project Planning and Environmental Services
Mitigation Condition Traffic Volumes - Signalized 1801 Tonnelle Ave
Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)**

Legend

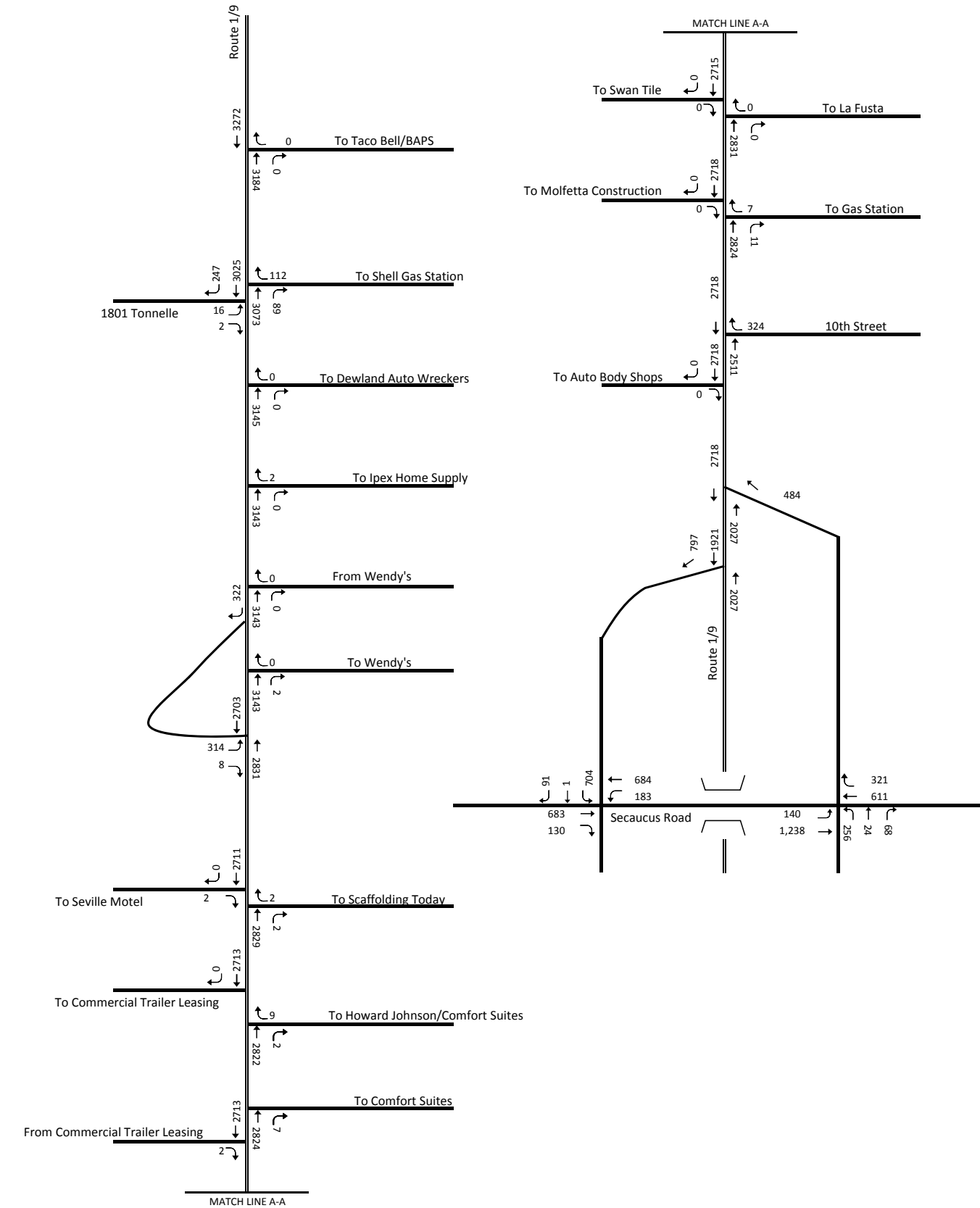
- #,### Traffic Volume
- Traffic Direction/
Movement
- || Divided Highway
- Local Street
- ~ Break Line
- { } Overpass



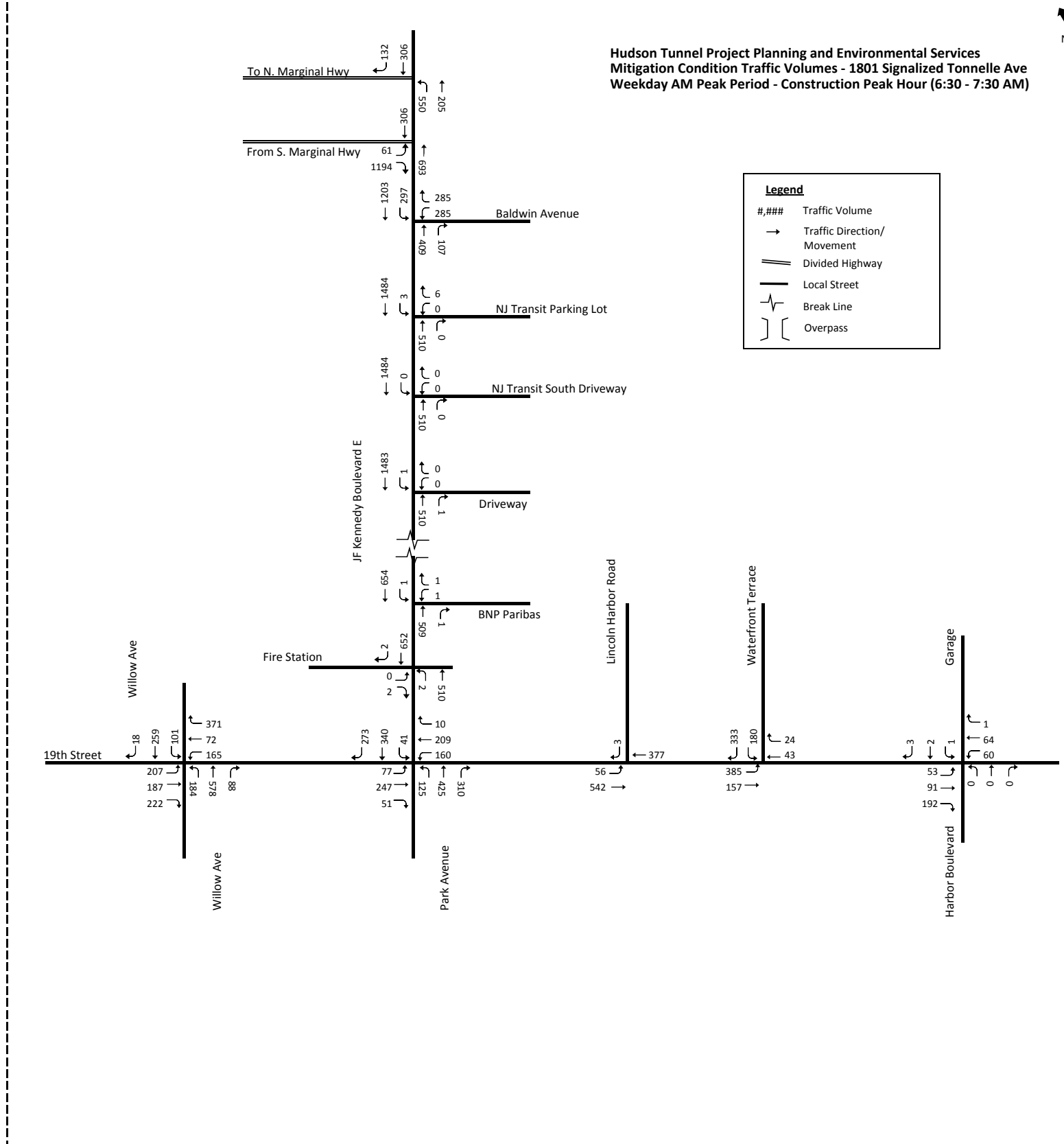
Traffic Flow Maps:
New Jersey Study Areas—
North River Tunnel Rehabilitation
Tonnelle Avenue Staging Site

Weekday AM Construction Peak Hour—2032
Construction Conditions with New Intersection
at 1801 Tonnelle Avenue and other Mitigation

Tonnelle Avenue Staging Area



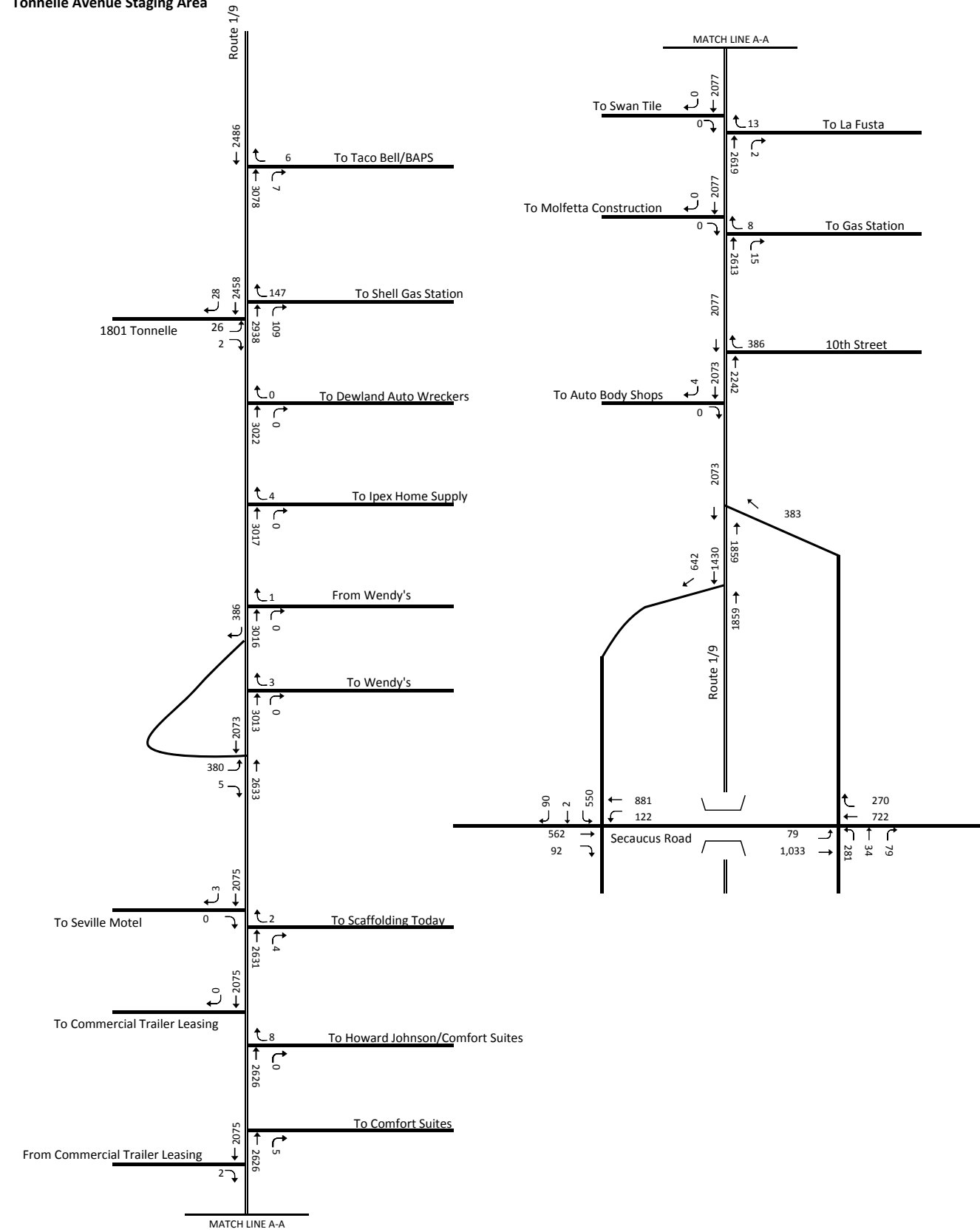
Hoboken Staging Area



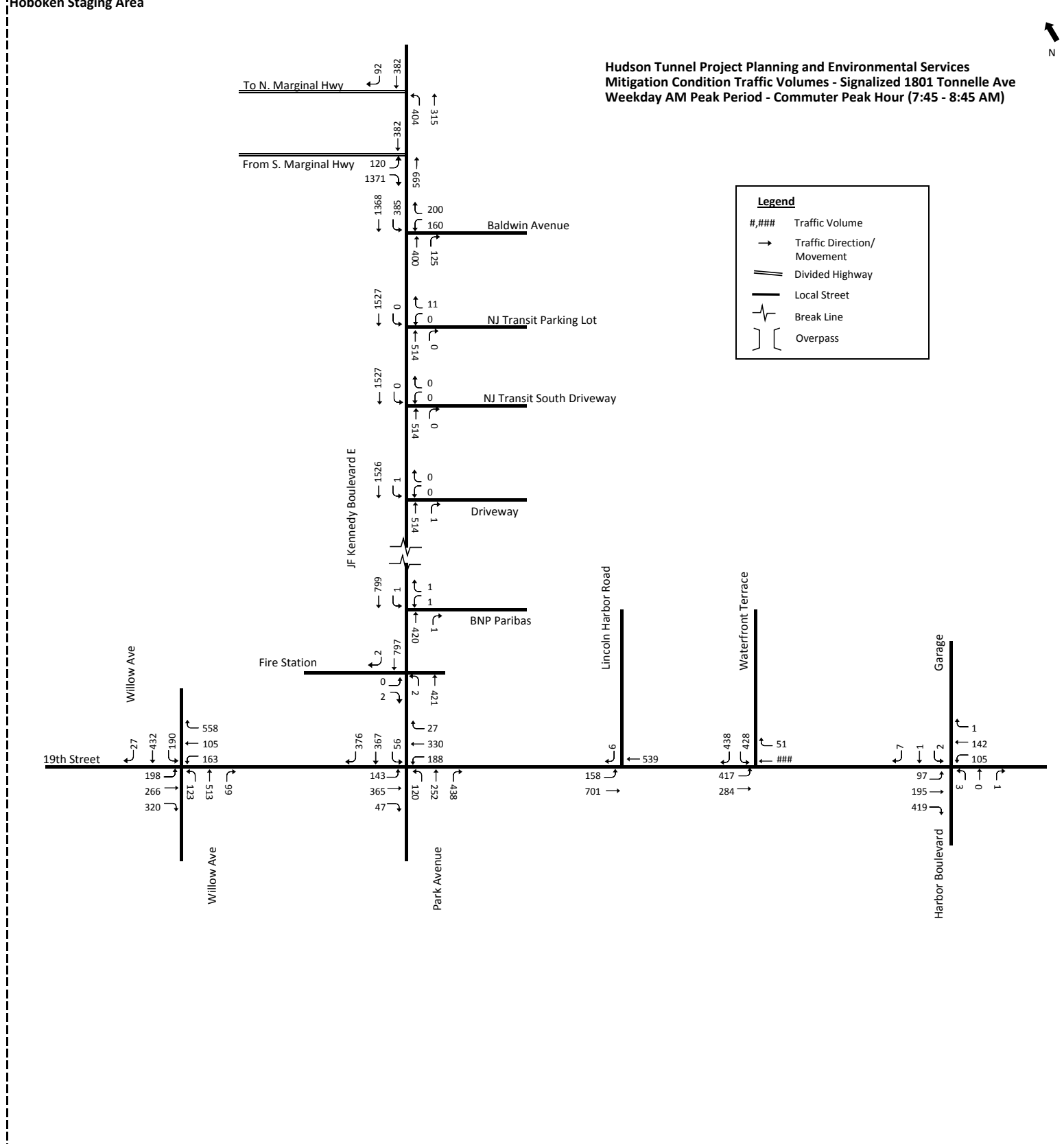
Traffic Flow Maps:
New Jersey Study Areas—
New Tunnel Construction
Tonnelle Avenue Staging Site

Weekday AM Commuter Peak Hour—2024
Construction Conditions with New Intersection
at 1801 Tonnelle Avenue and other Mitigation

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
Mitigation Condition Traffic Volumes - Signalized 1801 Tonnelle Ave
Weekday AM Peak Period - Commuter Peak Hour (7:45 - 8:45 AM)

Legend

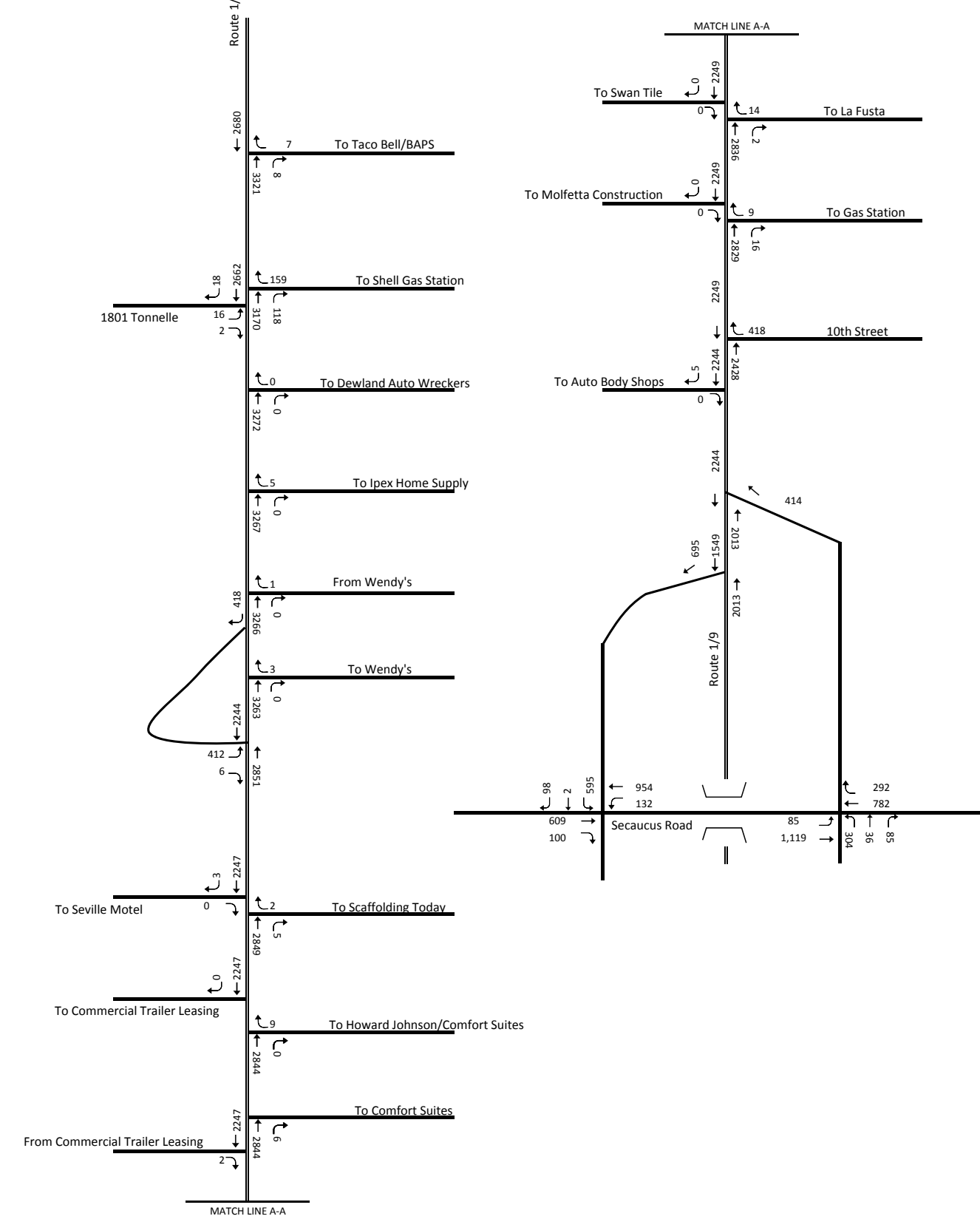
- ### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- ~ Break Line
- { } Overpass



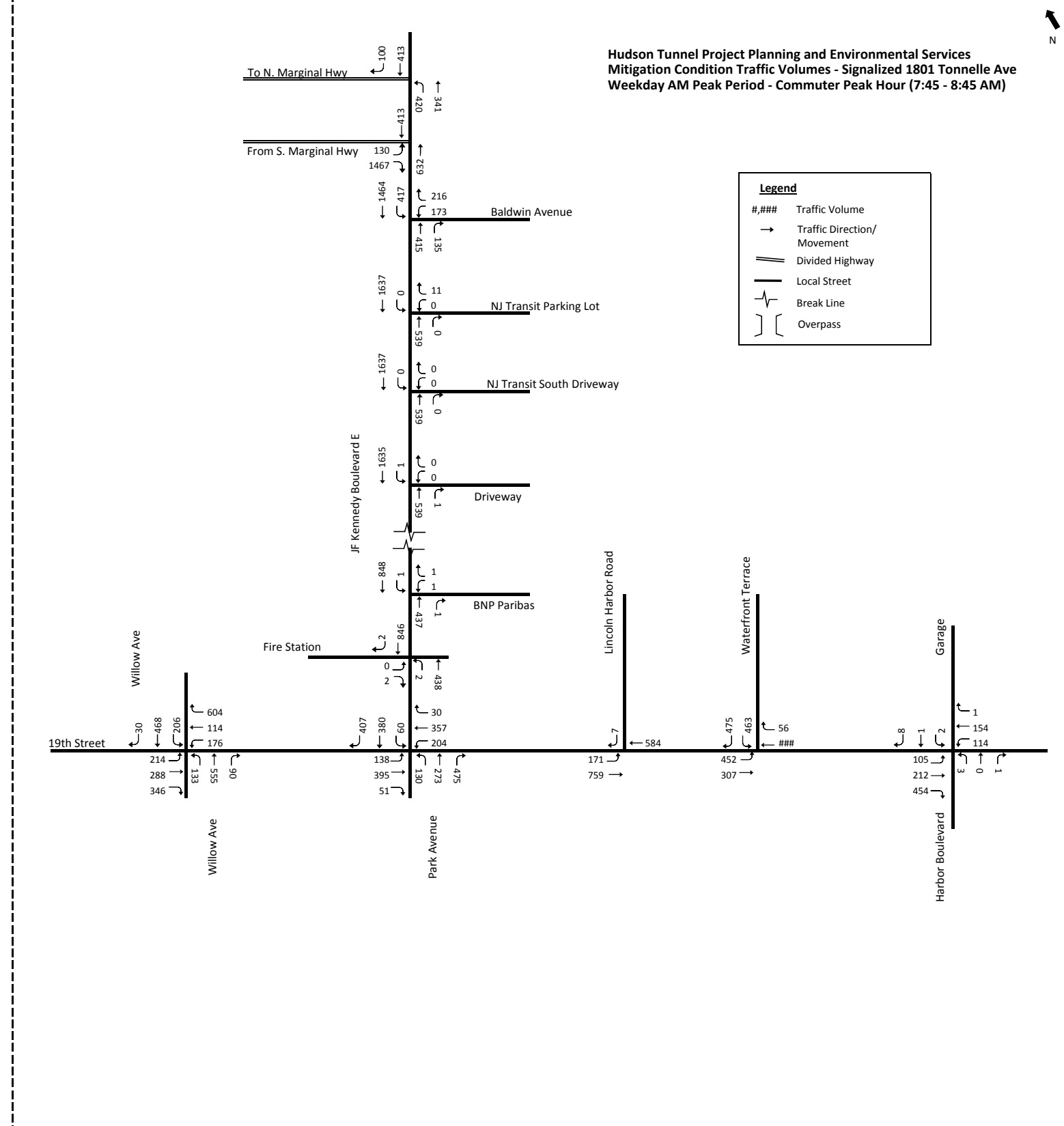
Traffic Flow Maps:
New Jersey Study Areas—
North River Tunnel Rehabilitation
Tonnelle Avenue Staging Site

Weekday AM Commuter Peak Hour—2032
Construction Conditions with New Intersection
at 1801 Tonnelle Avenue and other Mitigation

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Mitigation Condition Traffic Volumes - Signalized 1801 Tonnelle Ave
 Weekday AM Peak Period - Commuter Peak Hour (7:45 - 8:45 AM)

Legend

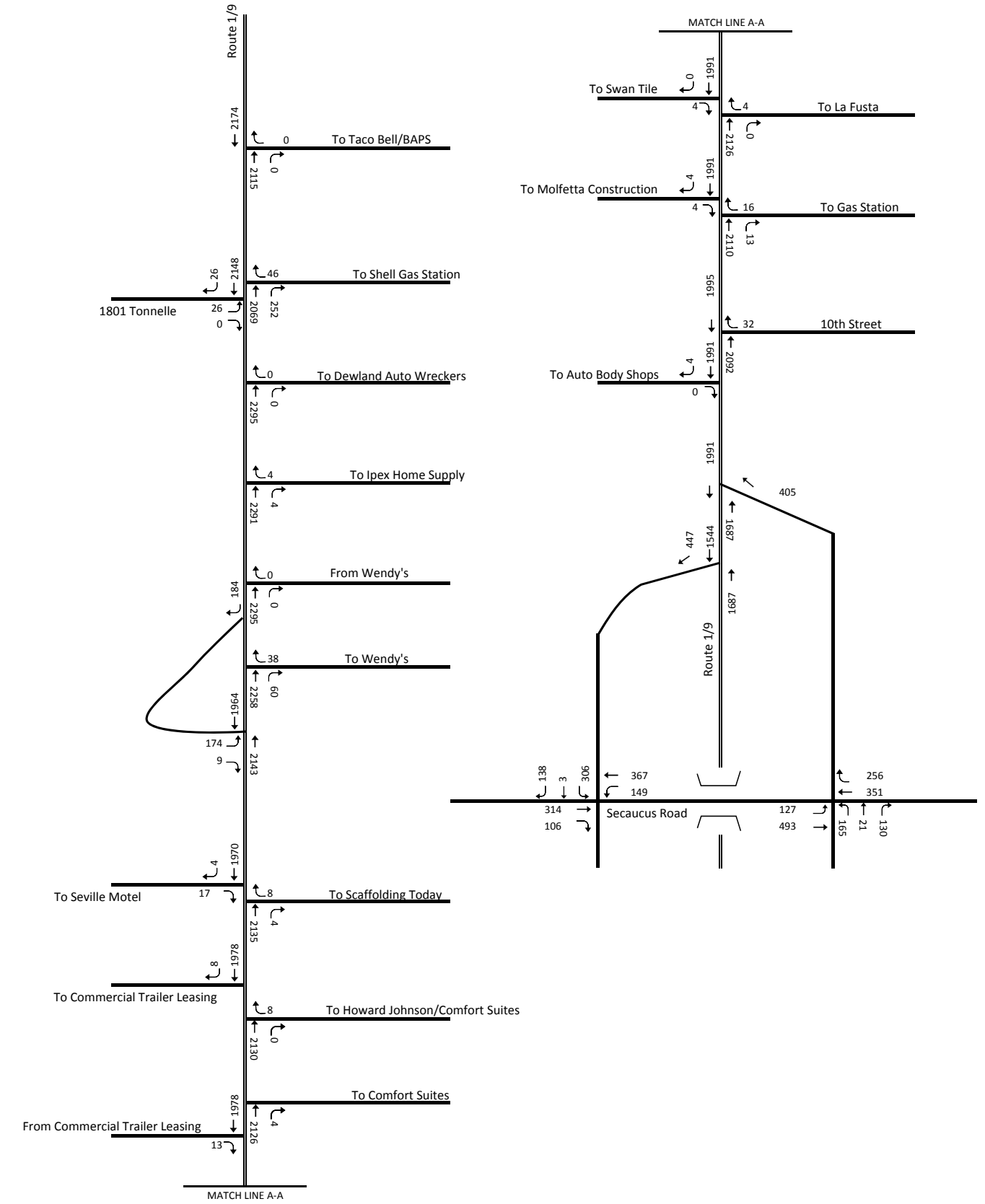
- ### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- ⋈ Break Line
- { } Overpass



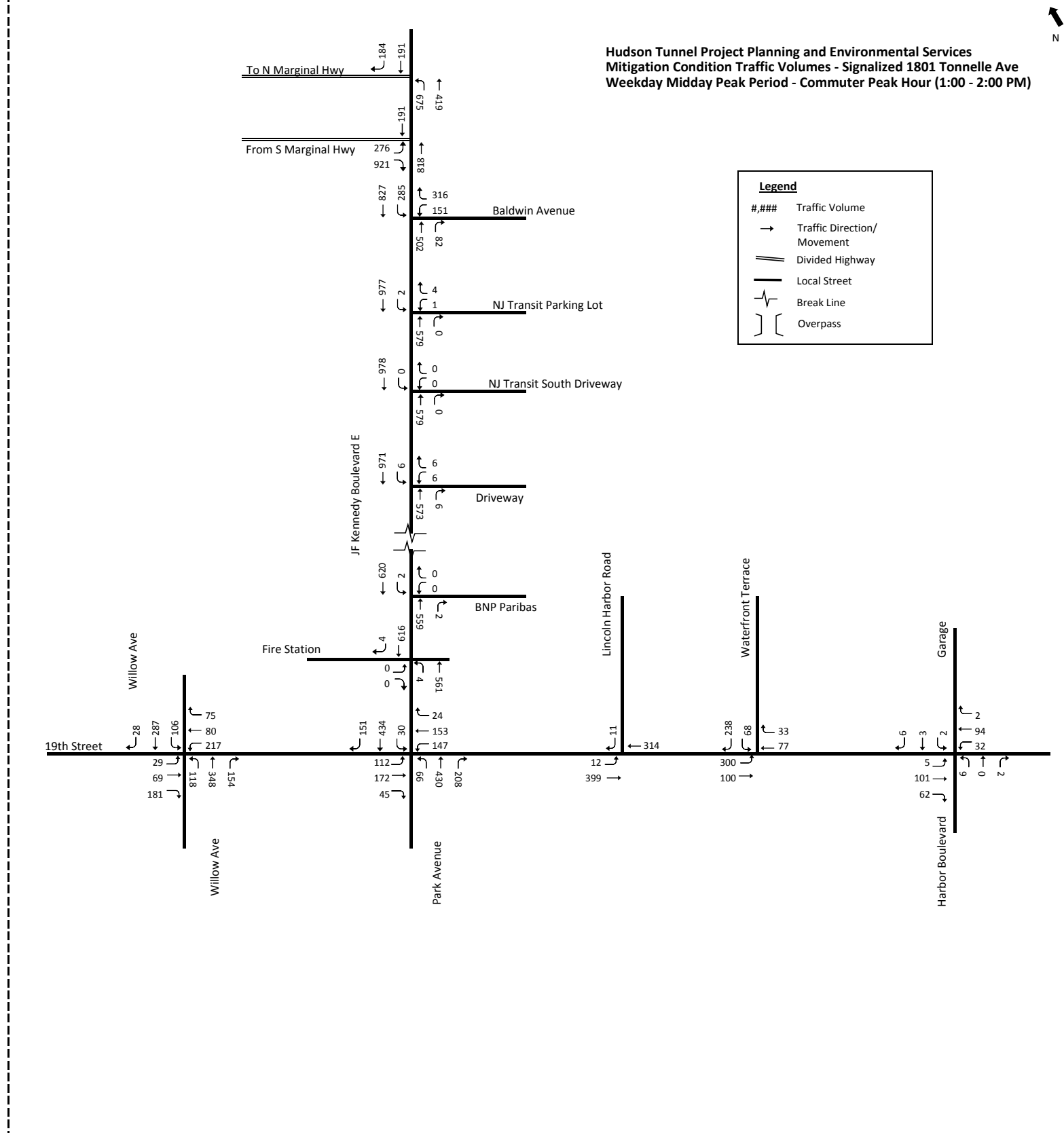
Traffic Flow Maps:
New Jersey Study Areas—
New Tunnel Construction
Tonnelle Avenue Staging Site

Weekday Midday Commuter Peak Hour—2024
Construction Conditions with New Intersection
at 1801 Tonnelle Avenue and other Mitigation

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Mitigation Condition Traffic Volumes - Signalized 1801 Tonnelle Ave
 Weekday Midday Peak Period - Commuter Peak Hour (1:00 - 2:00 PM)

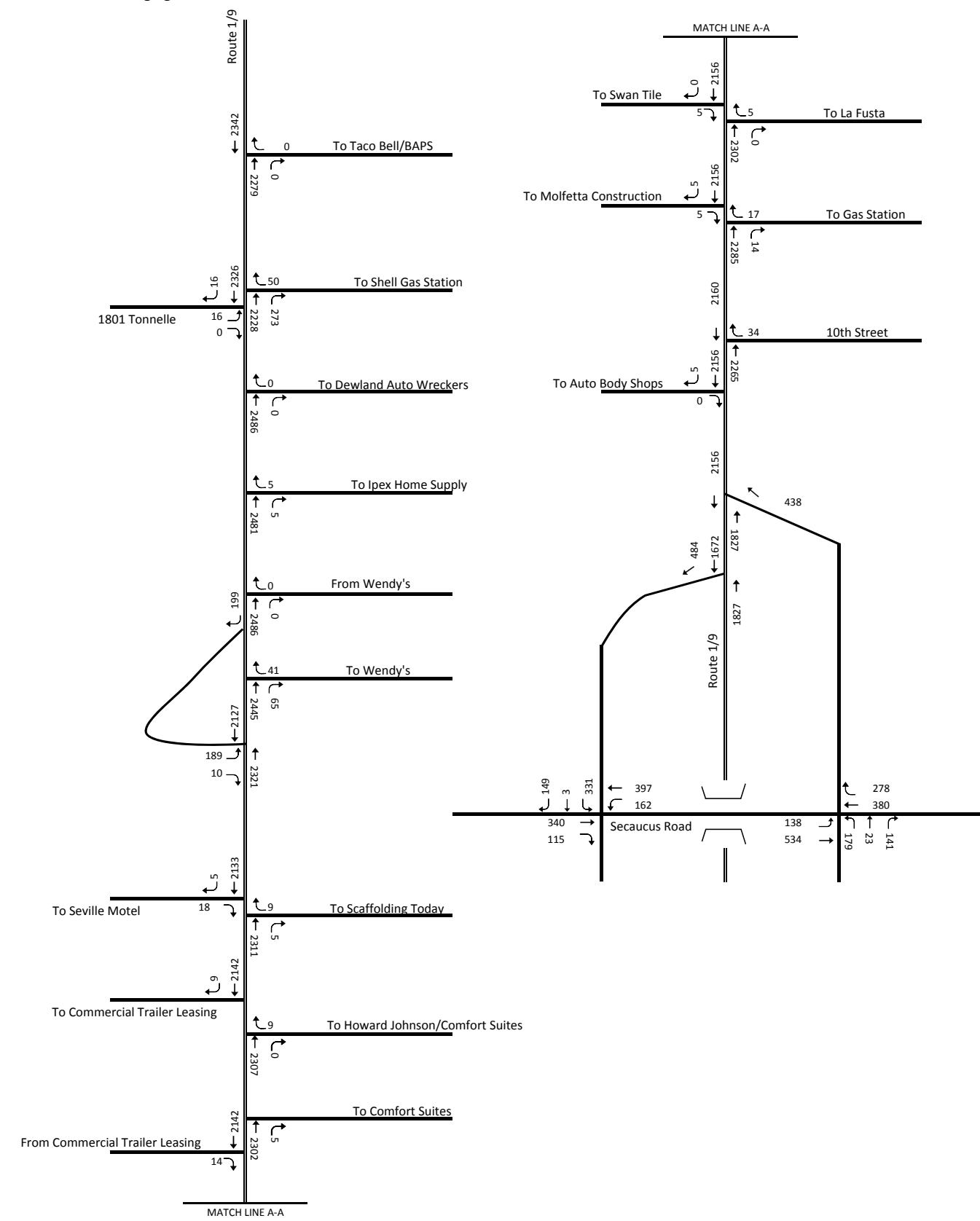
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- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
- { } Overpass

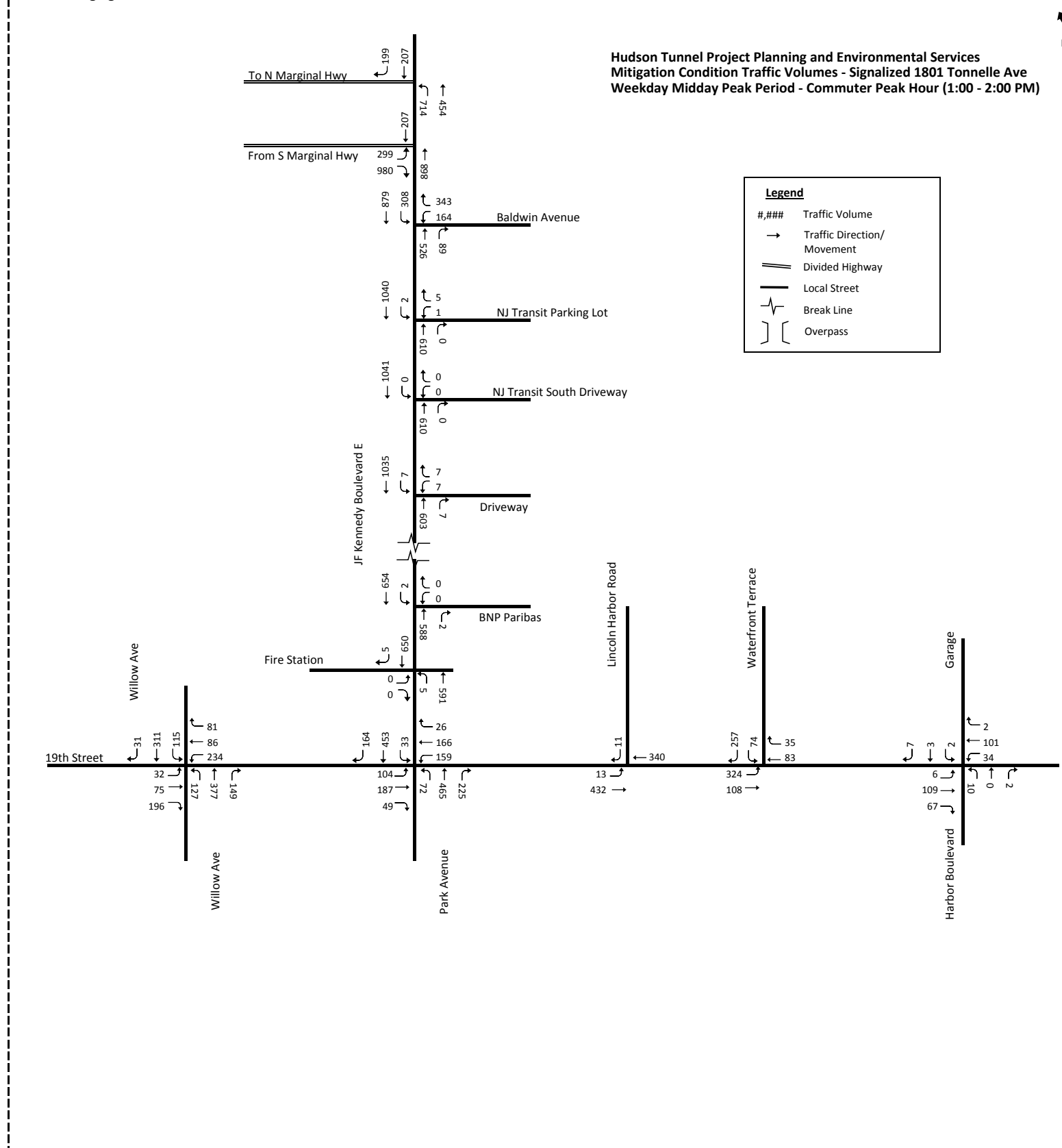
Traffic Flow Maps:
New Jersey Study Areas—
North River Tunnel Rehabilitation
Tonnelle Avenue Staging Site

Weekday Midday Commuter Peak Hour—2032
Construction Conditions with New Intersection
at 1801 Tonnelle Avenue and other Mitigation

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Mitigation Condition Traffic Volumes - Signalized 1801 Tonnelle Ave
 Weekday Midday Peak Period - Commuter Peak Hour (1:00 - 2:00 PM)

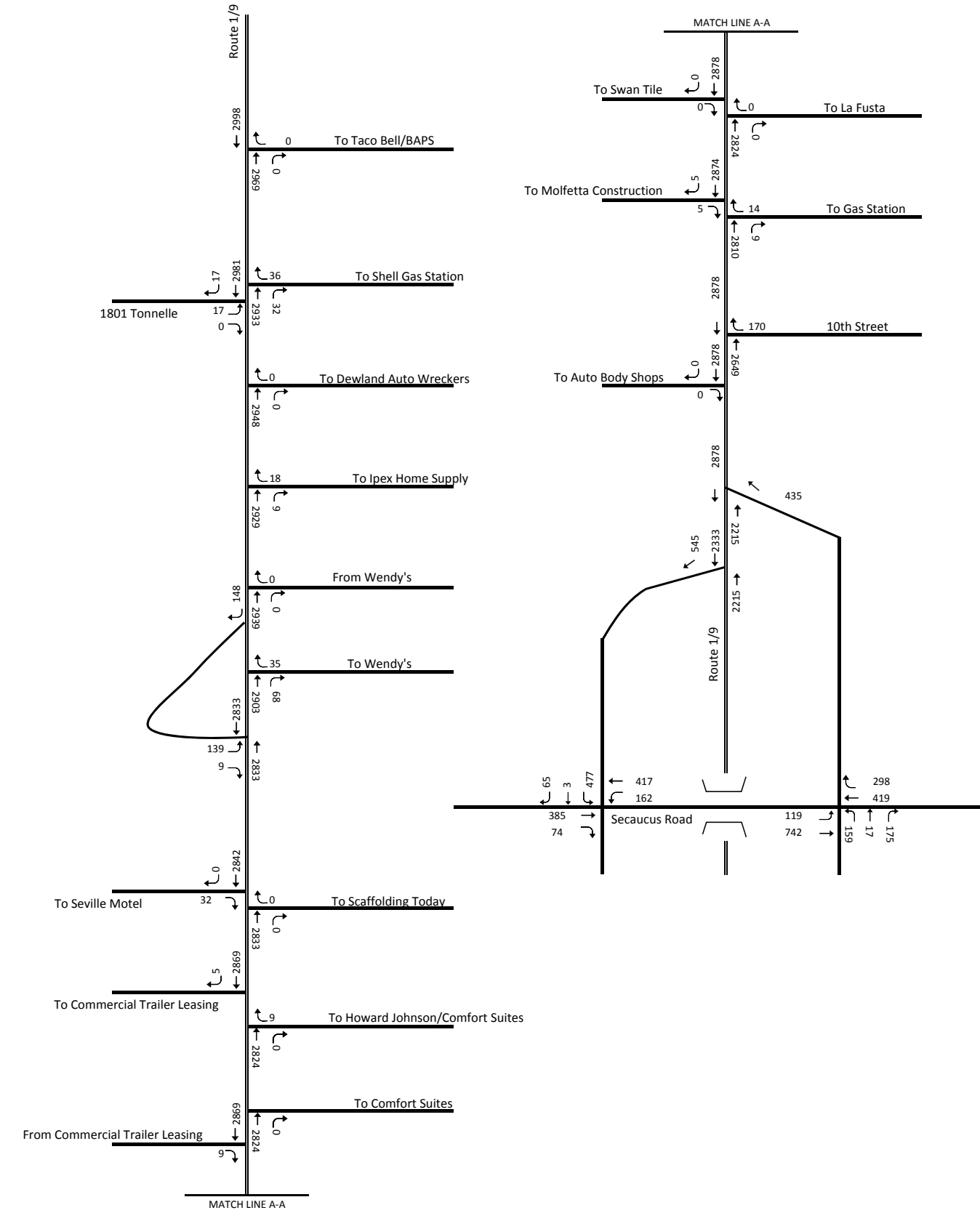
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- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
- { } Overpass

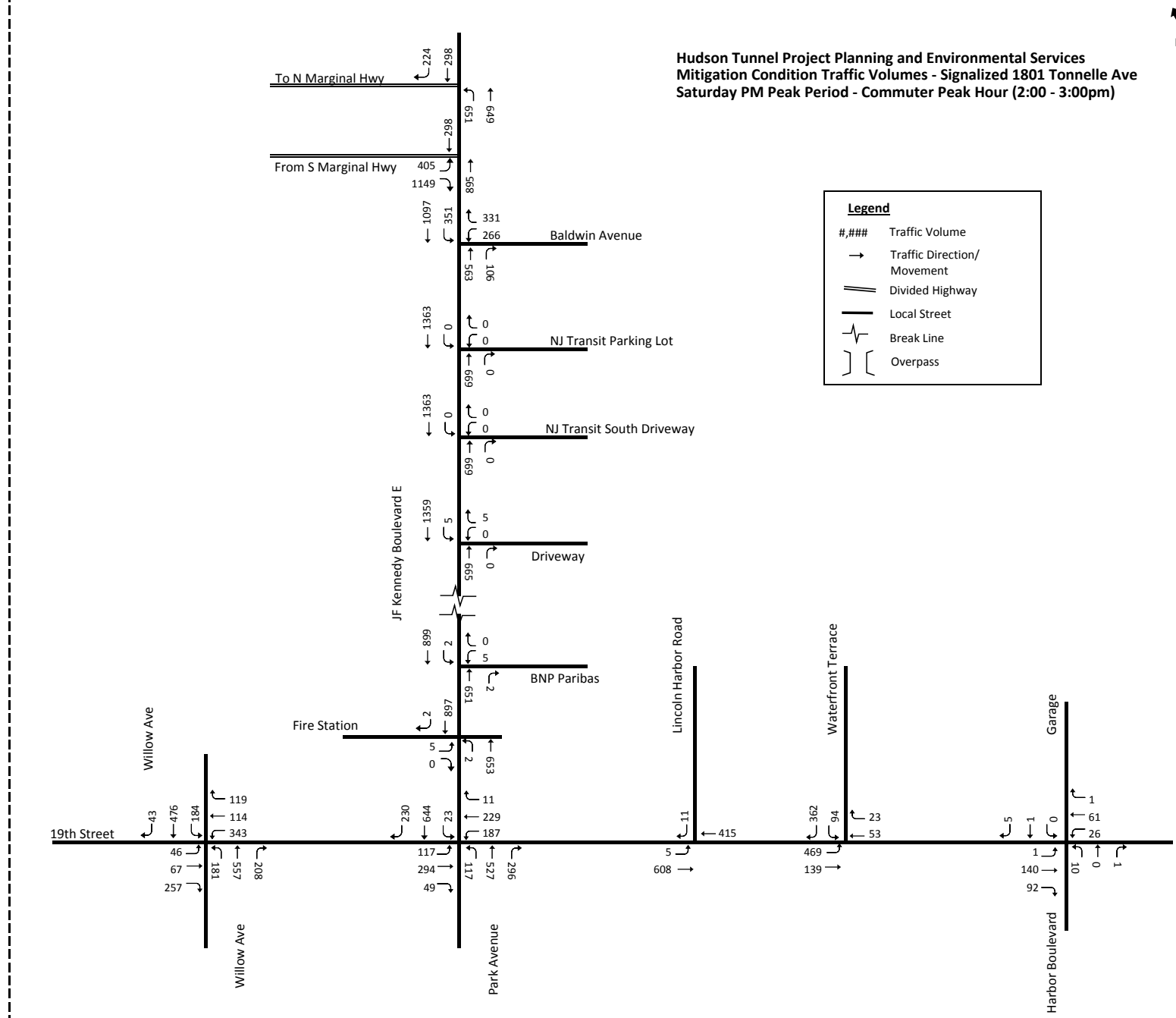
Traffic Flow Maps:
New Jersey Study Areas—
North River Tunnel Rehabilitation
Tonnelle Avenue Staging Site

Saturday PM Commuter Peak Hour—2032
Construction Conditions with New Intersection
at 1801 Tonnelle Avenue and other Mitigation

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Mitigation Condition Traffic Volumes - Signalized 1801 Tonnelle Ave
 Saturday PM Peak Period - Commuter Peak Hour (2:00 - 3:00pm)

Legend

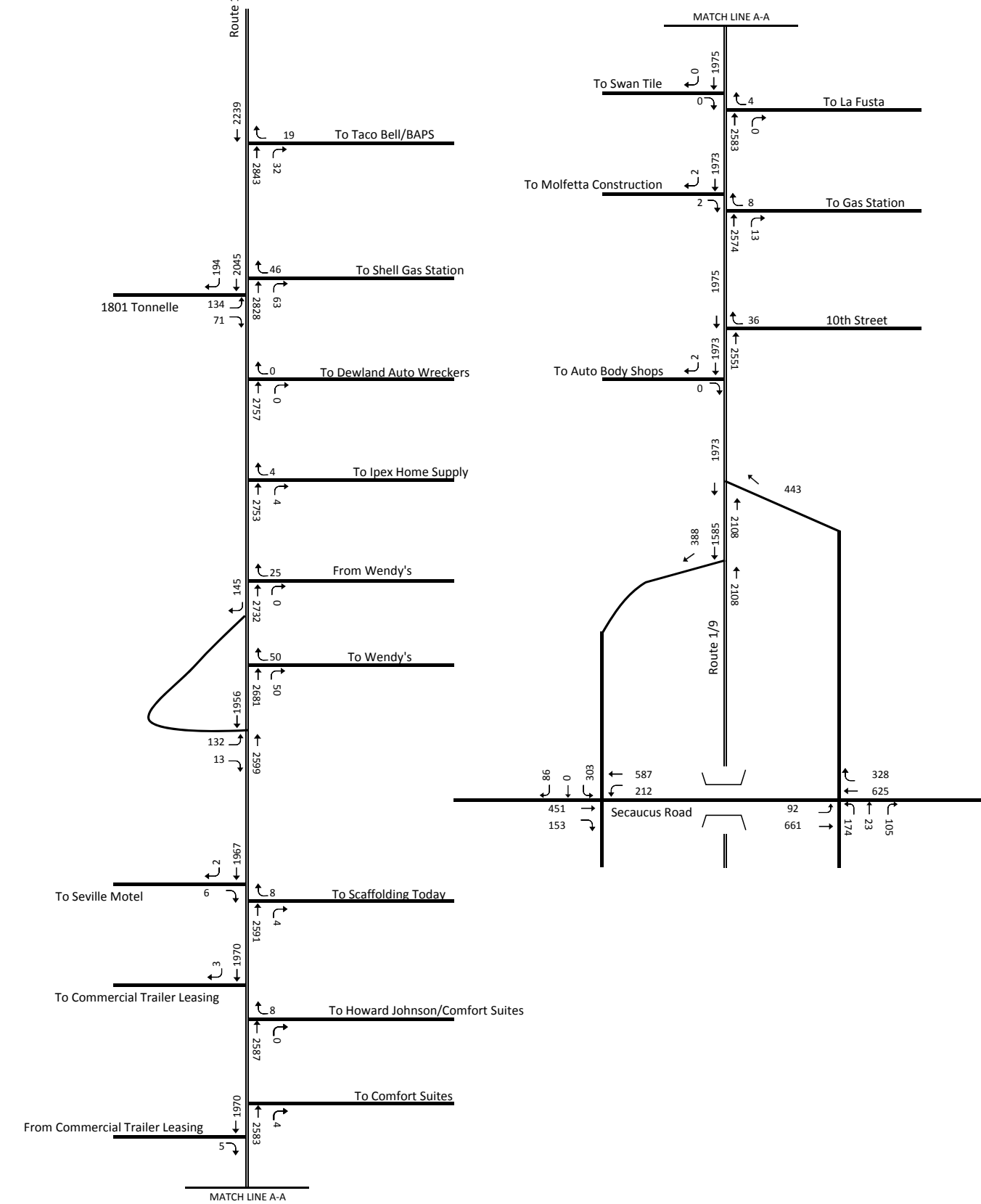
- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
- { } Overpass



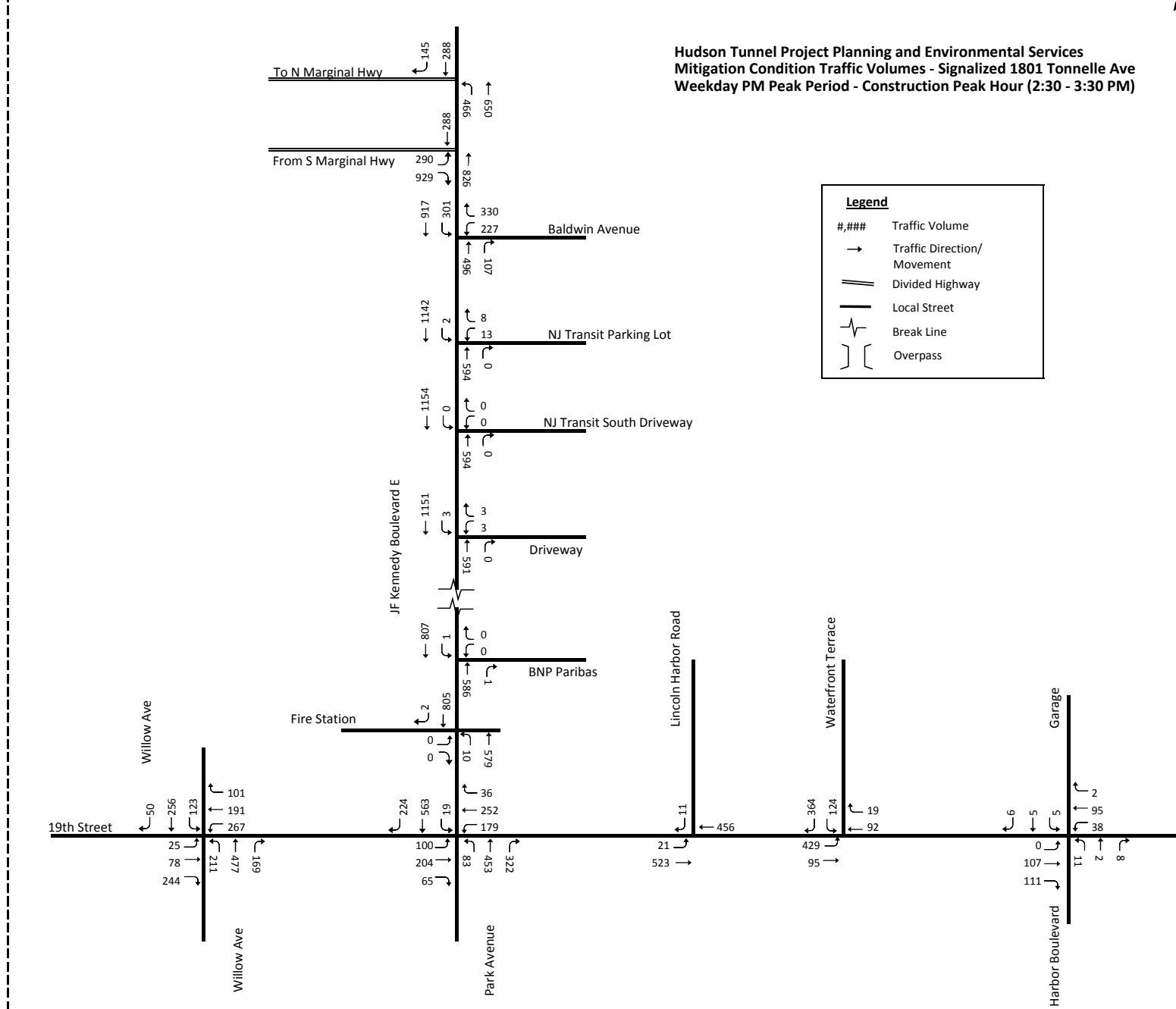
Traffic Flow Maps:
New Jersey Study Areas—
New Tunnel Construction
Tonnelle Avenue Staging Site

Weekday PM Construction Peak Hour—2024
Construction Conditions with New Intersection
at 1801 Tonnelle Avenue and other Mitigation

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
Mitigation Condition Traffic Volumes - Signalized 1801 Tonnelle Ave
Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)

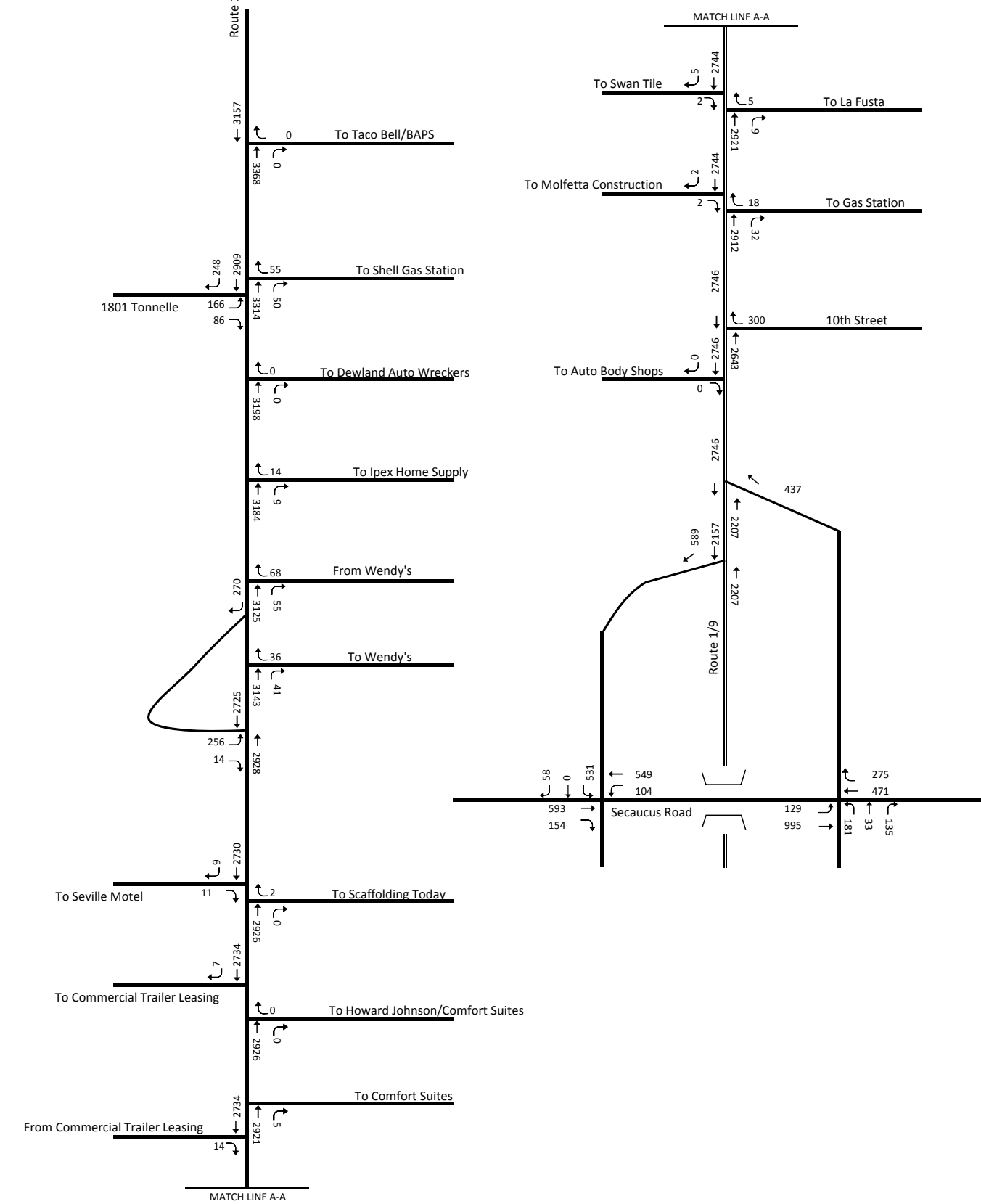
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- #,### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- - - Break Line
- { } Overpass

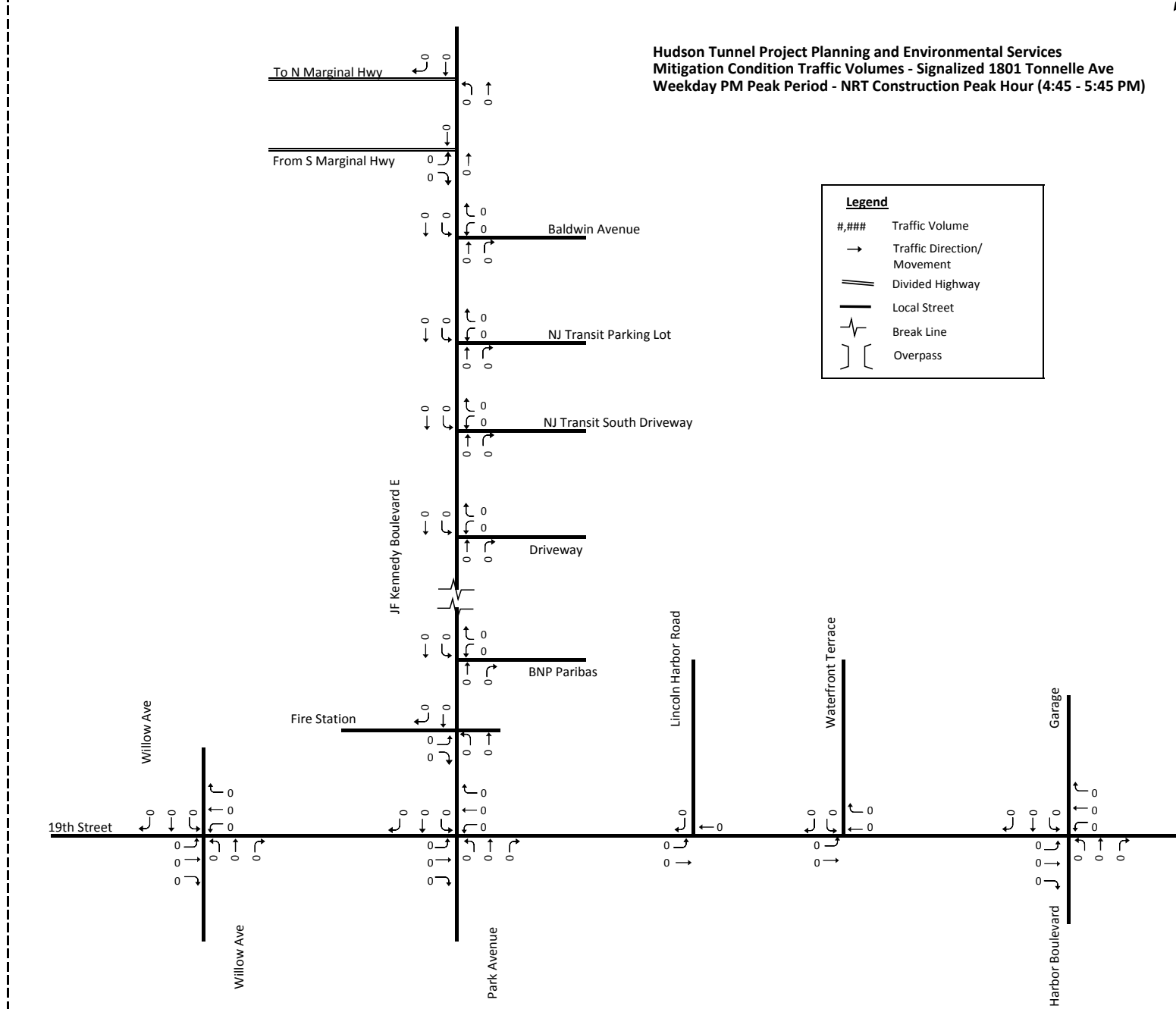
Traffic Flow Maps:
New Jersey Study Areas—
North River Tunnel Rehabilitation
Tonnelle Avenue Staging Site

Weekday PM Construction Peak Hour—2032
Construction Conditions with New Intersection
at 1801 Tonnelle Avenue and other Mitigation

Tonnelle Avenue Staging Area



Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Mitigation Condition Traffic Volumes - Signalized 1801 Tonnelle Ave
 Weekday PM Peak Period - NRT Construction Peak Hour (4:45 - 5:45 PM)

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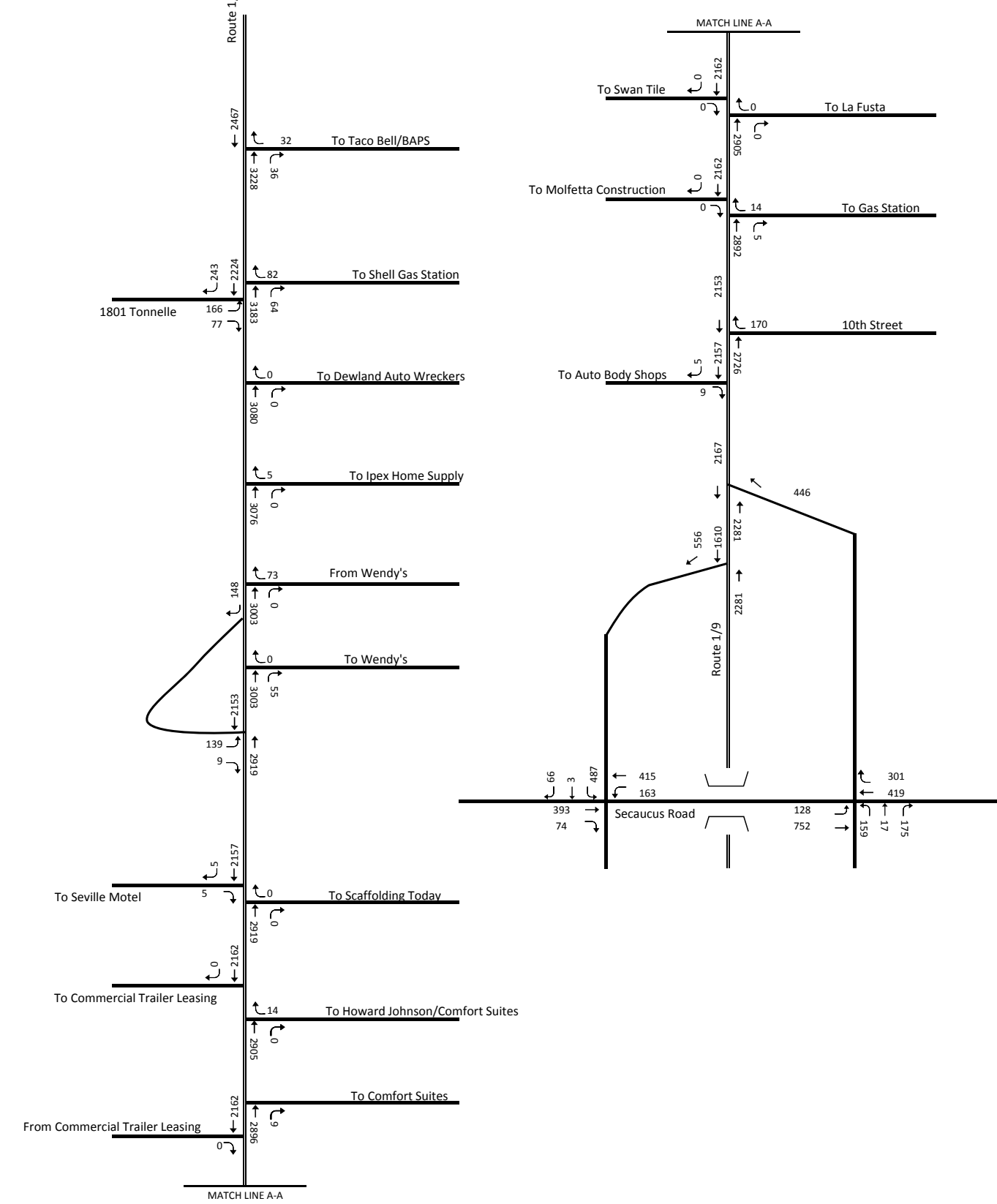
- #,### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- - - Break Line
- { } Overpass



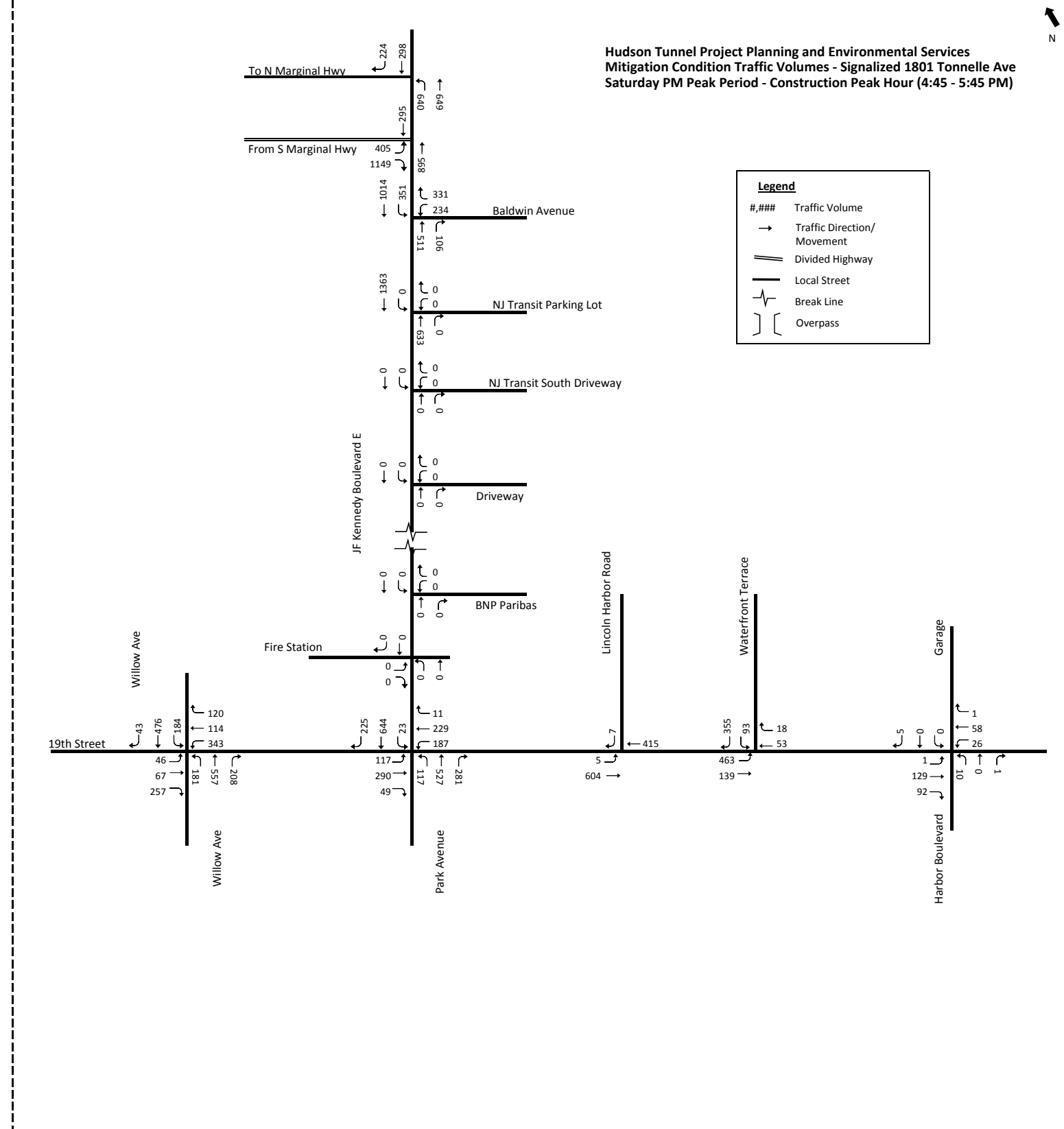
Traffic Flow Maps:
New Jersey Study Areas—
North River Tunnel Rehabilitation
Tonnelle Avenue Staging Site

Saturday PM Construction Peak Hour—2032
Construction Conditions with New Intersection
at 1801 Tonnelle Avenue and other Mitigation

Tonnelle Avenue Staging Area



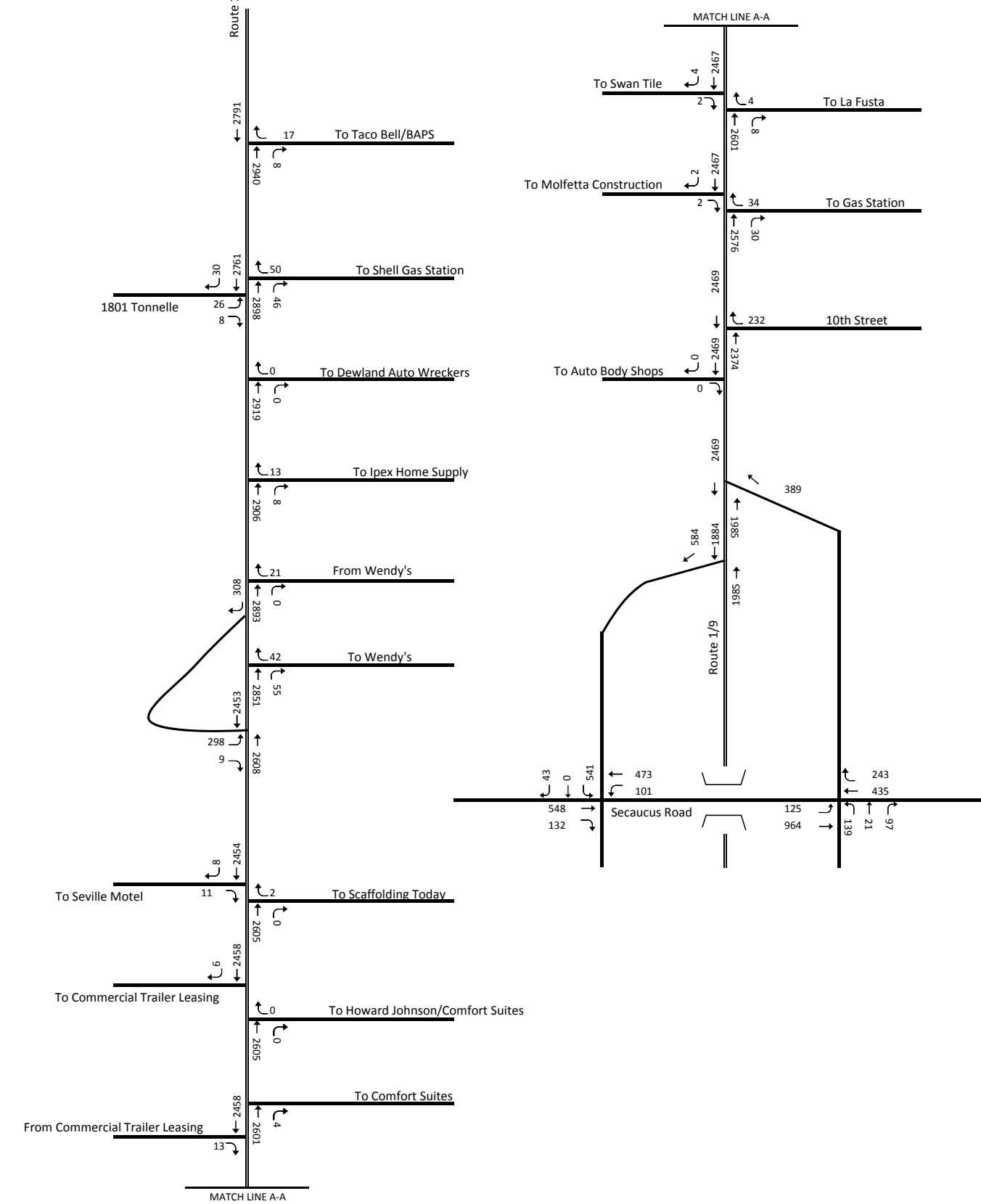
Hoboken Staging Area



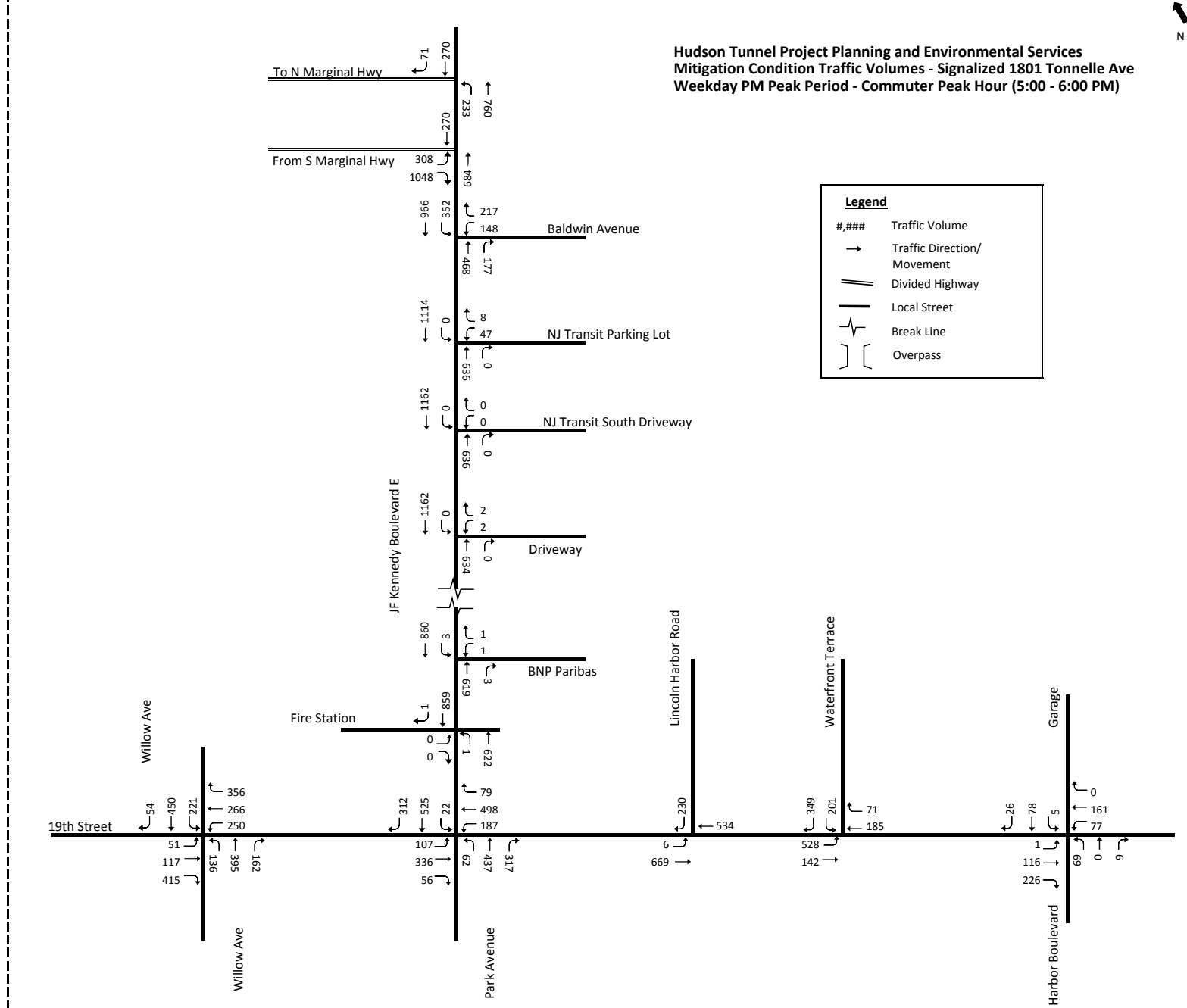
Traffic Flow Maps:
New Jersey Study Areas—
New Tunnel Construction
Tonnelle Avenue Staging Site

Weekday PM Commuter Peak Hour—2024
Construction Conditions with New Intersection
at 1801 Tonnelle Avenue and other Mitigation

Tonnelle Avenue Staging Area



Hoboken Staging Area



**Hudson Tunnel Project Planning and Environmental Services
Mitigation Condition Traffic Volumes - Signalized 1801 Tonnelle Ave
Weekday PM Peak Period - Commuter Peak Hour (5:00 - 6:00 PM)**

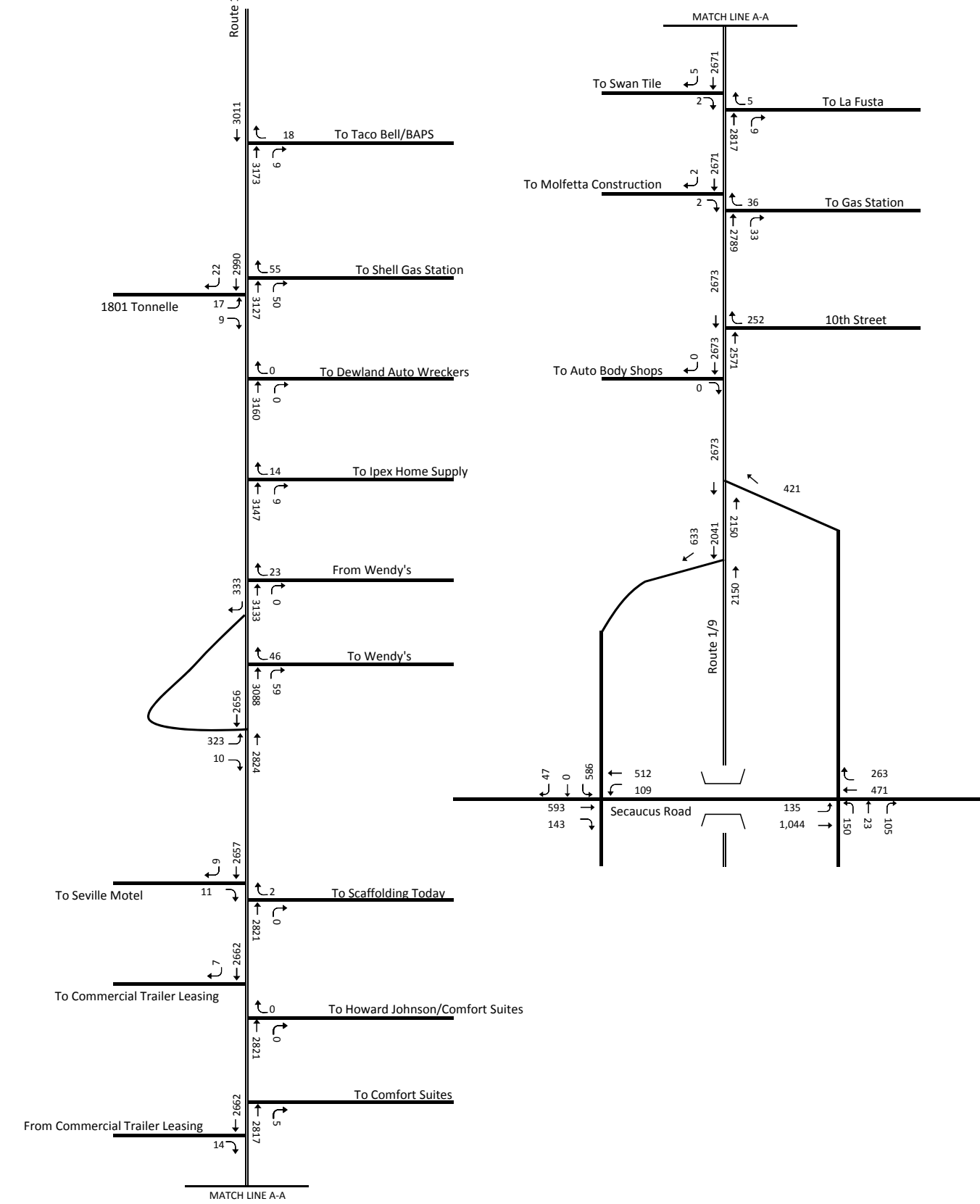
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- ### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- - - Break Line
- { } Overpass

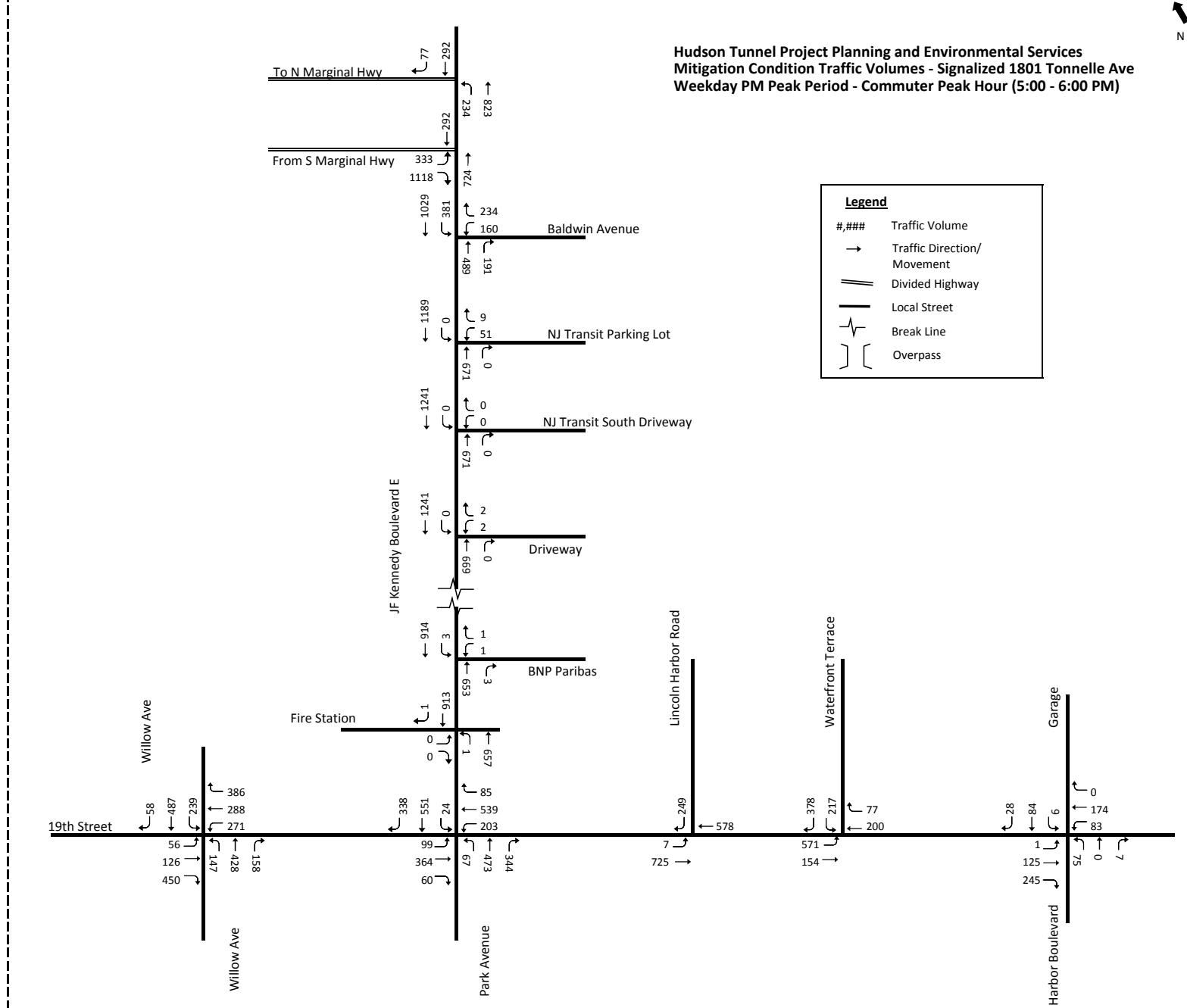
Traffic Flow Maps:
New Jersey Study Areas—
North River Tunnel Rehabilitation
Tonnelle Avenue Staging Site

Weekday PM Commuter Peak Hour—2032
Construction Conditions with New Intersection
at 1801 Tonnelle Avenue and other Mitigation

Tonnelle Avenue Staging Area



Hoboken Staging Area



**Hudson Tunnel Project Planning and Environmental Services
Mitigation Condition Traffic Volumes - Signalized 1801 Tonnelle Ave
Weekday PM Peak Period - Commuter Peak Hour (5:00 - 6:00 PM)**

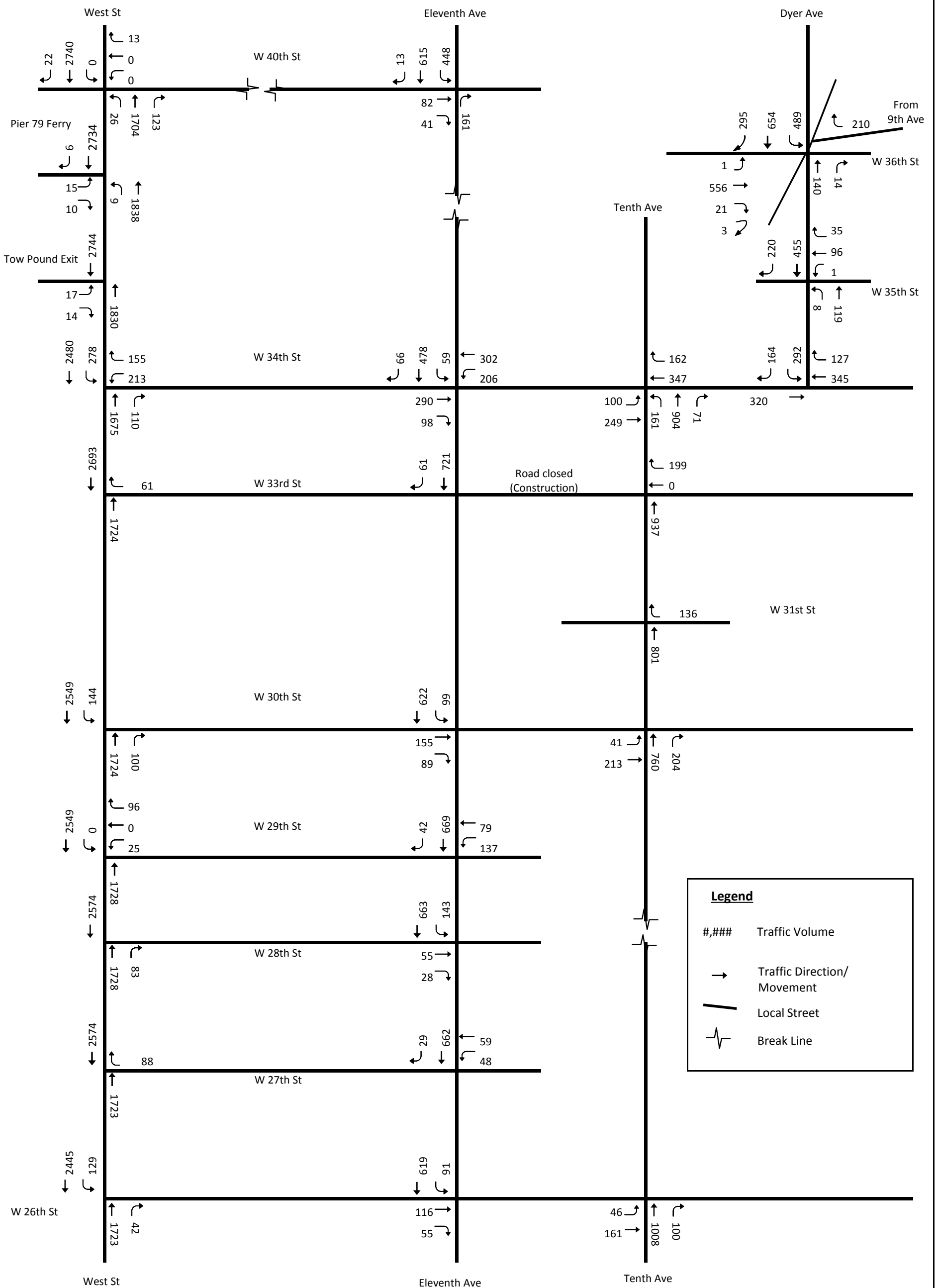
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- #,### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- - - Break Line
- { } Overpass

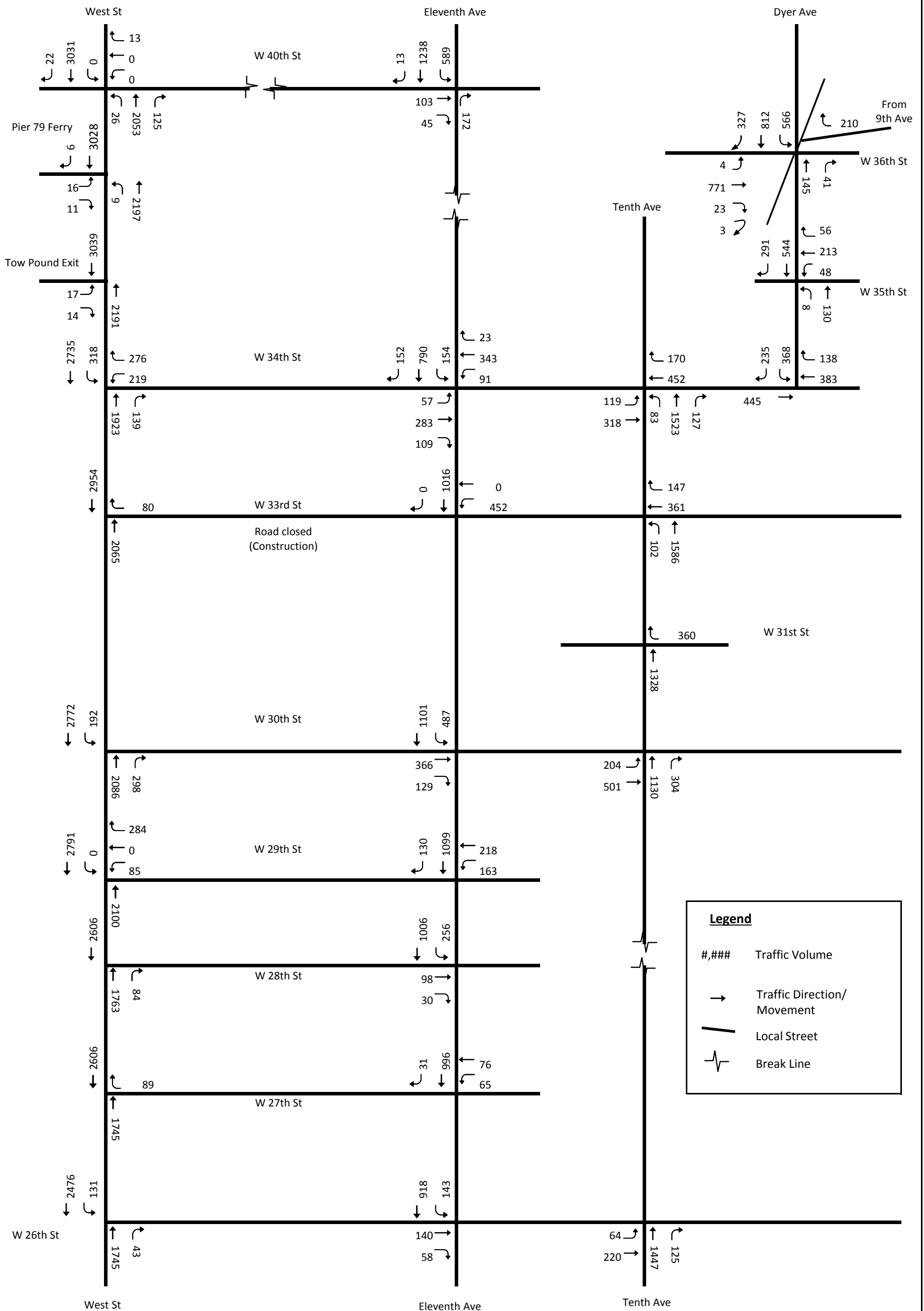
Traffic Flow Maps:
New York Study Area:
New Tunnel Construction

Weekday AM Construction Peak Hour—
Background Conditions
(2016 Existing and 2024 No Action)

Hudson Tunnel Project Planning and Environmental Services
2016 Existing Condition Traffic Volumes
Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)



Hudson Tunnel Project Planning and Environmental Services
No Action Alternative Traffic Volumes
Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)



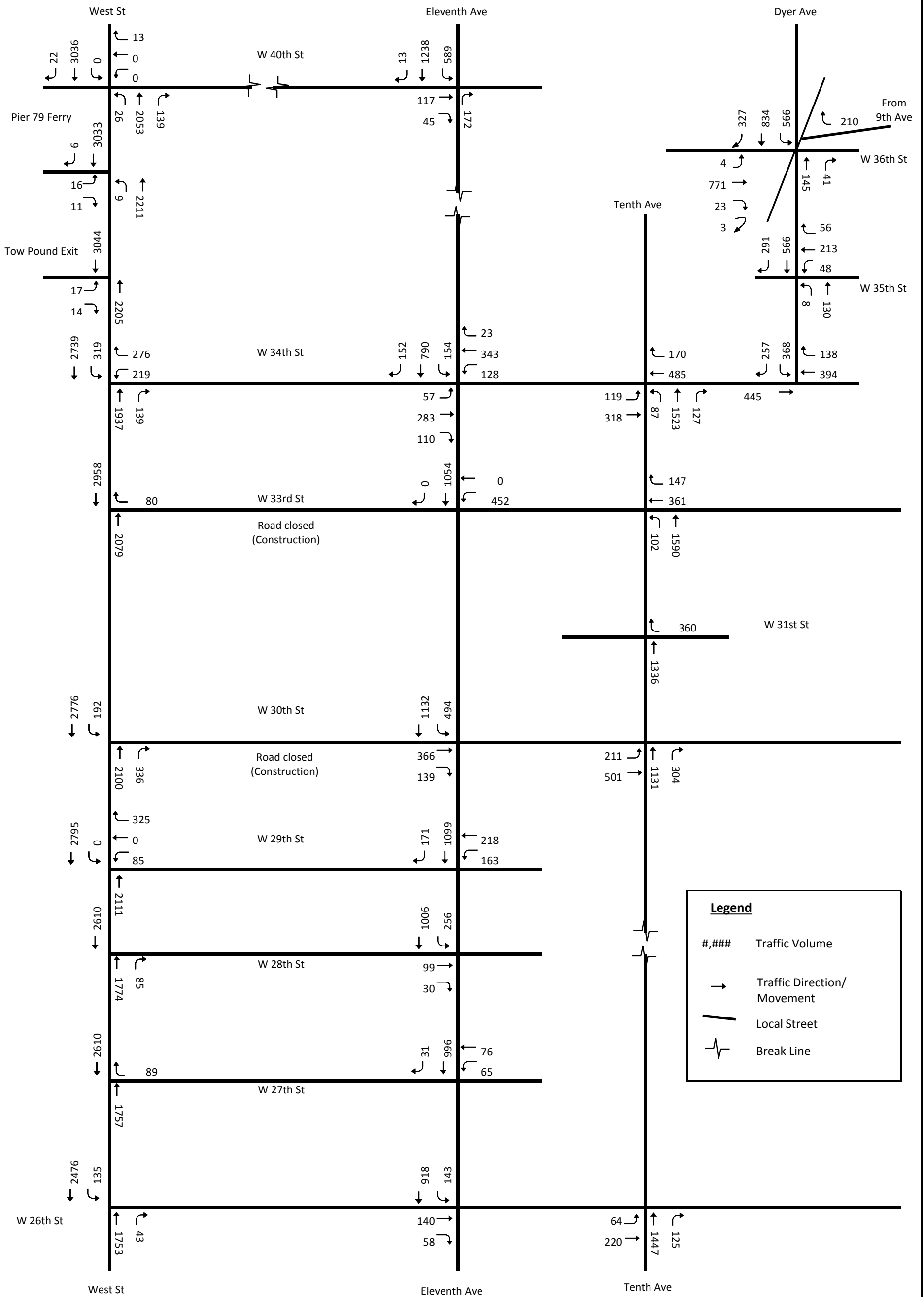
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SIMCO Engineering P.C.

Traffic Flow Maps:
New York Study Area:
New Tunnel Construction

Weekday AM Commuter Peak Hour—
2024 Construction Condition

Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes
Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)



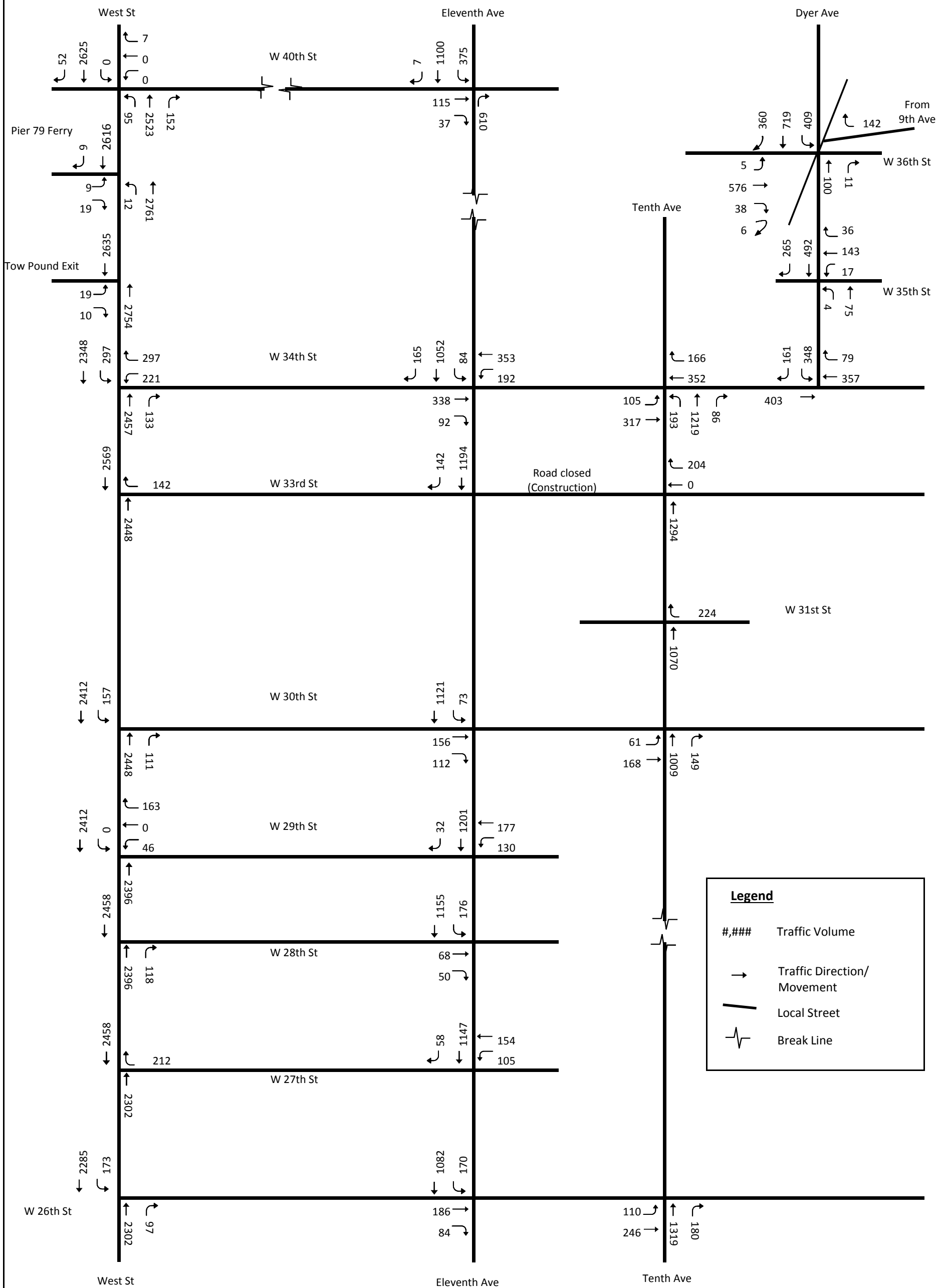
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- #,### Traffic Volume
- Traffic Direction/Movement
- Local Street
- ⚡ Break Line

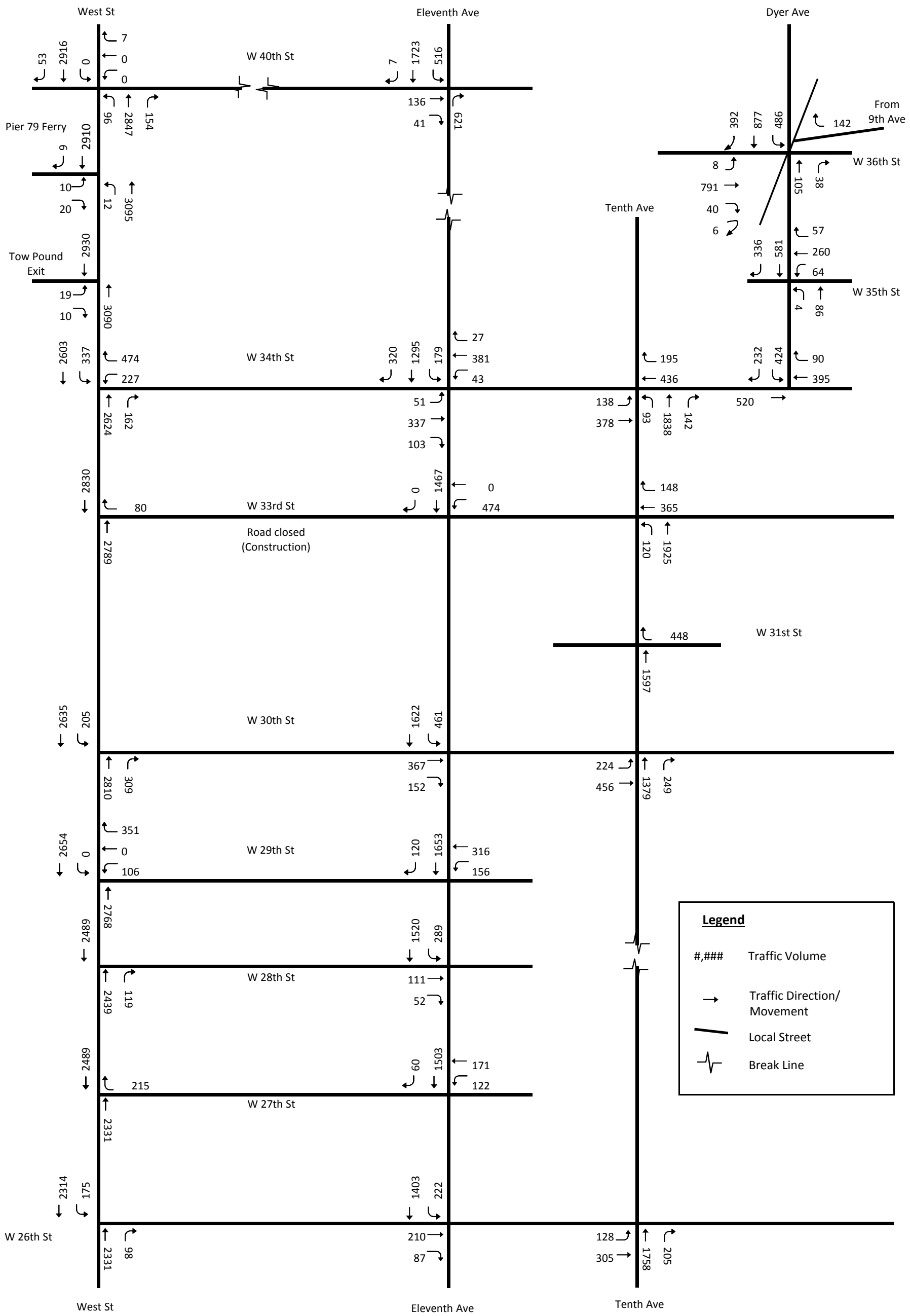
Traffic Flow Maps:
New York Study Area:
New Tunnel Construction

Weekday AM Commuter Peak Hour—
Background Conditions
(2016 Existing and 2024 No Action)

Hudson Tunnel Project Planning and Environmental Services
2016 Existing Condition Traffic Volumes
Weekday AM Peak Period -Commuter Peak Hour (7:45 - 8:45 AM)



Hudson Tunnel Project Planning and Environmental Services
No Action Alternative Traffic Volumes
Weekday AM Peak Period - Commuter Peak Hour (7:45 - 8:45 AM)

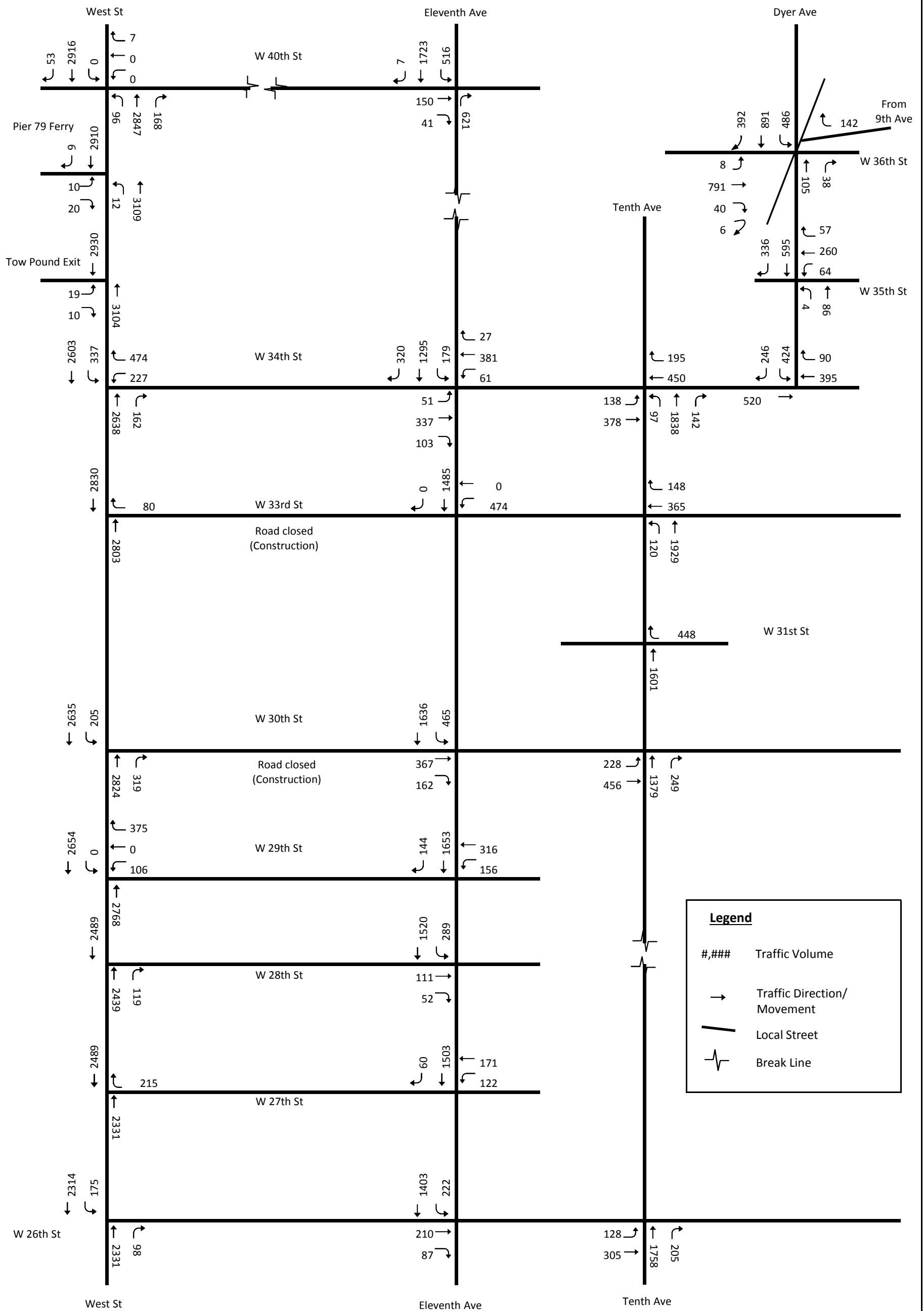


Not to Scale
 SIMCO Engineering P.C.

Traffic Flow Maps:
New York Study Area:
New Tunnel Construction

Weekday AM Commuter Peak Hour—
2024 Construction Condition

Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes
Weekday AM Peak Period - Commuter Peak Hour (7:45 - 8:45 AM)

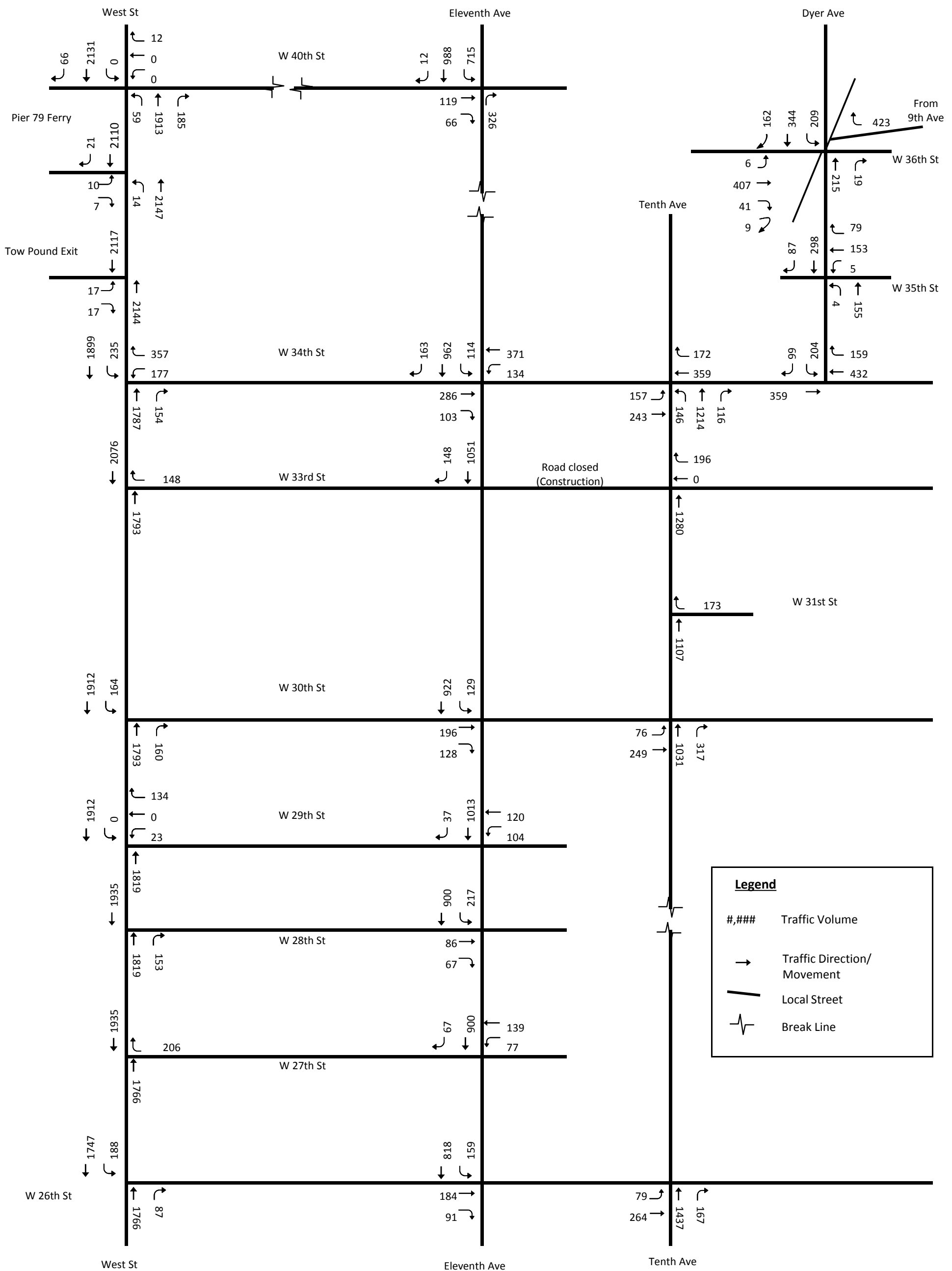


Not to Scale
 SIMCO Engineering P.C.

Traffic Flow Maps:
New York Study Area:
New Tunnel Construction

Weekday Midday Commuter Peak Period—
Background Conditions
(2016 Existing and 2024 No Action)

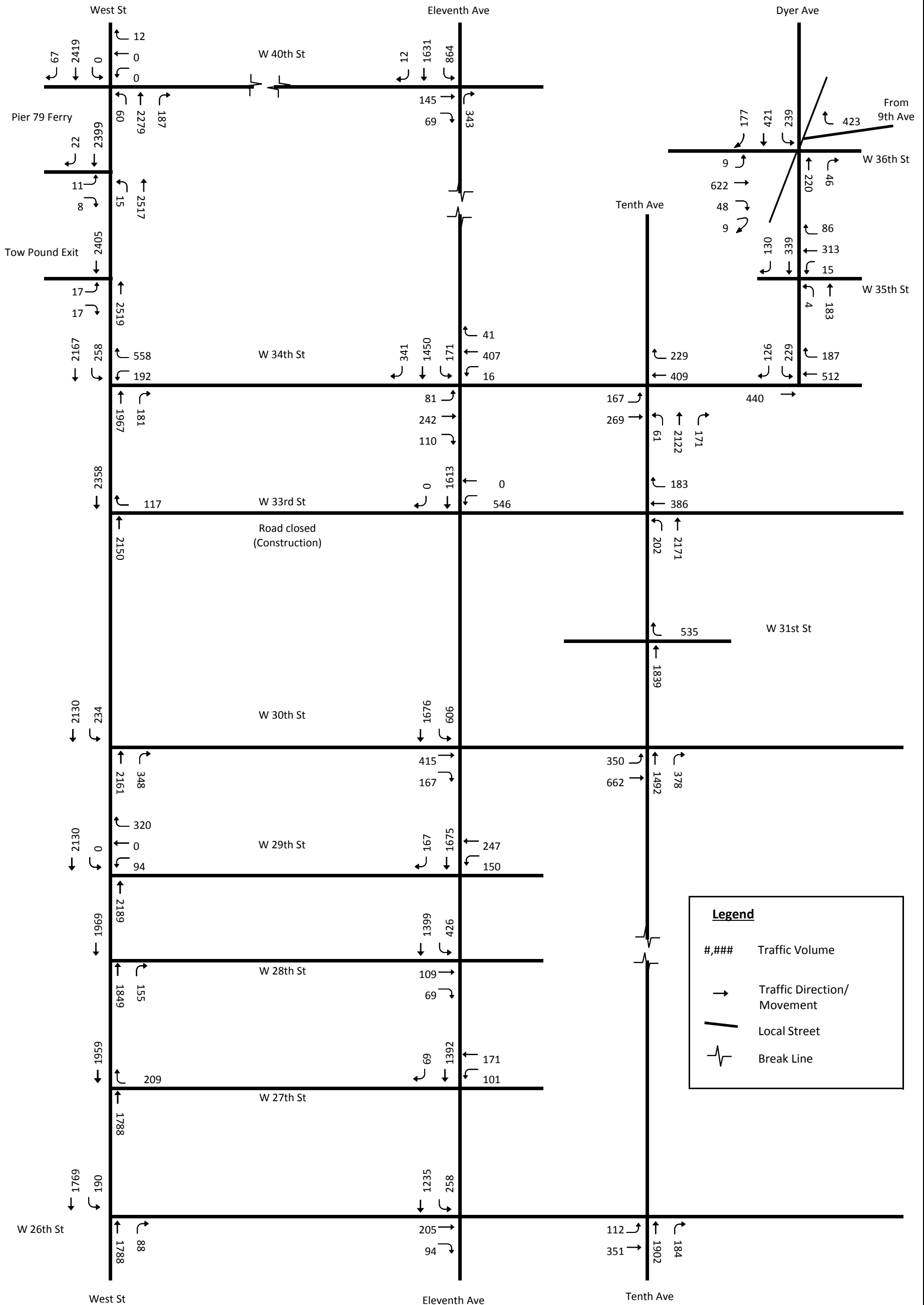
Hudson Tunnel Project Planning and Environmental Services
2016 Existing Condition Traffic Volumes
Weekday Midday Peak Period - Commuter Peak Hour (12:45 - 1:45 PM)



Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- Local Street
- ⋈ Break Line

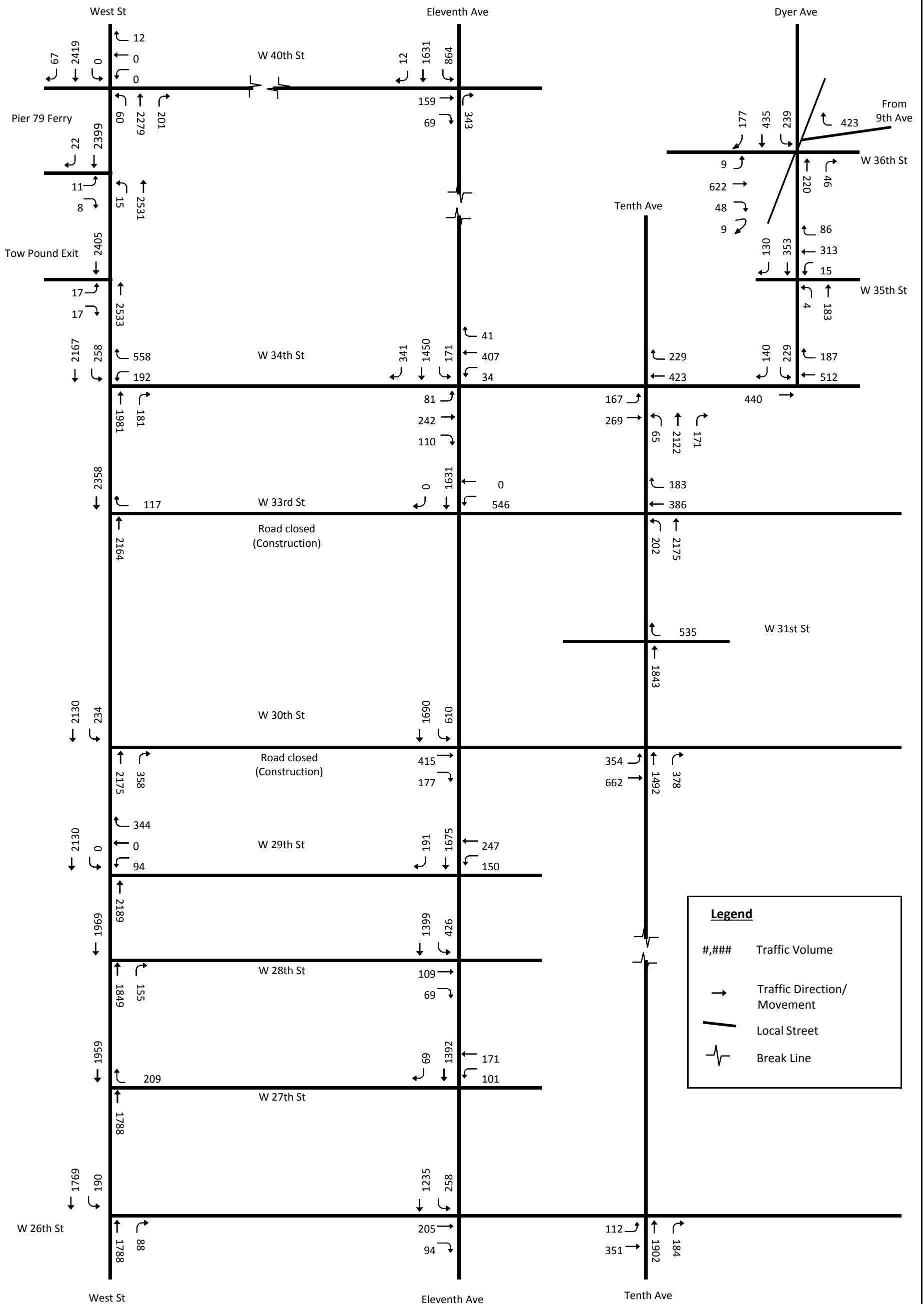
Hudson Tunnel Project Planning and Environmental Services
No Action Alternative Traffic Volumes
Weekday Midday Peak Period - Commuter Peak Hour (12:45 - 1:45 PM)



Traffic Flow Maps:
New York Study Area:
New Tunnel Construction

Weekday Midday Commuter Peak Period—
2024 Construction Condition

Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes
Weekday Midday Peak Period - Commuter Peak Hour (12:45 - 1:45 PM)



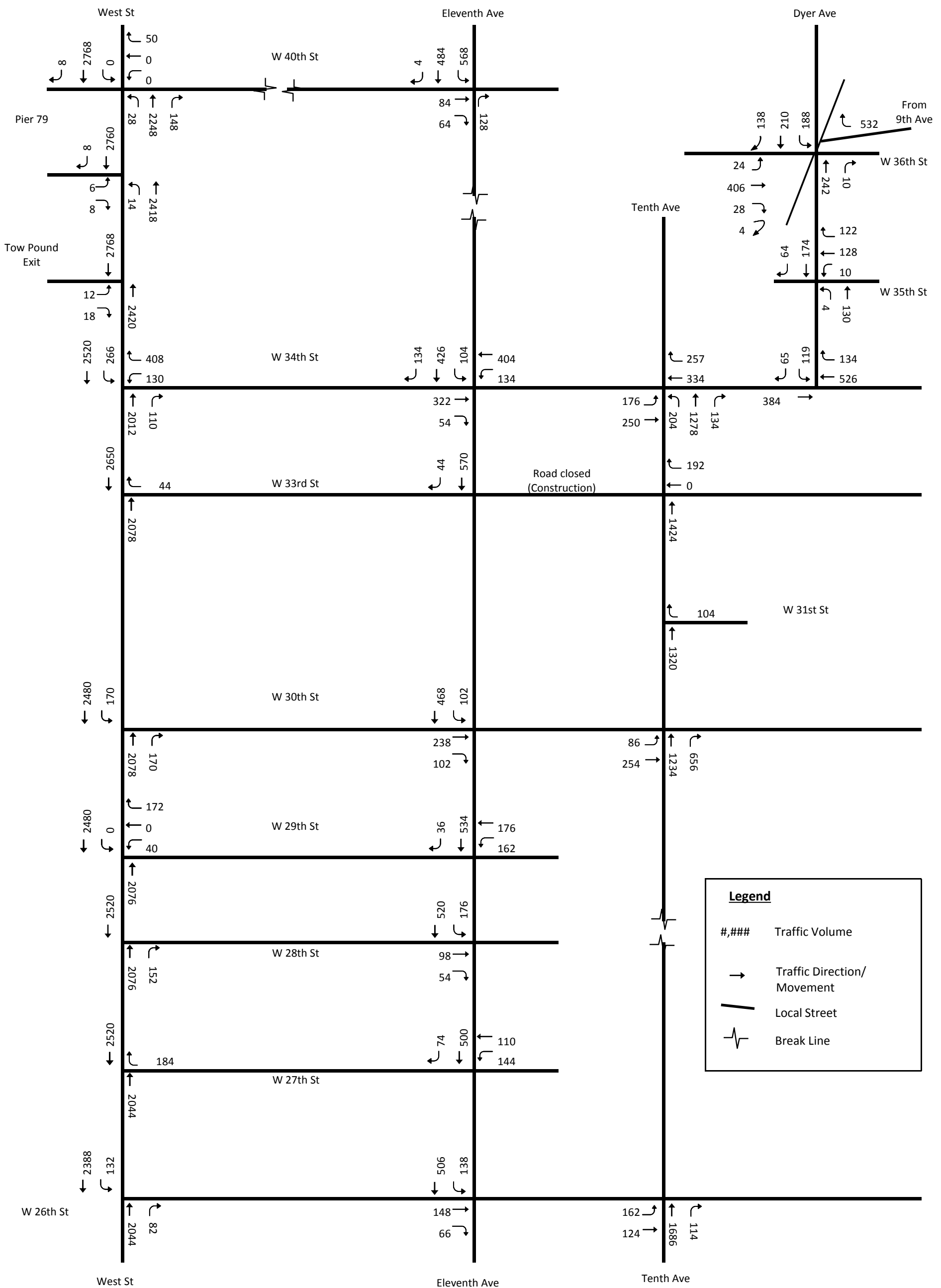
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SIMCO Engineering P.C.

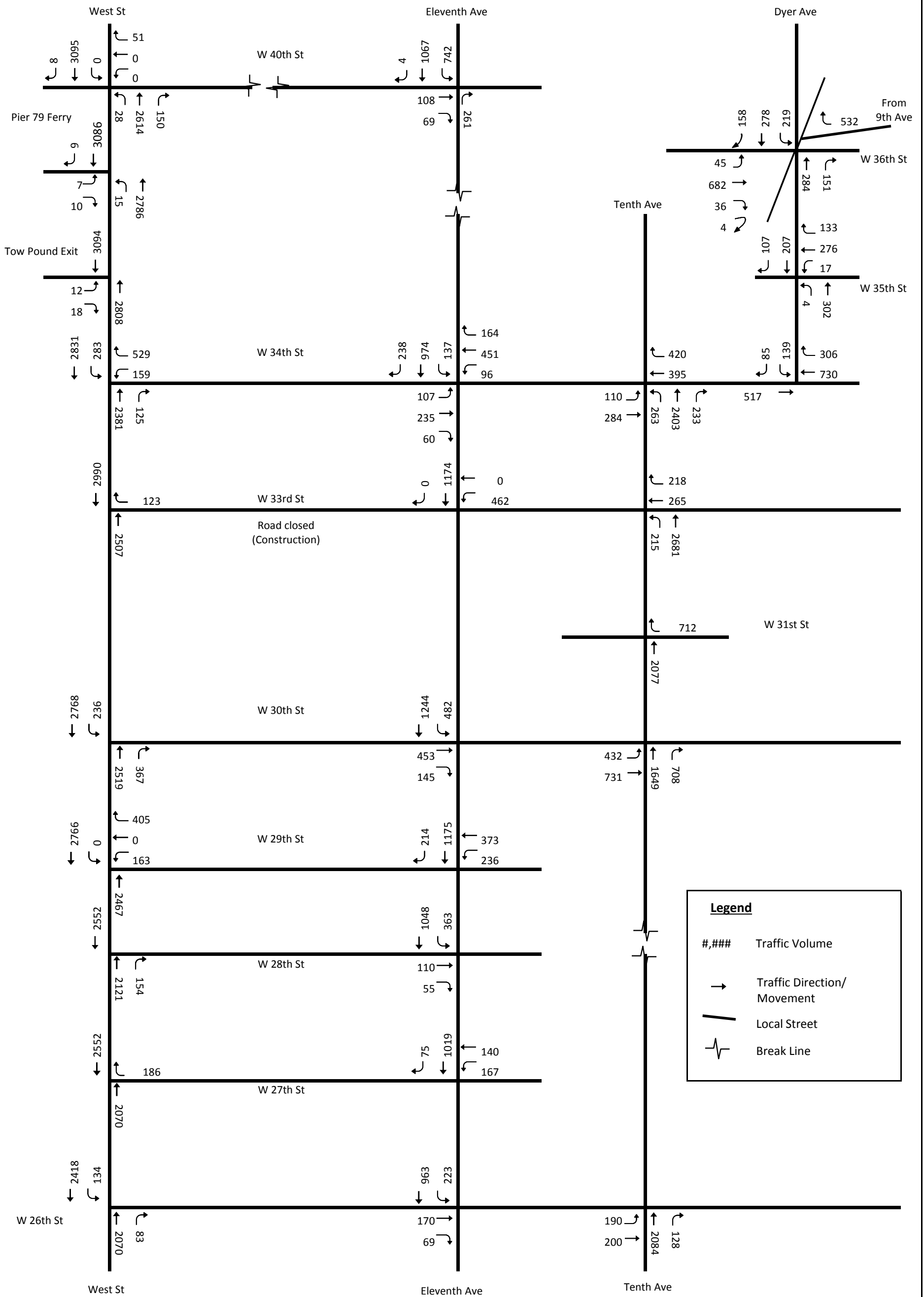
Traffic Flow Maps:
New York Study Area:
New Tunnel Construction

Weekday PM Construction Peak Hour—
Background Conditions
(2016 Existing and 2024 No Action)

Hudson Tunnel Project Planning and Environmental Services
2016 Existing Condition Traffic Volumes
Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)



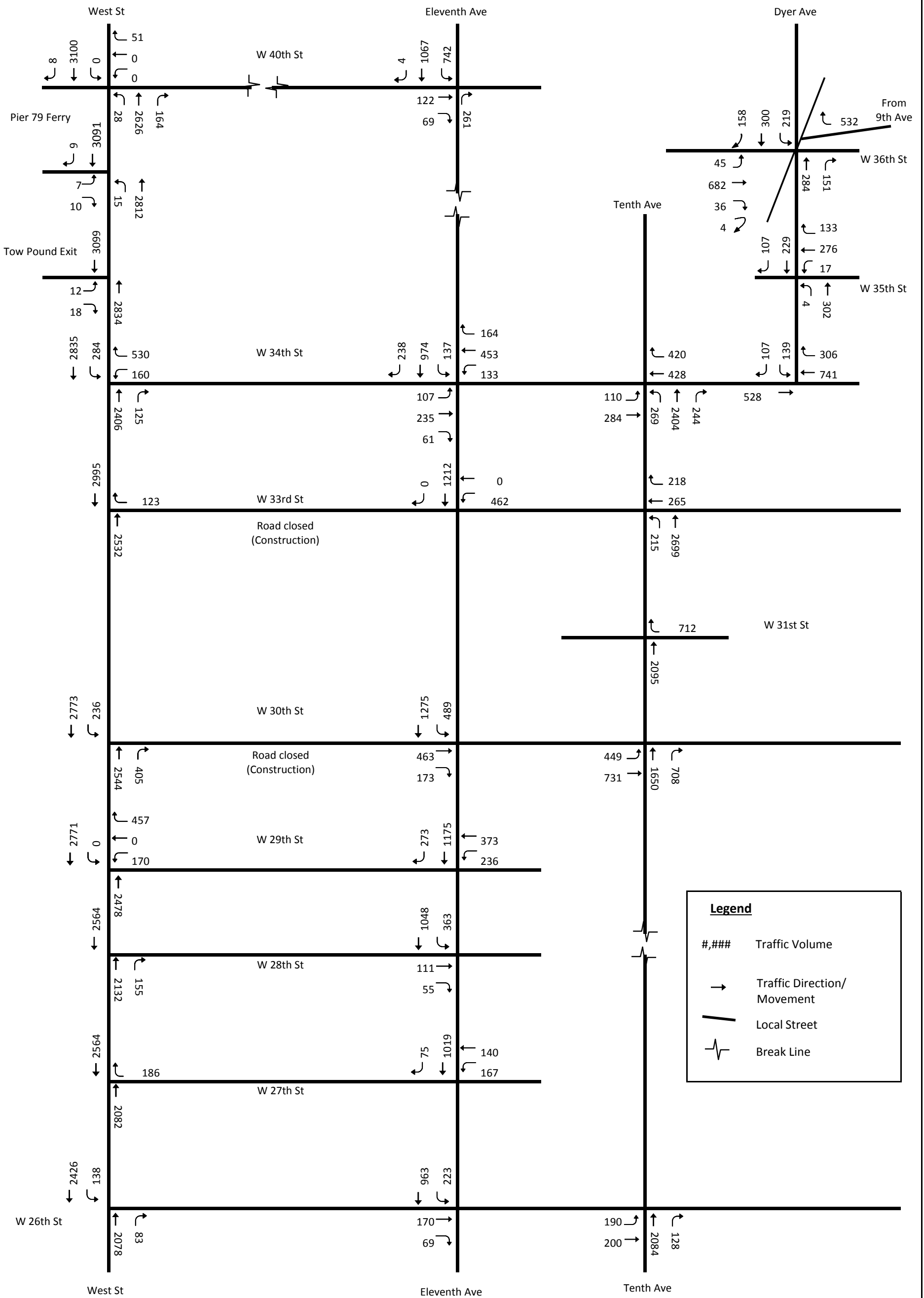
Hudson Tunnel Project Planning and Environmental Services
No Action Alternative Traffic Volumes
Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)



Traffic Flow Maps:
New York Study Area:
New Tunnel Construction

Weekday PM Construction Peak Hour—
2024 Construction Condition

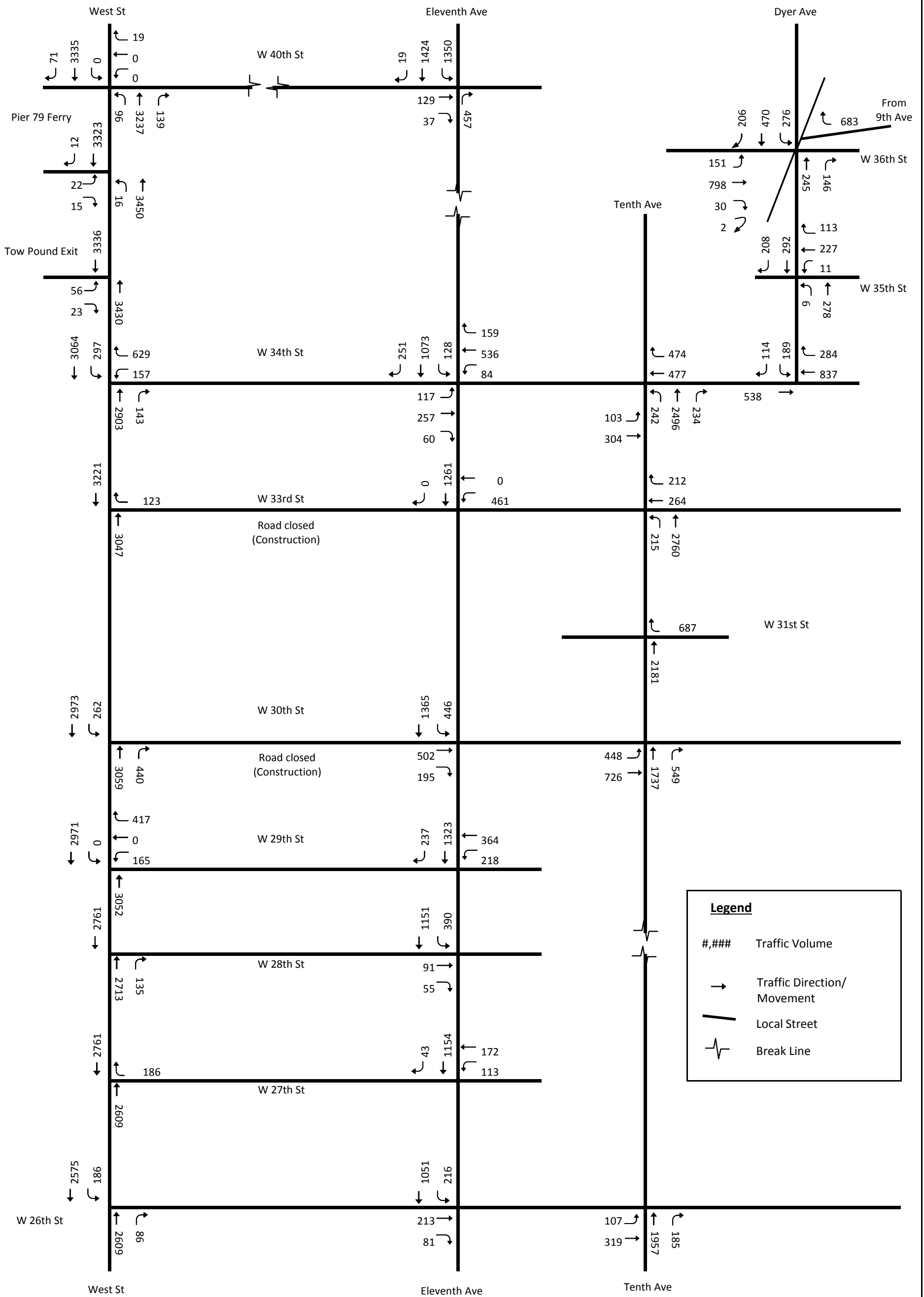
Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes
Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)



Traffic Flow Maps:
New York Study Area:
New Tunnel Construction

Weekday PM Commuter Peak Hour—
2024 Construction Condition

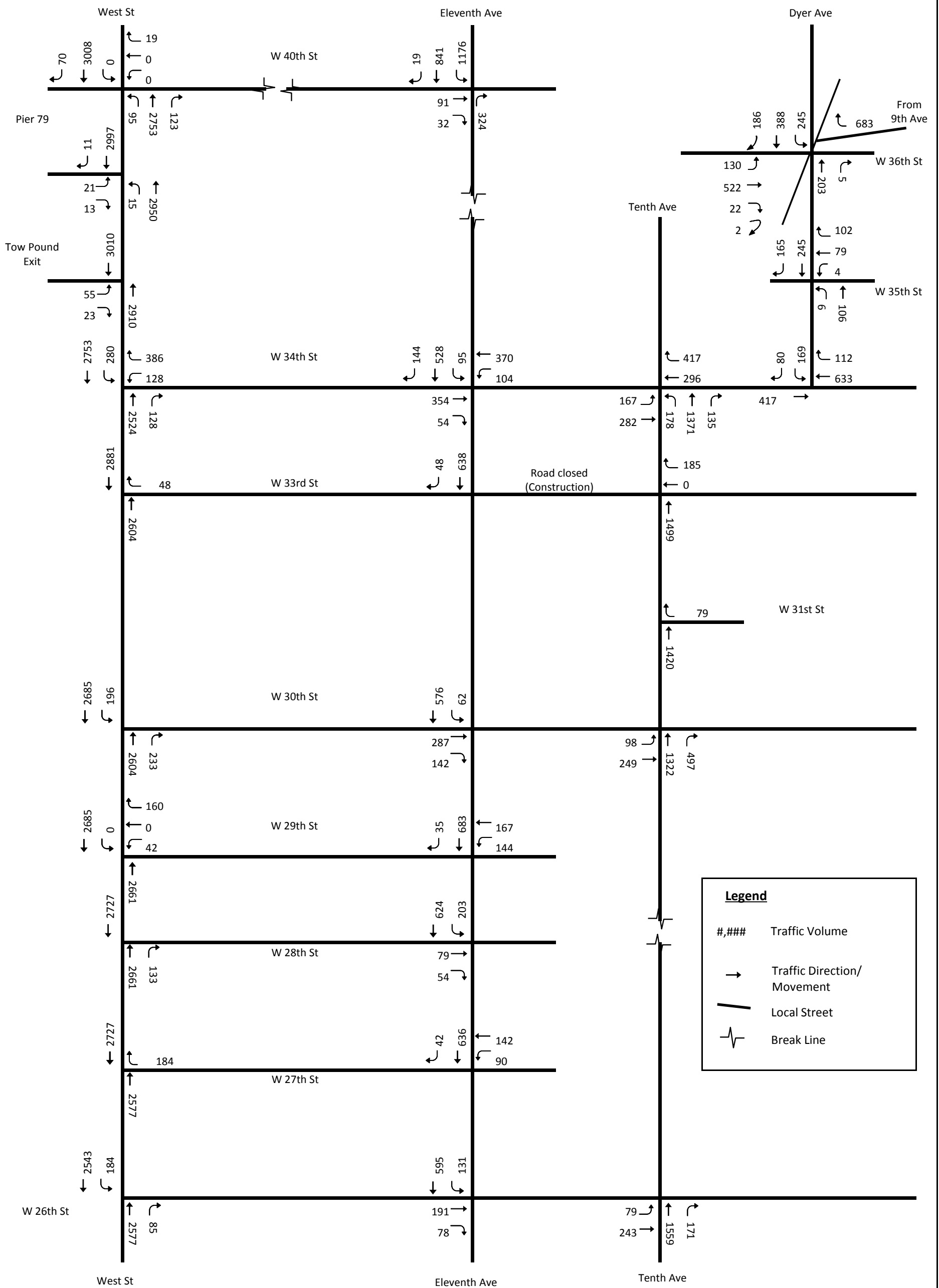
Hudson Tunnel Project Planning and Environmental Services
Construction Condition Traffic Volumes
Weekday PM Peak Period - Commuter Peak Hour (3:45 - 4:45 PM)



Traffic Flow Maps:
New York Study Area:
New Tunnel Construction

Weekday PM Commuter Peak Hour—
Background Conditions
(2016 Existing and 2024 No Action)

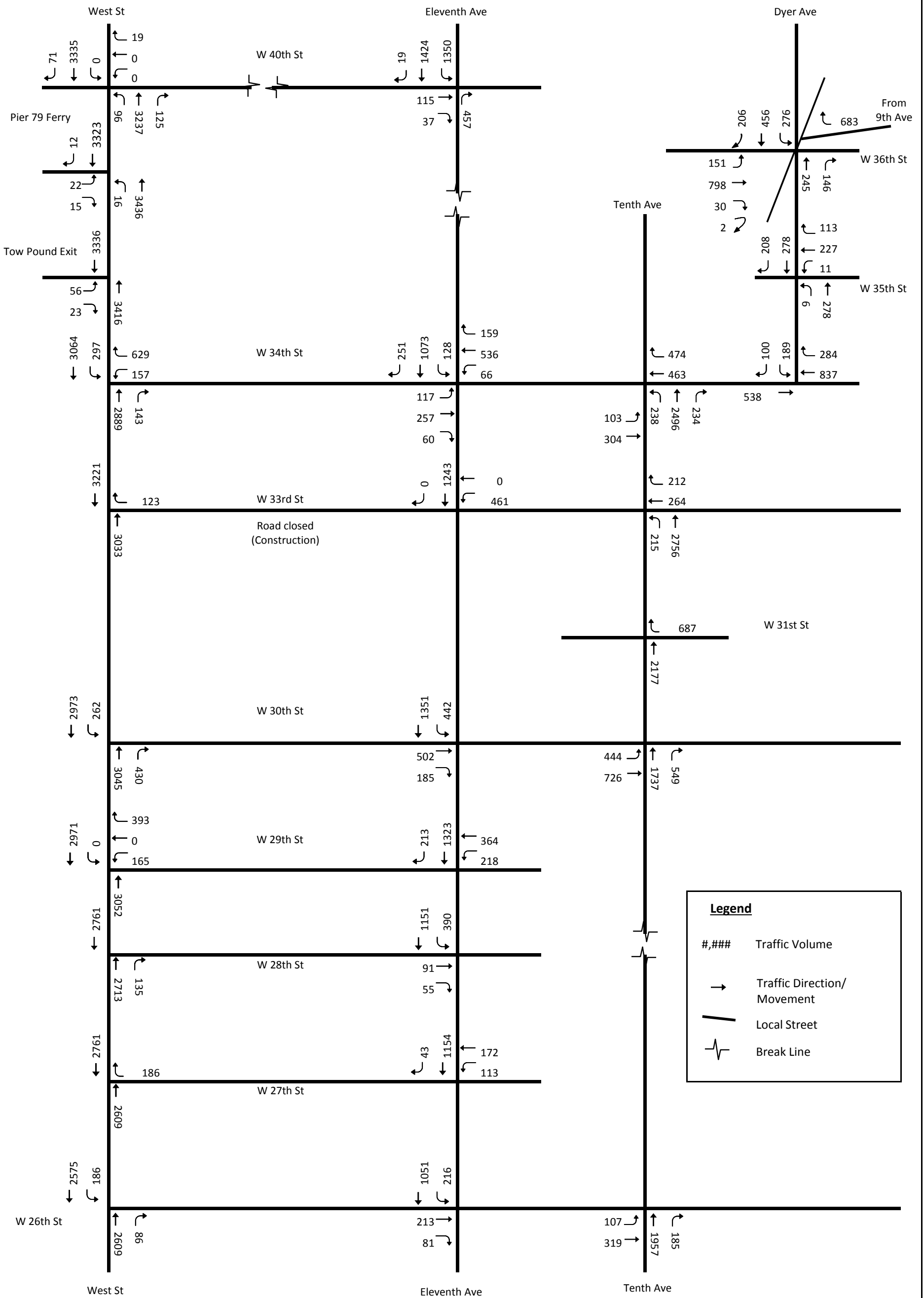
Hudson Tunnel Project Planning and Environmental Services
2016 Existing Condition Traffic Volumes
Weekday PM Peak Period - Commuter Peak Hour (3:45 - 4:45 PM)



Legend

- ### Traffic Volume
- Traffic Direction/Movement
- Local Street
- ⋮ Break Line

Hudson Tunnel Project Planning and Environmental Services
No Action Alternative Traffic Volumes
Weekday PM Peak Period - Commuter Peak Hour (3:45 - 4:45 PM)



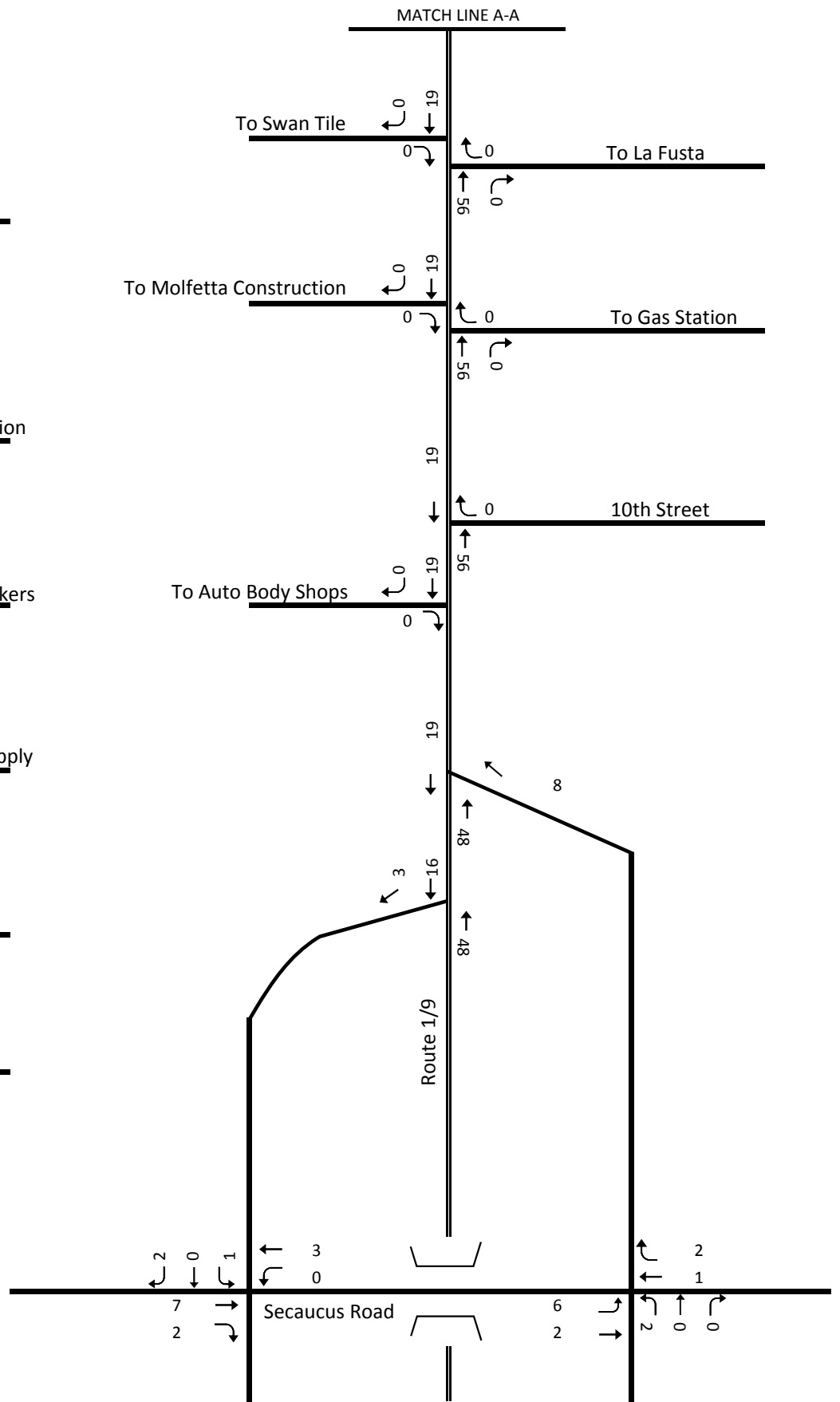
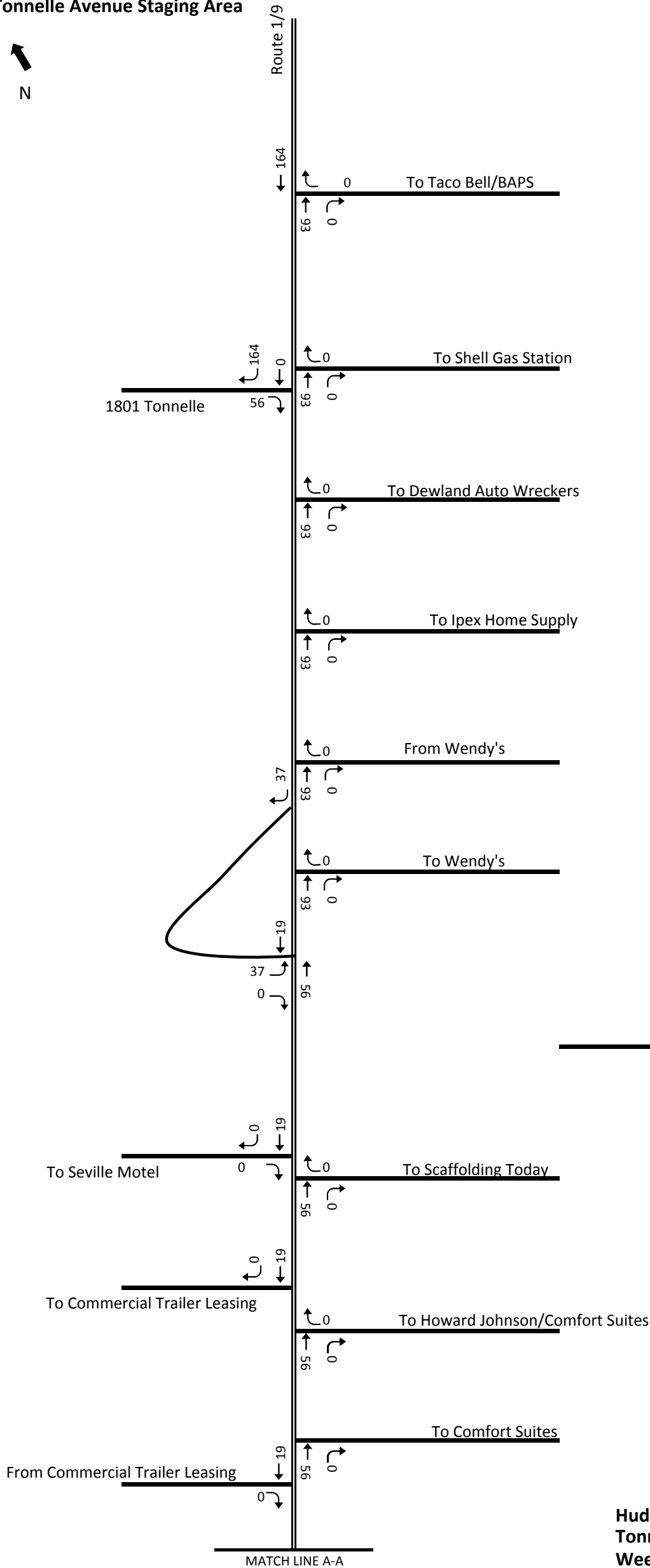
Traffic Increments—Flow Diagrams

New Jersey: Tonnelles Avenue Staging Area
Study Area
New Tunnel Construction (2024)

Traffic Increments—Flow Diagrams

- Worker Vehicles (Shift Changes)
 - Trucks (All Hours)

Tonnelle Avenue Staging Area

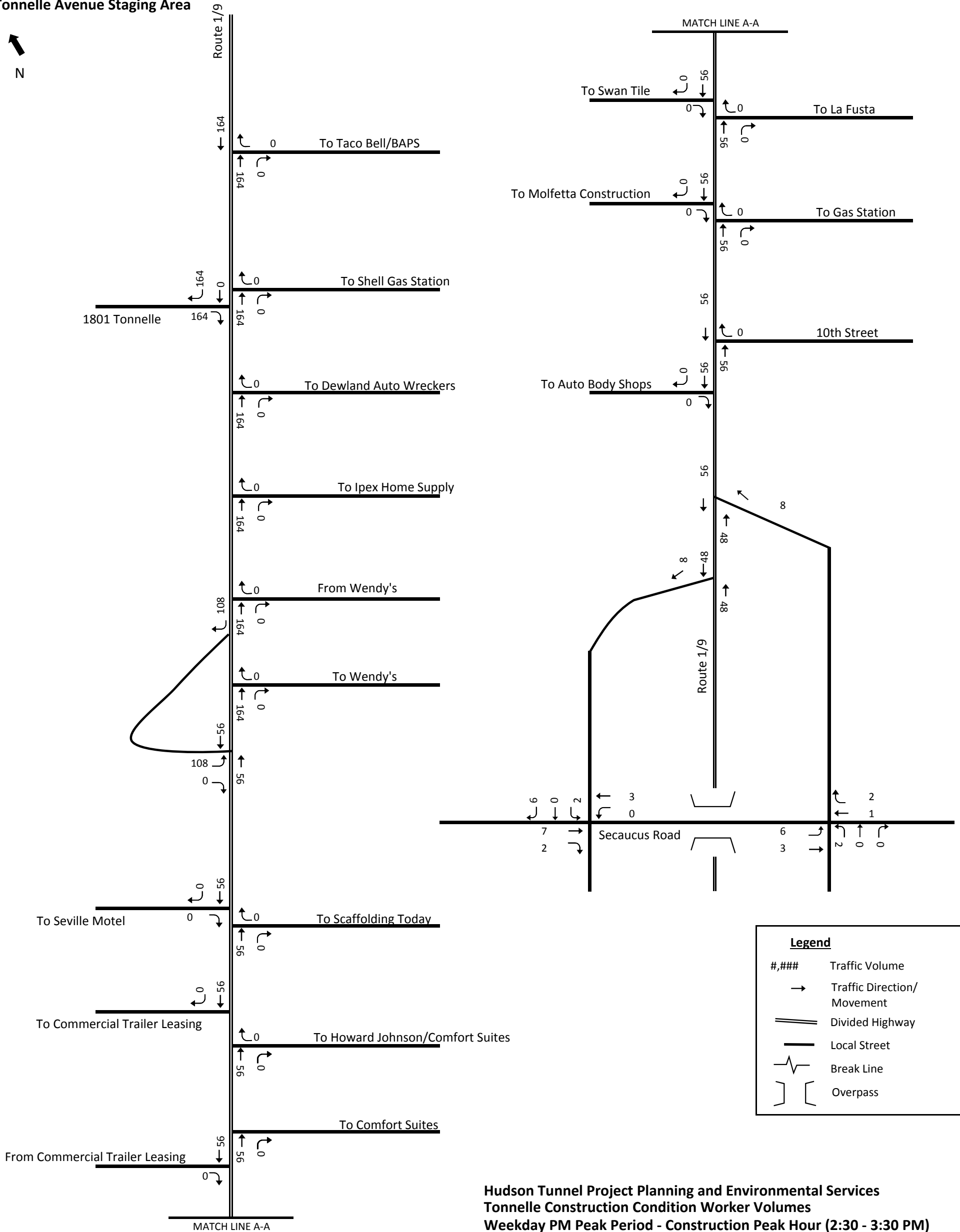


Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
-] [Overpass

**Hudson Tunnel Project Planning and Environmental Services
Tonnelle Construction Condition Worker Volumes
Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)**

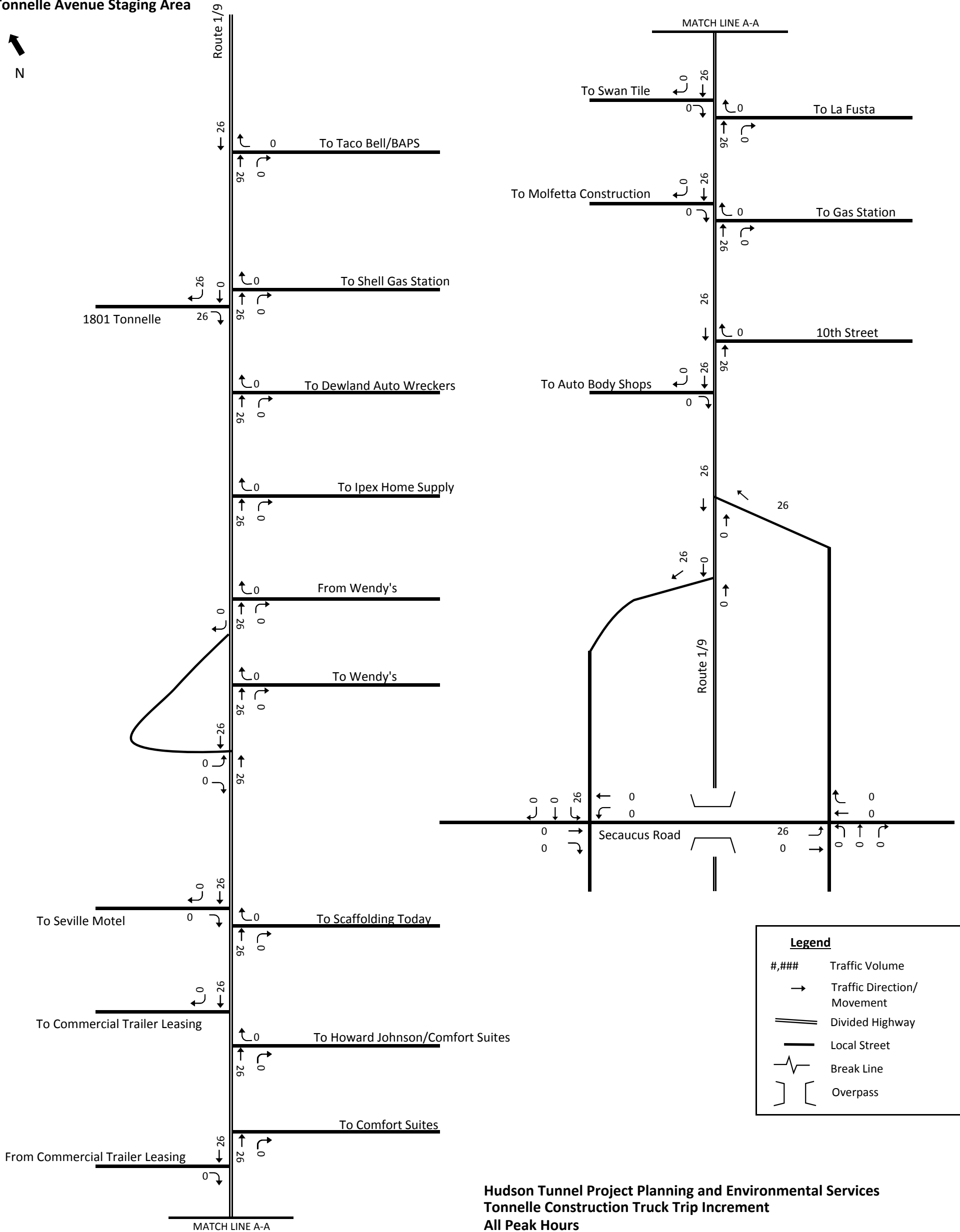
Tonnelle Avenue Staging Area



**Hudson Tunnel Project Planning and Environmental Services
Tonnelle Construction Condition Worker Volumes
Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)**

Not to Scale
SIMCO Engineering P.C.

Tonnelle Avenue Staging Area



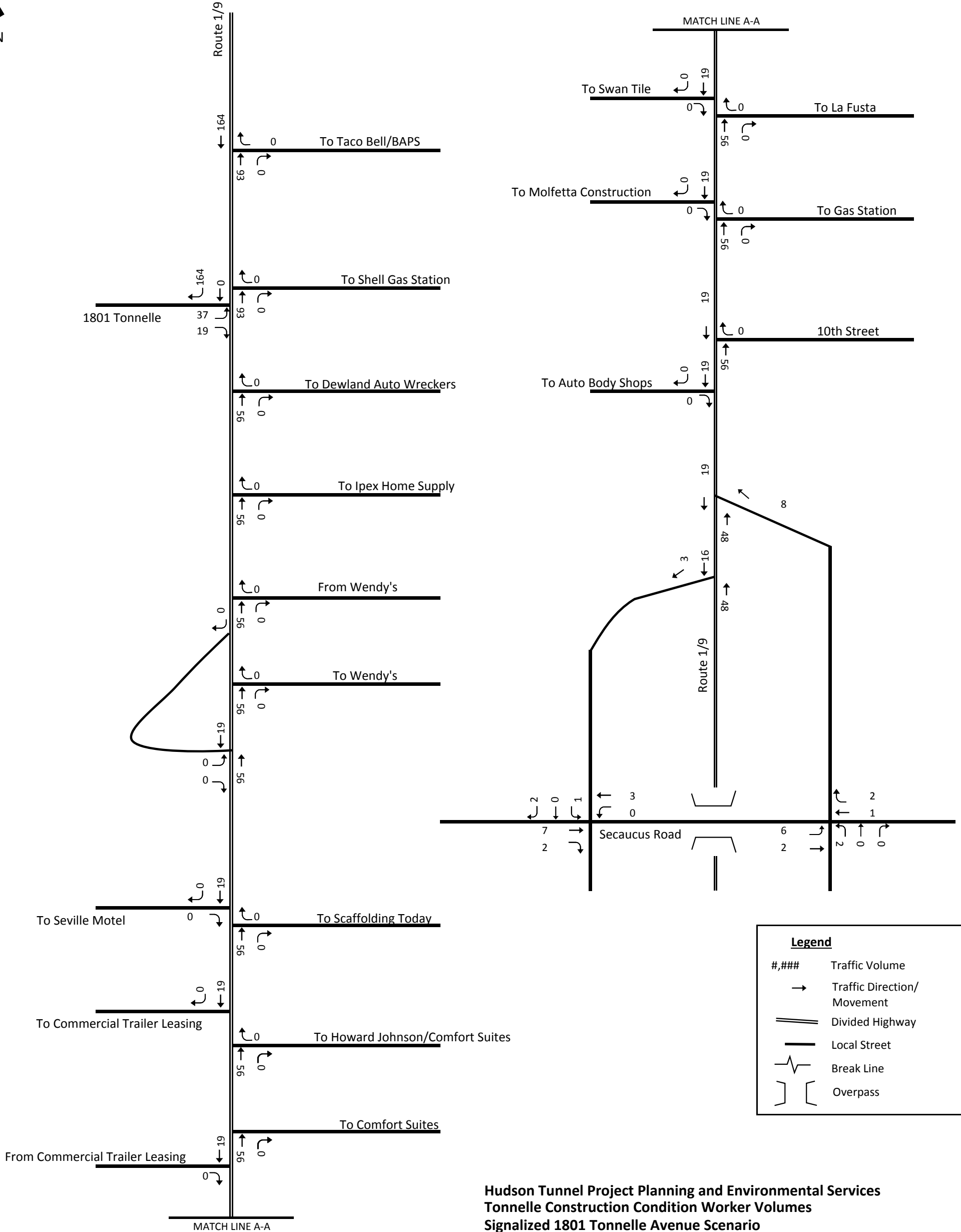
**Hudson Tunnel Project Planning and Environmental Services
Tonnelle Construction Truck Trip Increment
All Peak Hours**

Not to Scale
SIMCO Engineering P.C.

New Jersey: Tonnelle Avenue Staging Area
Study Area—Including a New Traffic Signal at
the Staging Area Driveway
New Tunnel Construction (2024)

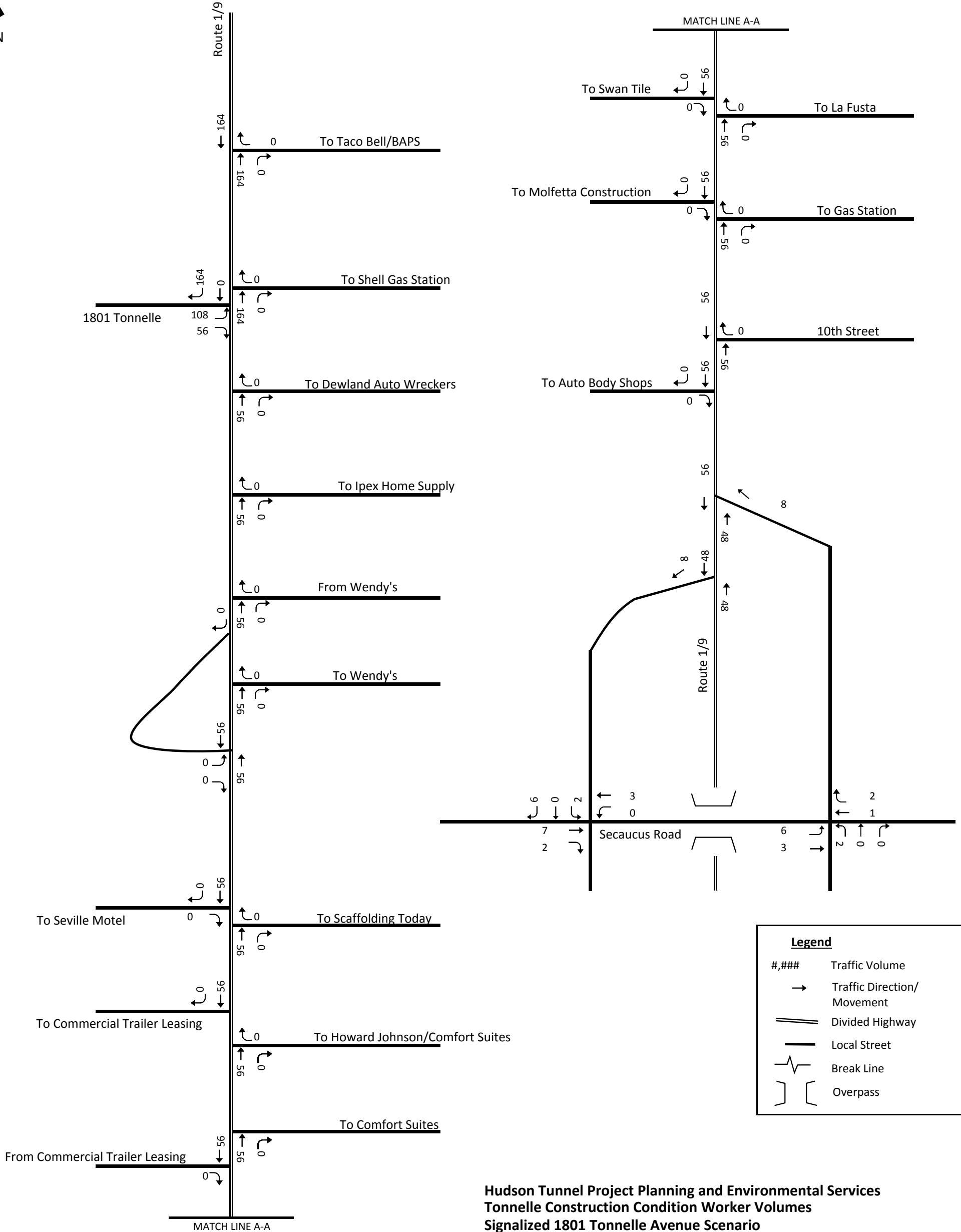
Traffic Increments—Flow Diagrams

- Worker Vehicles (Shift Changes)
 - Trucks (All Hours)



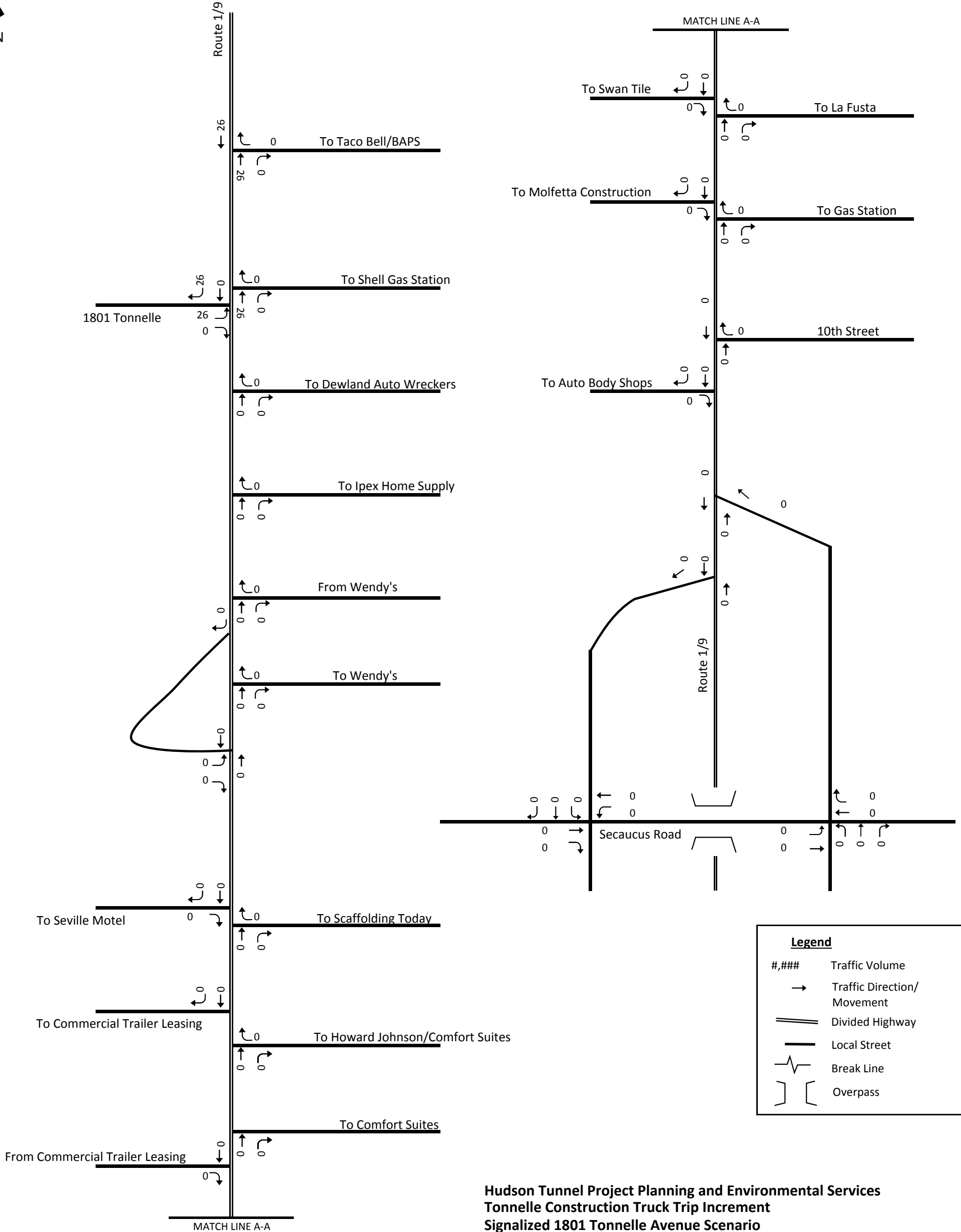
Hudson Tunnel Project Planning and Environmental Services
Tonnelle Construction Condition Worker Volumes
Signalized 1801 Tonnelle Avenue Scenario
Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)

Not to Scale
SIMCO Engineering P.C.



**Hudson Tunnel Project Planning and Environmental Services
 Tonnelle Construction Condition Worker Volumes
 Signalized 1801 Tonnelle Avenue Scenario
 Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)**

Not to Scale
 SIMCO Engineering P.C.



Legend	
#,###	Traffic Volume
→	Traffic Direction/ Movement
	Divided Highway
—	Local Street
~	Break Line
] [Overpass

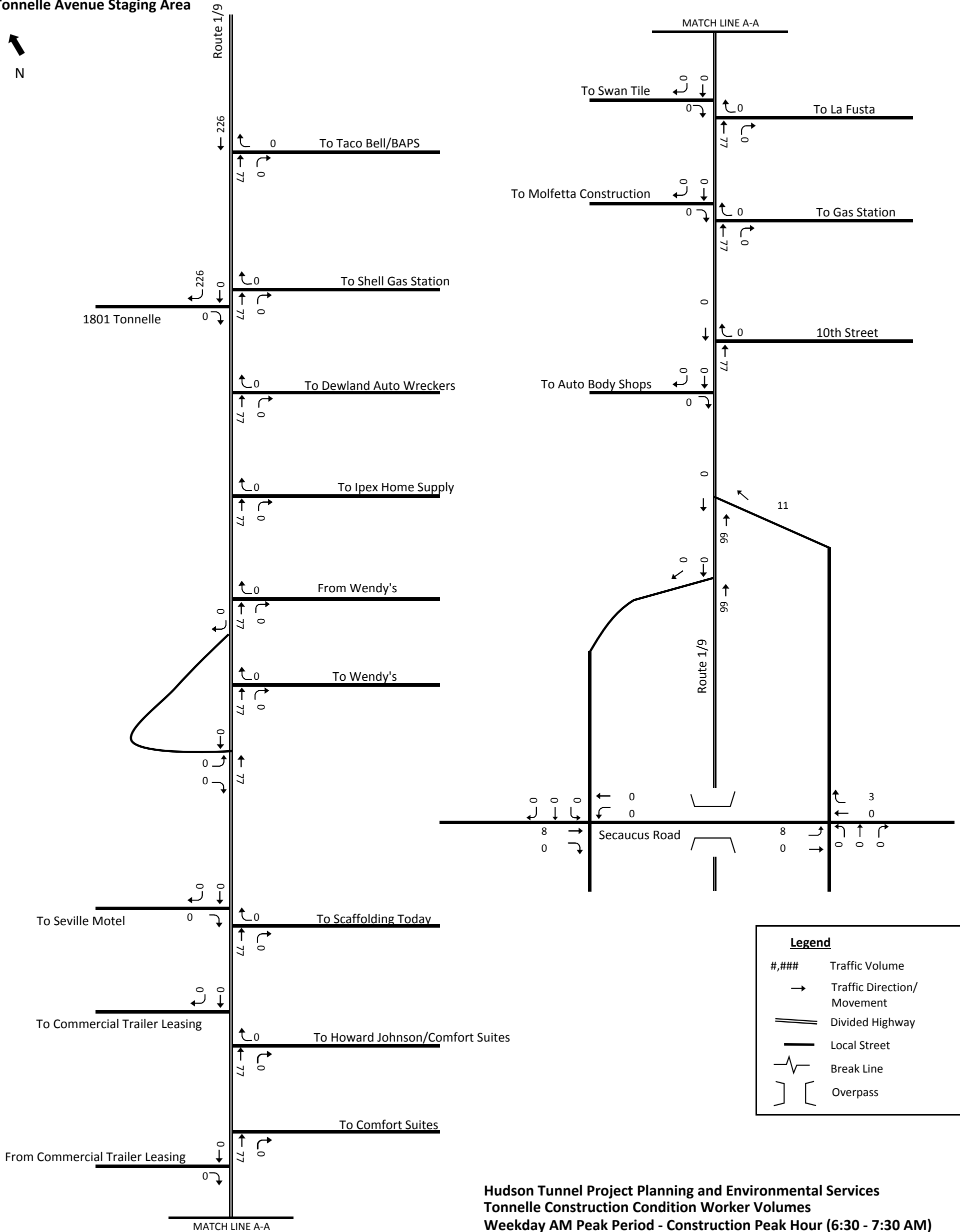
**Hudson Tunnel Project Planning and Environmental Services
Tonnelle Construction Truck Trip Increment
Signalized 1801 Tonnelle Avenue Scenario
All Peak Hours**

New Jersey: Tonnelles Avenue Staging Area
Study Area
New Tunnel Construction (2032)

Traffic Increments—Flow Diagrams

- Worker Vehicles (Shift Changes)
 - Trucks (All Hours)

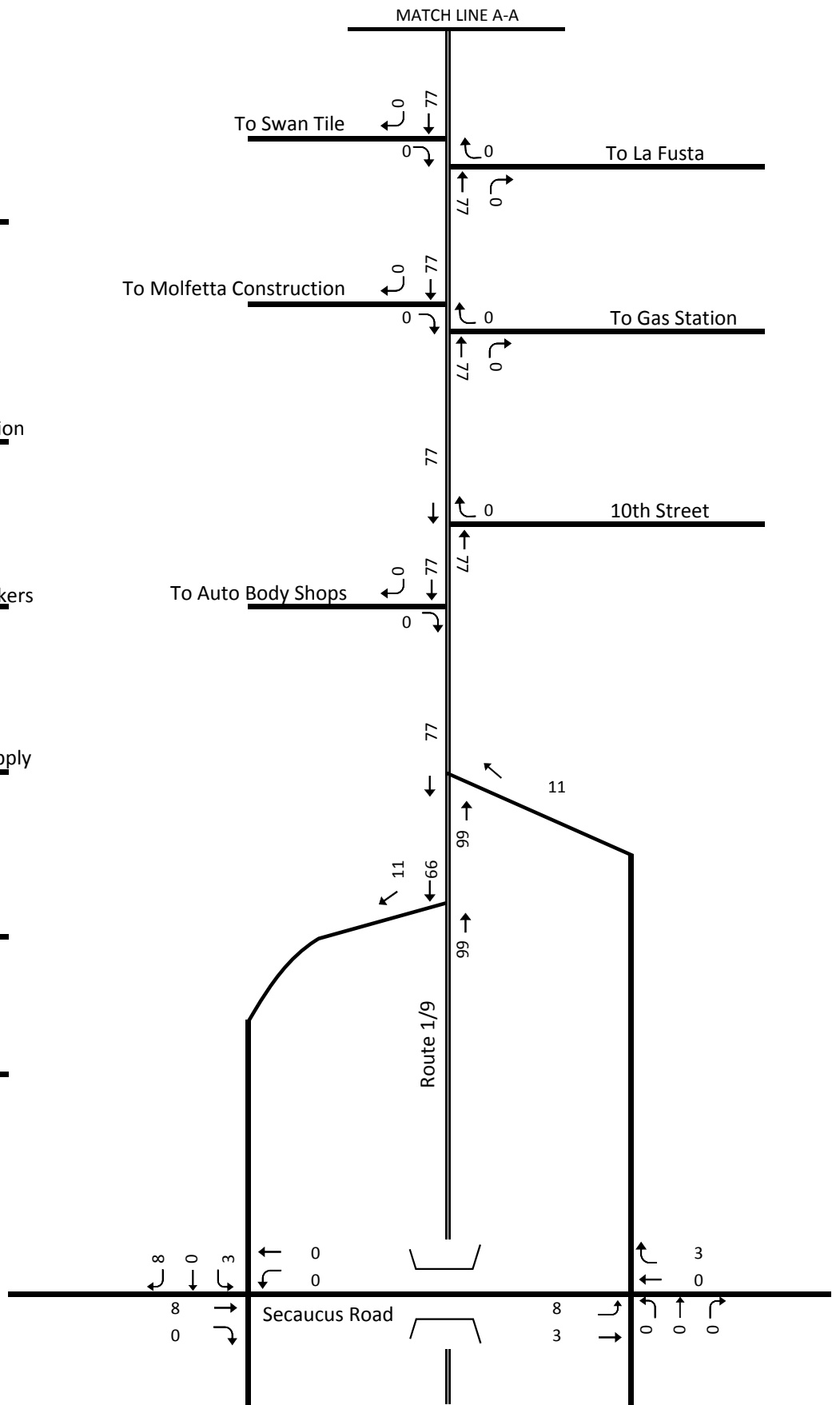
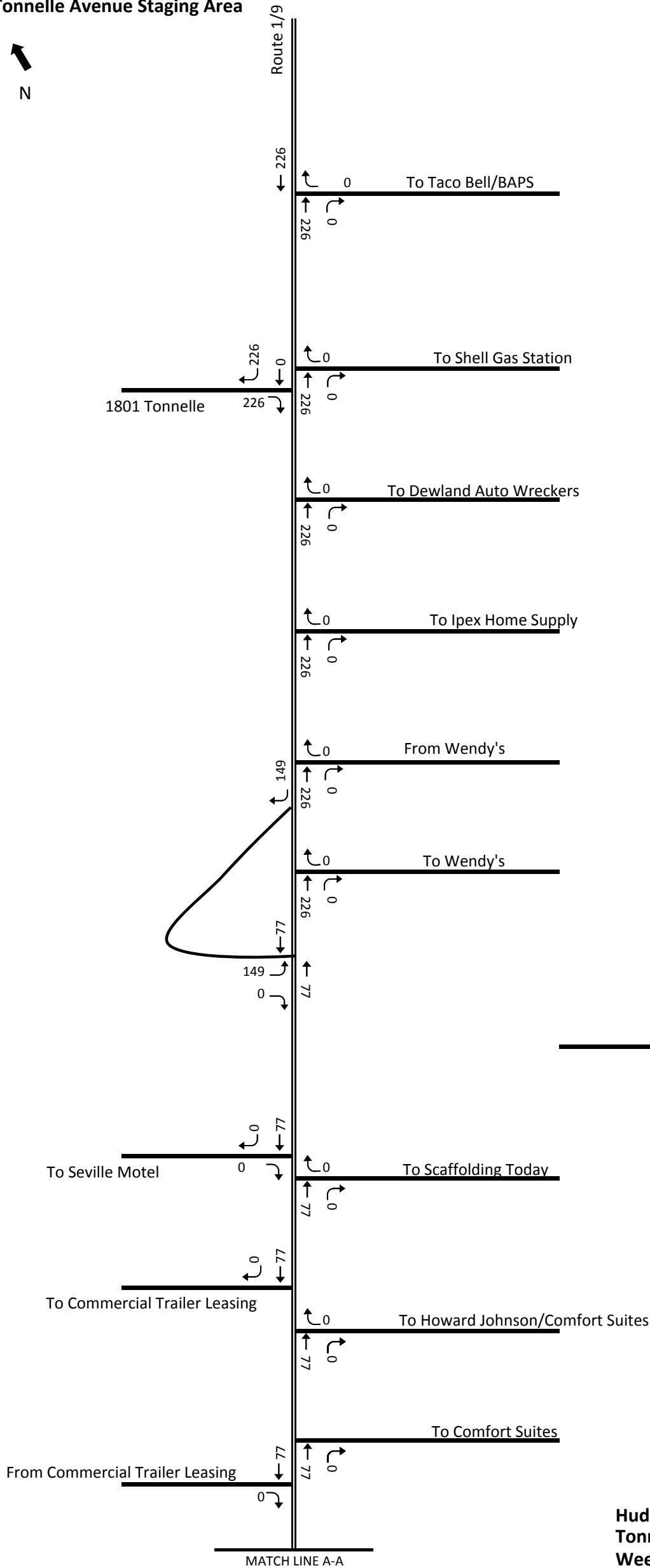
Tonnelle Avenue Staging Area



**Hudson Tunnel Project Planning and Environmental Services
Tonnelle Construction Condition Worker Volumes
Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)**

Not to Scale
SIMCO Engineering P.C.

Tonnelle Avenue Staging Area



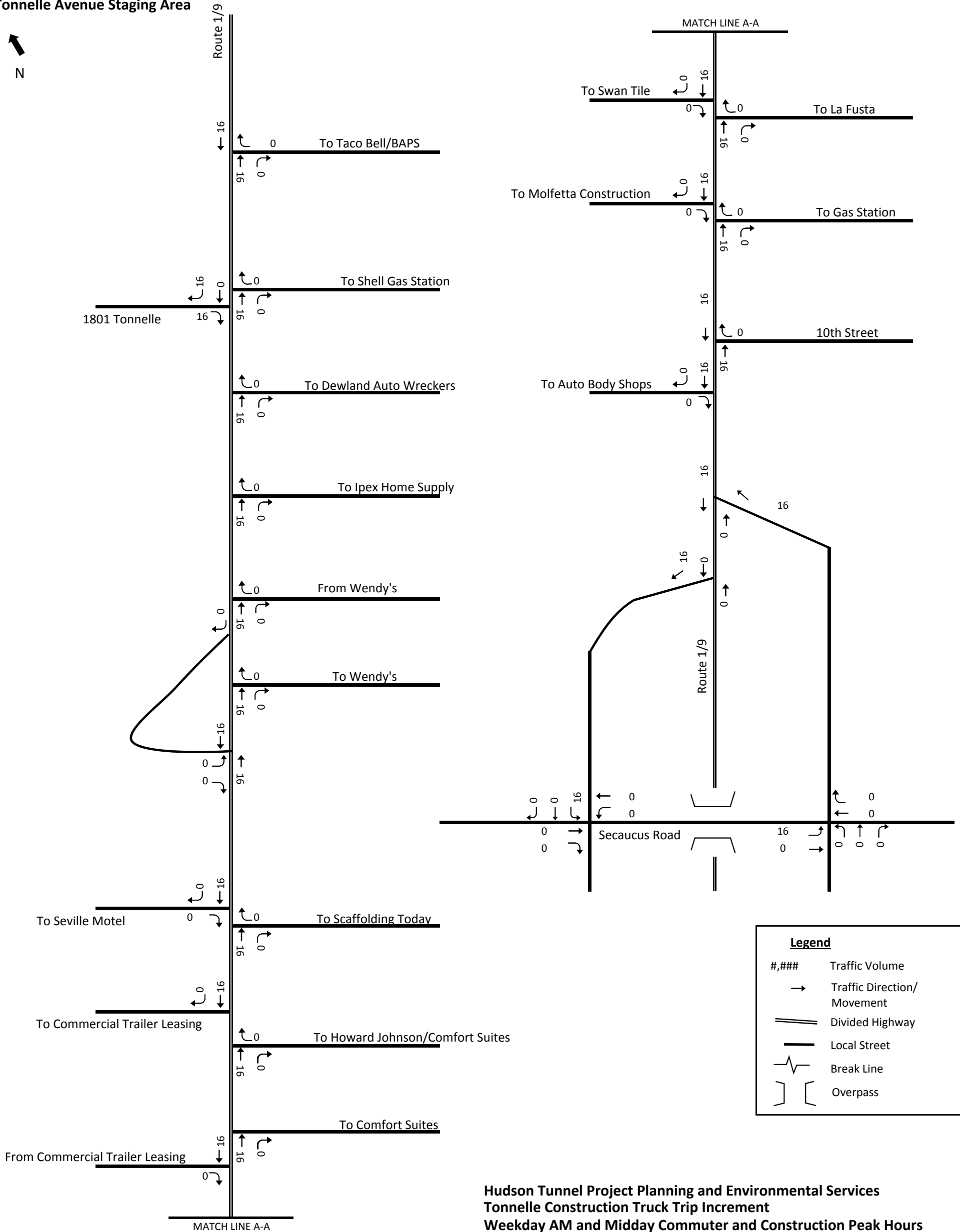
Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- ~ Break Line
-] [Overpass

**Hudson Tunnel Project Planning and Environmental Services
Tonnelle Construction Condition Worker Volumes
Weekday PM and Saturday Construction Peak Hours**

Not to Scale
SIMCO Engineering P.C.

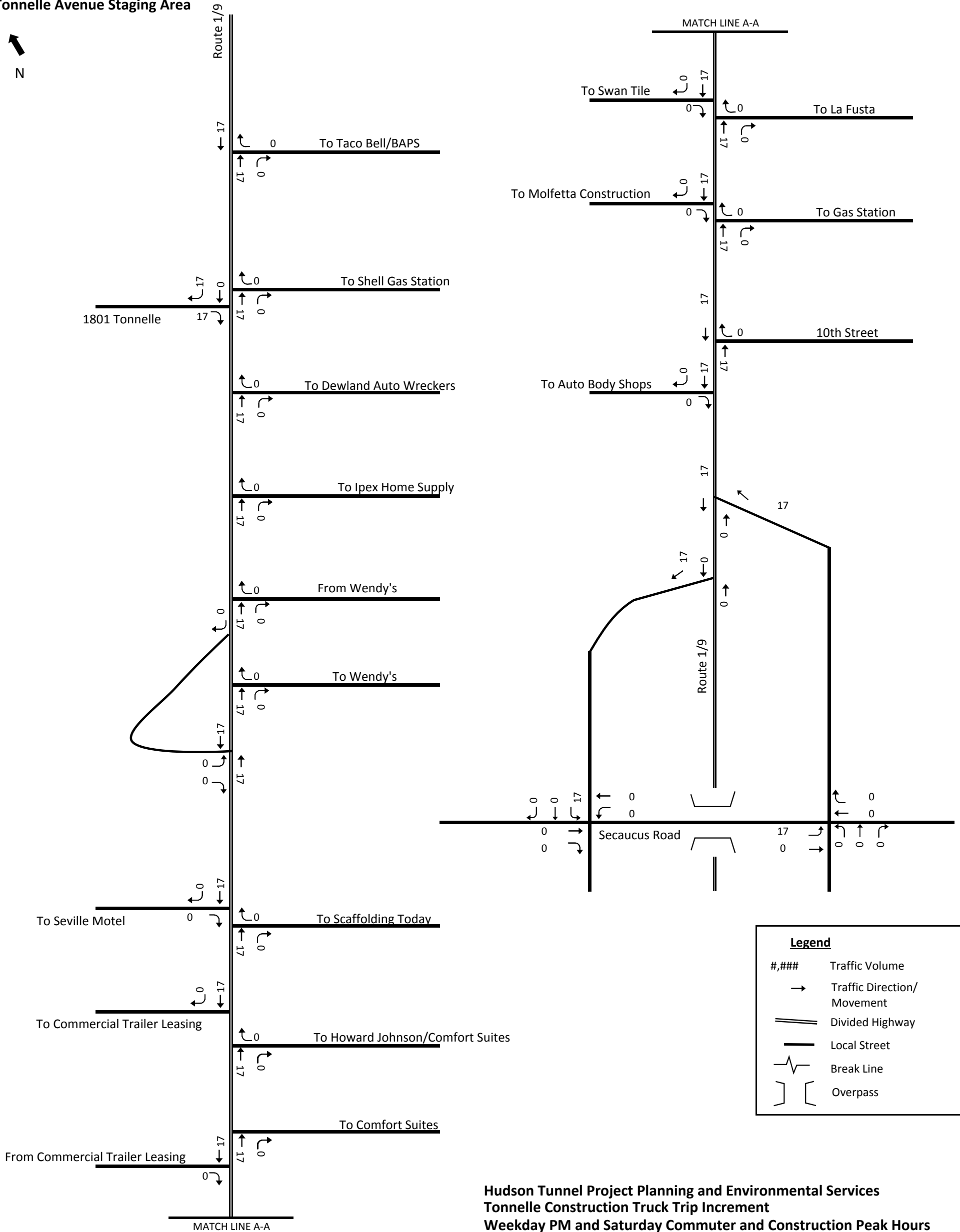
Tonnelle Avenue Staging Area



**Hudson Tunnel Project Planning and Environmental Services
Tonnelle Construction Truck Trip Increment
Weekday AM and Midday Commuter and Construction Peak Hours**

Not to Scale
SIMCO Engineering P.C.

Tonnelle Avenue Staging Area



Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- ~ Break Line
-] [Overpass

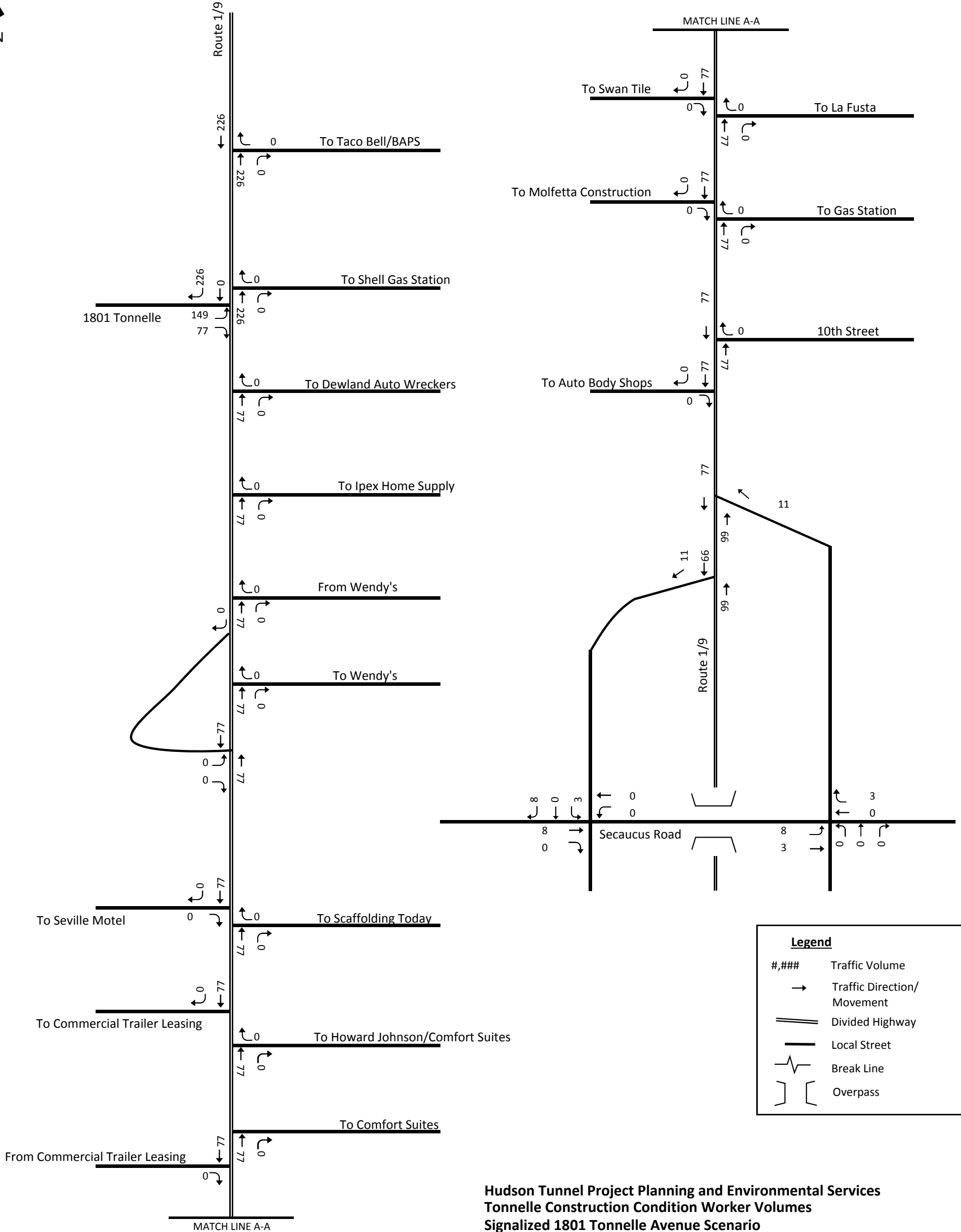
**Hudson Tunnel Project Planning and Environmental Services
Tonnelle Construction Truck Trip Increment
Weekday PM and Saturday Commuter and Construction Peak Hours**

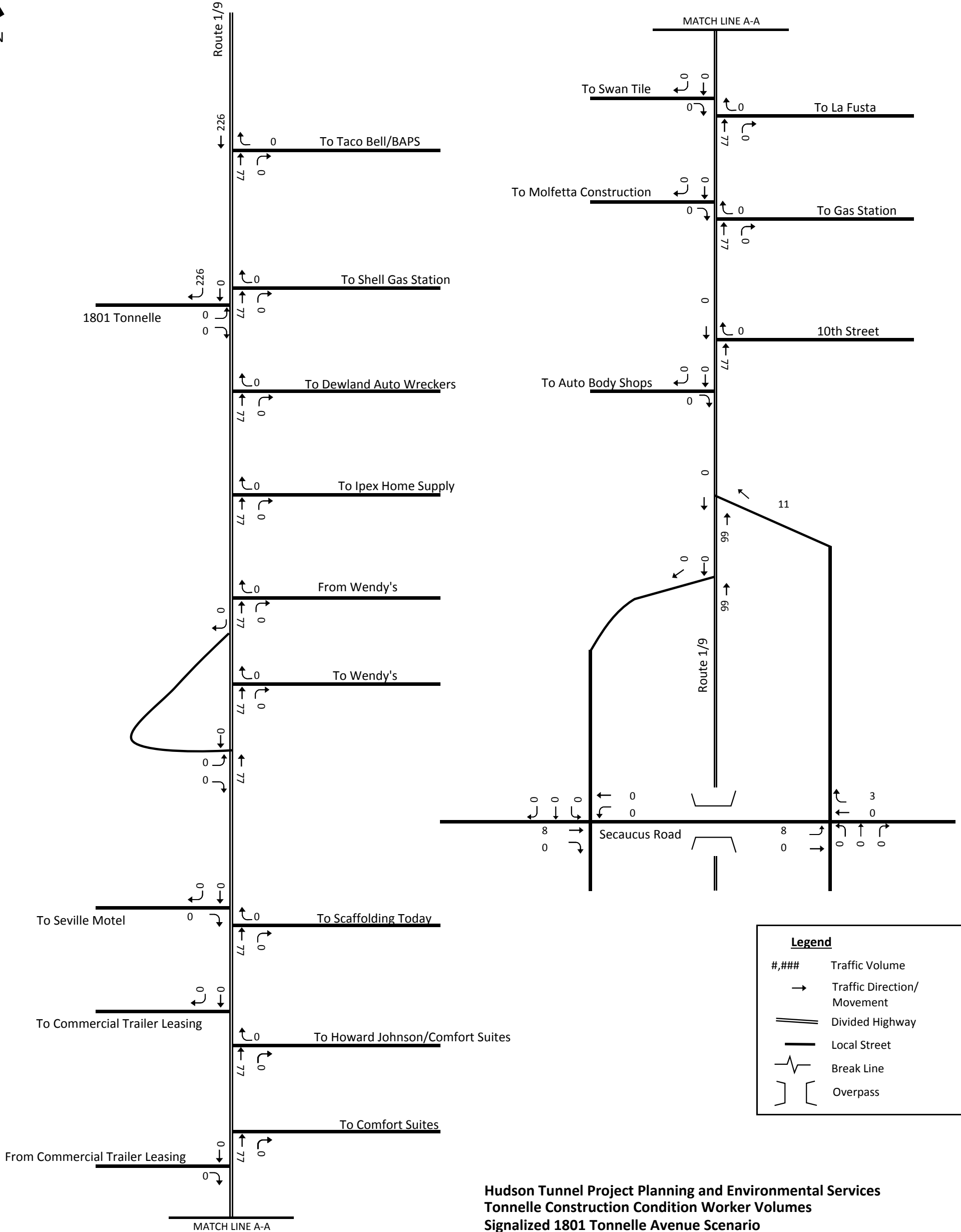
Not to Scale
SIMCO Engineering P.C.

New Jersey: Tonnelle Avenue Staging Area
Study Area—Including a New Traffic Signal at
the Staging Area Driveway
North River Tunnel Rehabilitation (2032)
(Proposed Mitigation Measure)

Traffic Increments—Flow Diagrams

- Worker Vehicles (Shift Changes)
 - Trucks (All Hours)



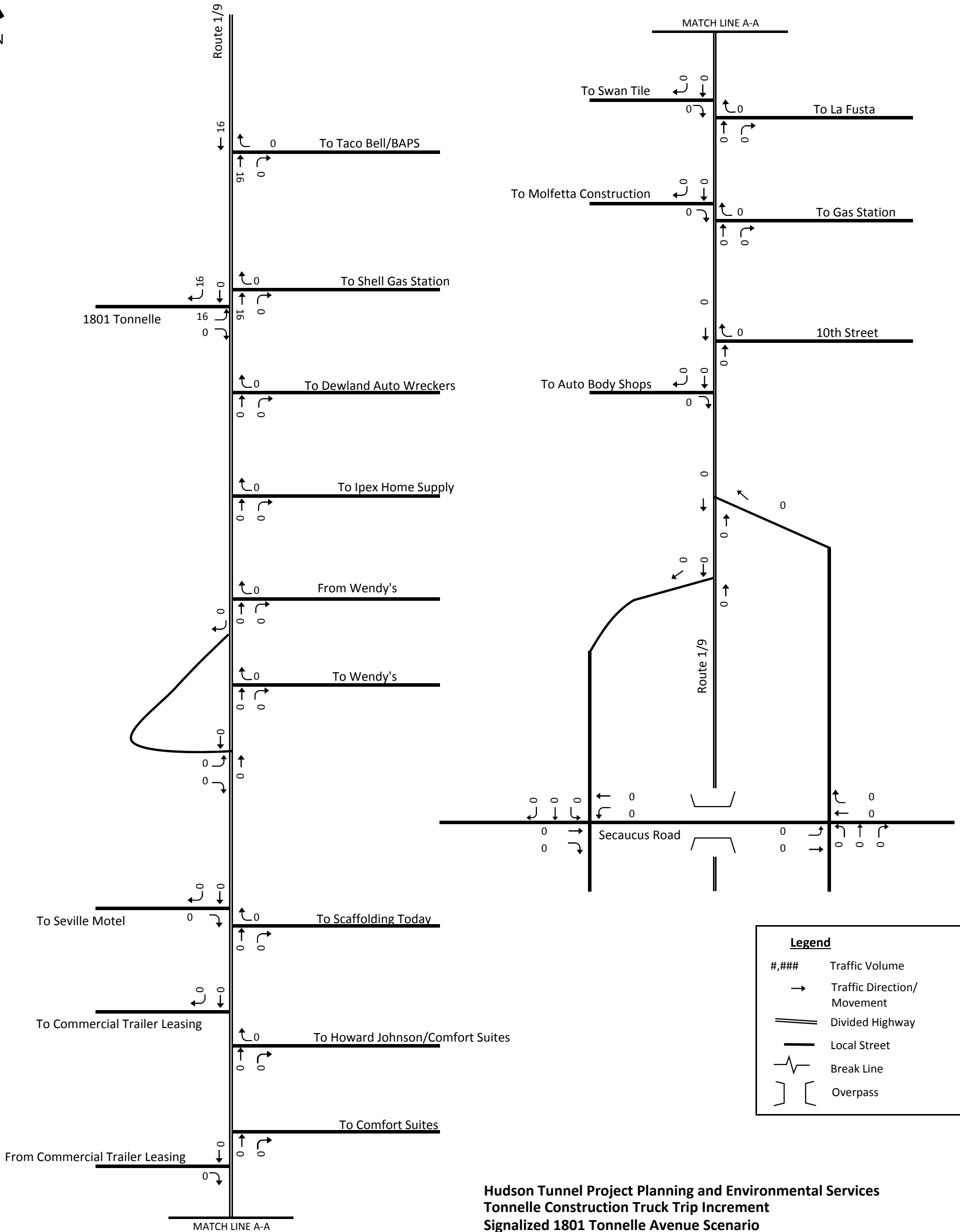


Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- ~ Break Line
-] [Overpass

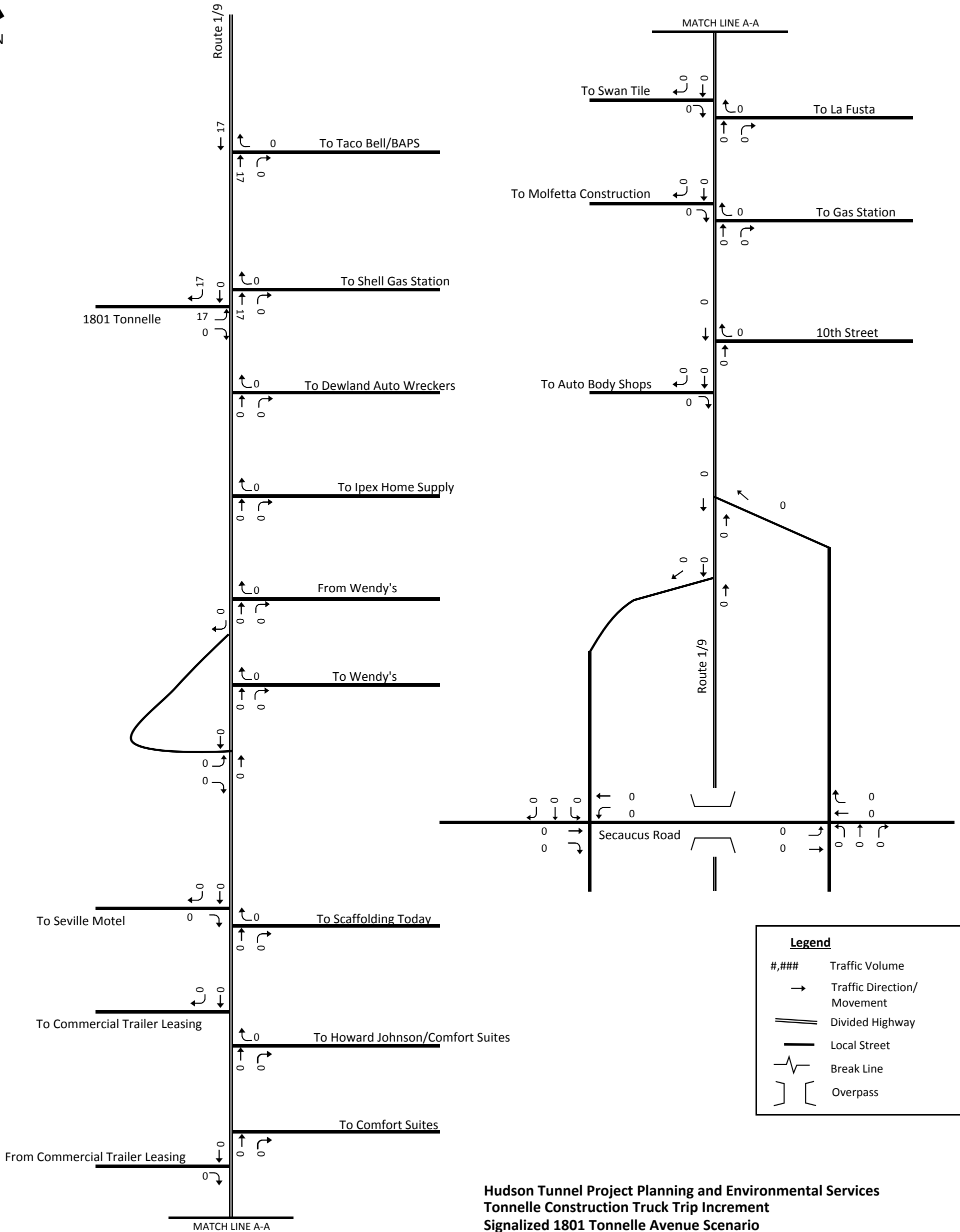
**Hudson Tunnel Project Planning and Environmental Services
Tonnelle Construction Condition Worker Volumes
Signalized 1801 Tonnelle Avenue Scenario
Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)**

Not to Scale
SIMCO Engineering P.C.



Legend	
#,###	Traffic Volume
→	Traffic Direction/ Movement
==	Divided Highway
—	Local Street
~	Break Line
]	Overpass

**Hudson Tunnel Project Planning and Environmental Services
 Tonnelle Construction Truck Trip Increment
 Signalized 1801 Tonnelle Avenue Scenario
 Weekday AM and Midday Commuter and Construction Peak Hours**



Legend	
#,###	Traffic Volume
→	Traffic Direction/ Movement
==	Divided Highway
—	Local Street
~	Break Line
]	Overpass

**Hudson Tunnel Project Planning and Environmental Services
 Tonnelle Construction Truck Trip Increment
 Signalized 1801 Tonnelle Avenue Scenario
 Weekday PM and Saturday Commuter and Construction Peak Hours**

New Jersey: Hoboken Staging Area Study Area
New Tunnel Construction (2025)
Haul Route Option 1

Traffic Increments—Flow Diagrams

- Worker Vehicles (Shift Changes)
 - Trucks (All Hours)

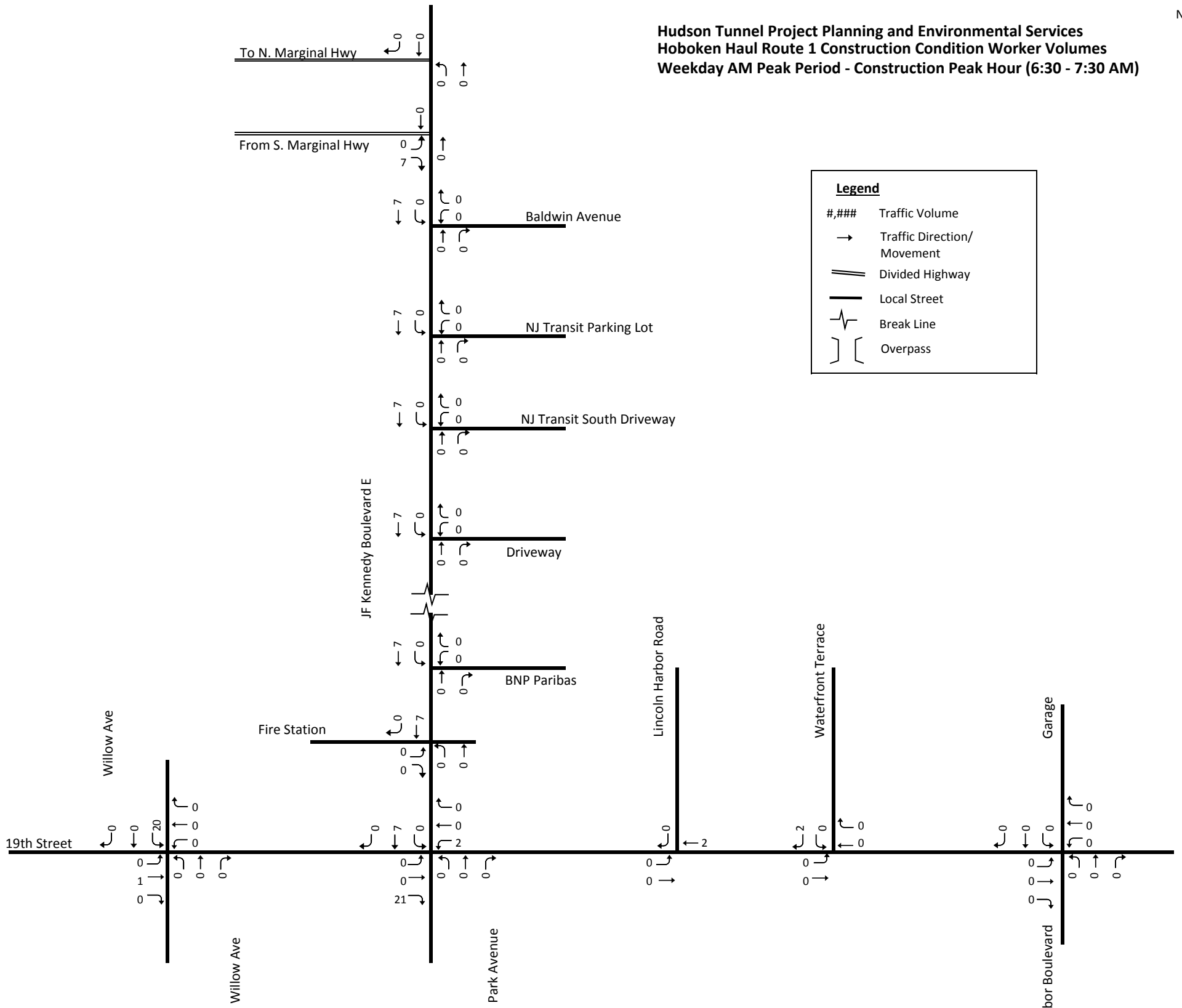
Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Hoboken Haul Route 1 Construction Condition Worker Volumes
 Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)

Legend

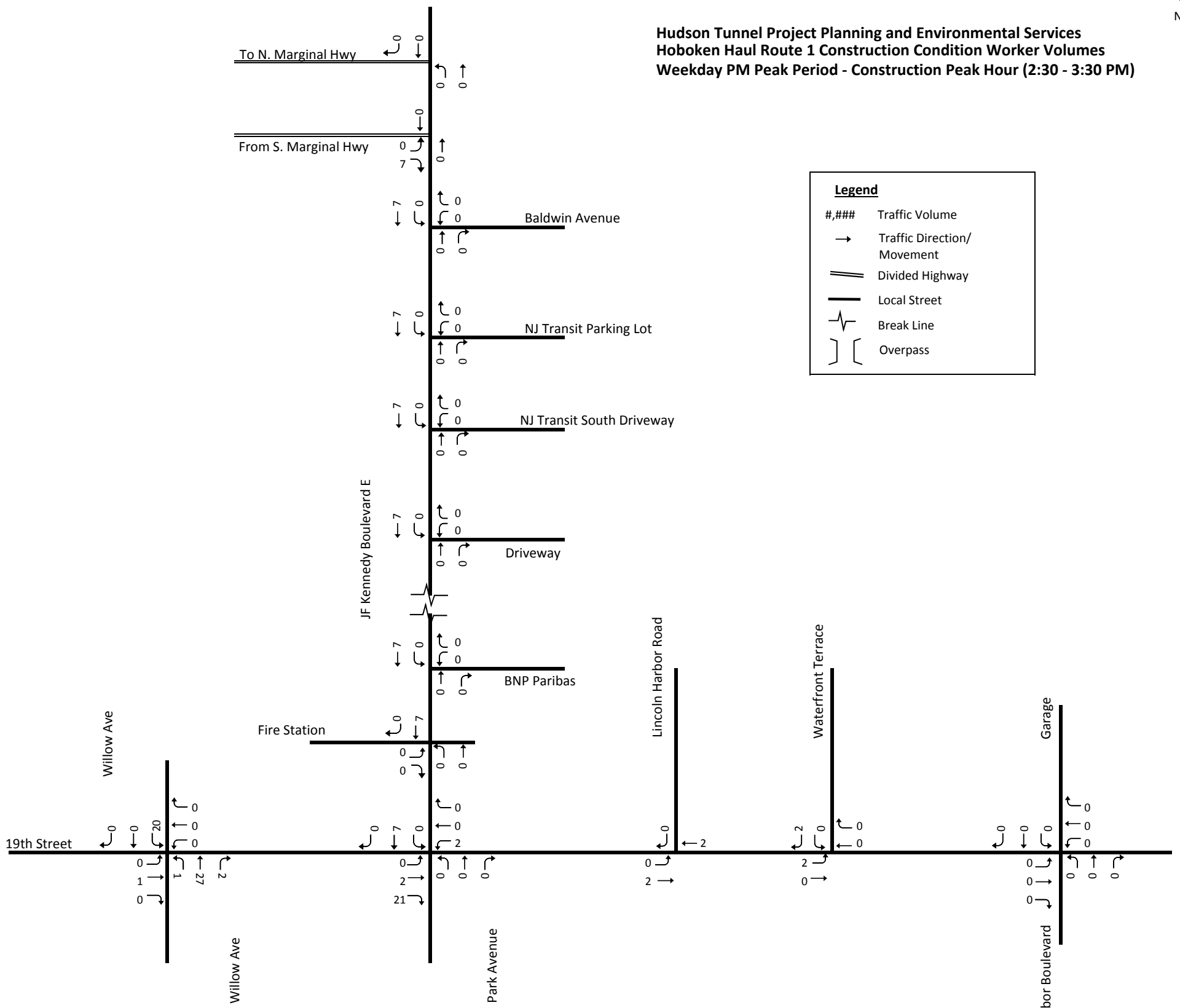
- #,### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- - - Break Line
- { } Overpass



Not to Scale
 SIMCO Engineering P.C.

Hoboken Staging Area

Hudson Tunnel Project Planning and Environmental Services
 Hoboken Haul Route 1 Construction Condition Worker Volumes
 Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)



Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
- { } Overpass

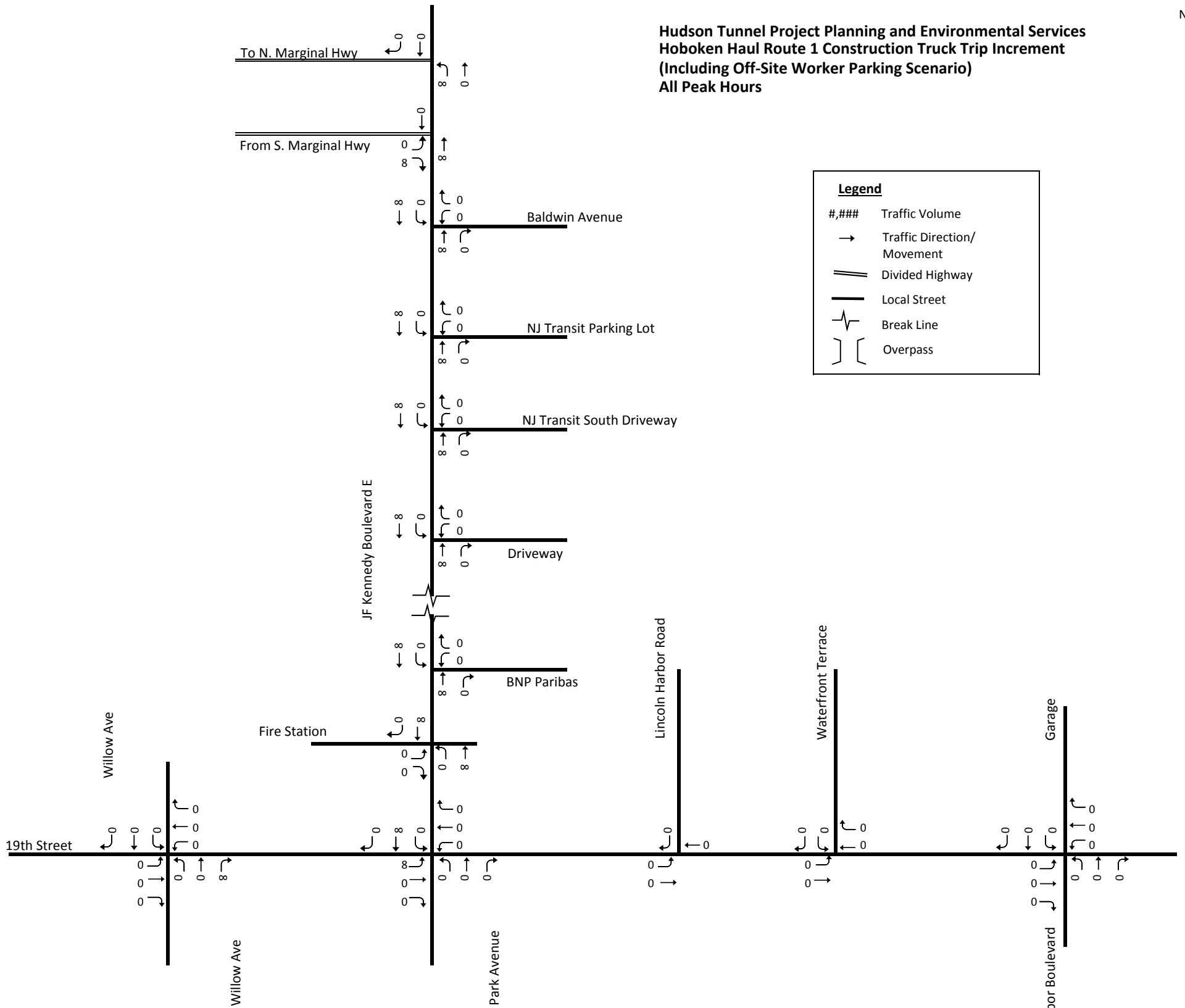
Not to Scale
 SIMCO Engineering P.C.



Hudson Tunnel Project Planning and Environmental Services
Hoboken Haul Route 1 Construction Truck Trip Increment
(Including Off-Site Worker Parking Scenario)
All Peak Hours

Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- ~ Break Line
- { } Overpass



Not to Scale
SIMCO Engineering P.C.

New Jersey: Hoboken Staging Area Study Area
New Tunnel Construction (2025)
Haul Route Option 2

Traffic Increments—Flow Diagrams

- Worker Vehicles (Shift Changes)
 - Trucks (All Hours)

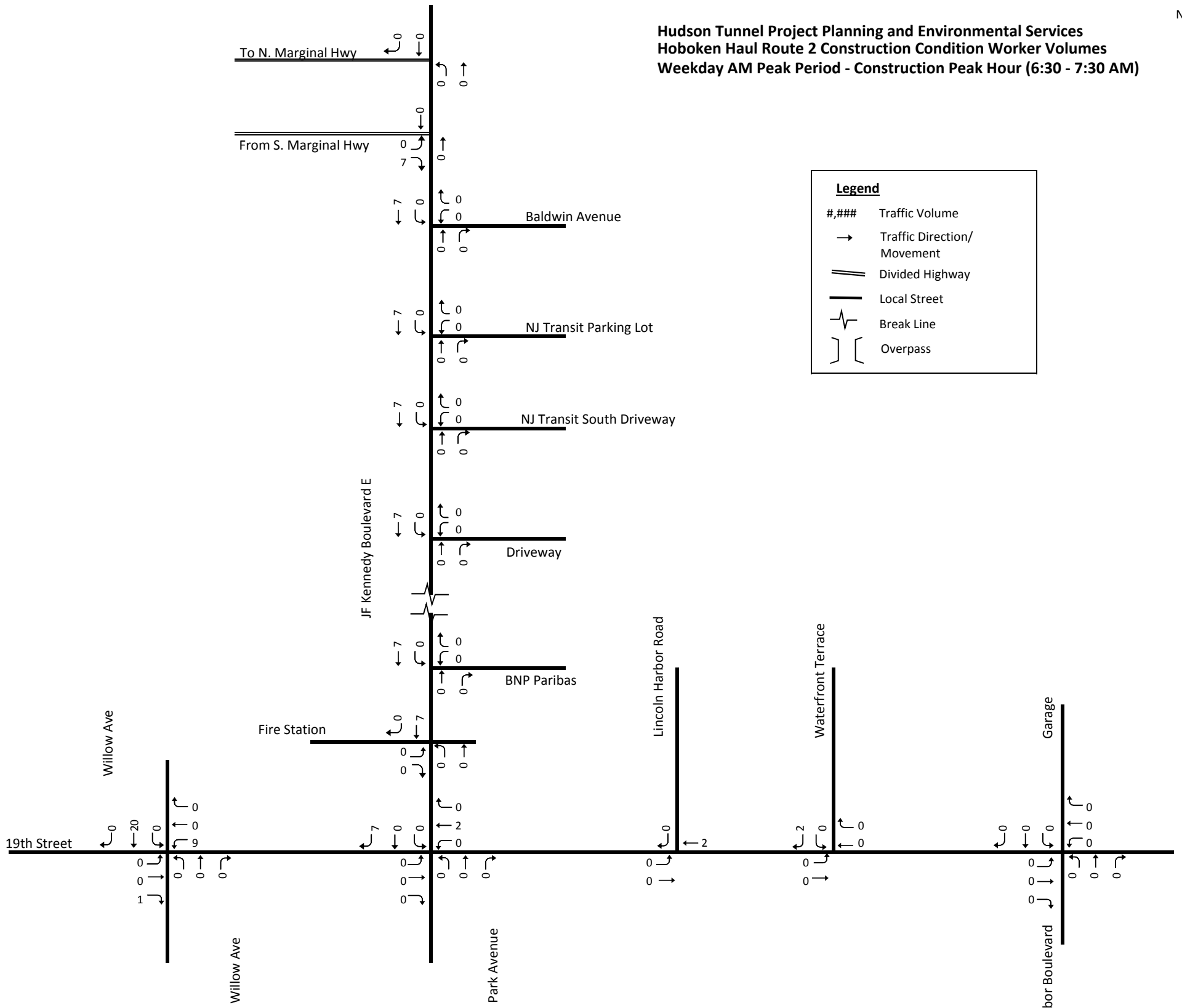
Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Hoboken Haul Route 2 Construction Condition Worker Volumes
 Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)

Legend

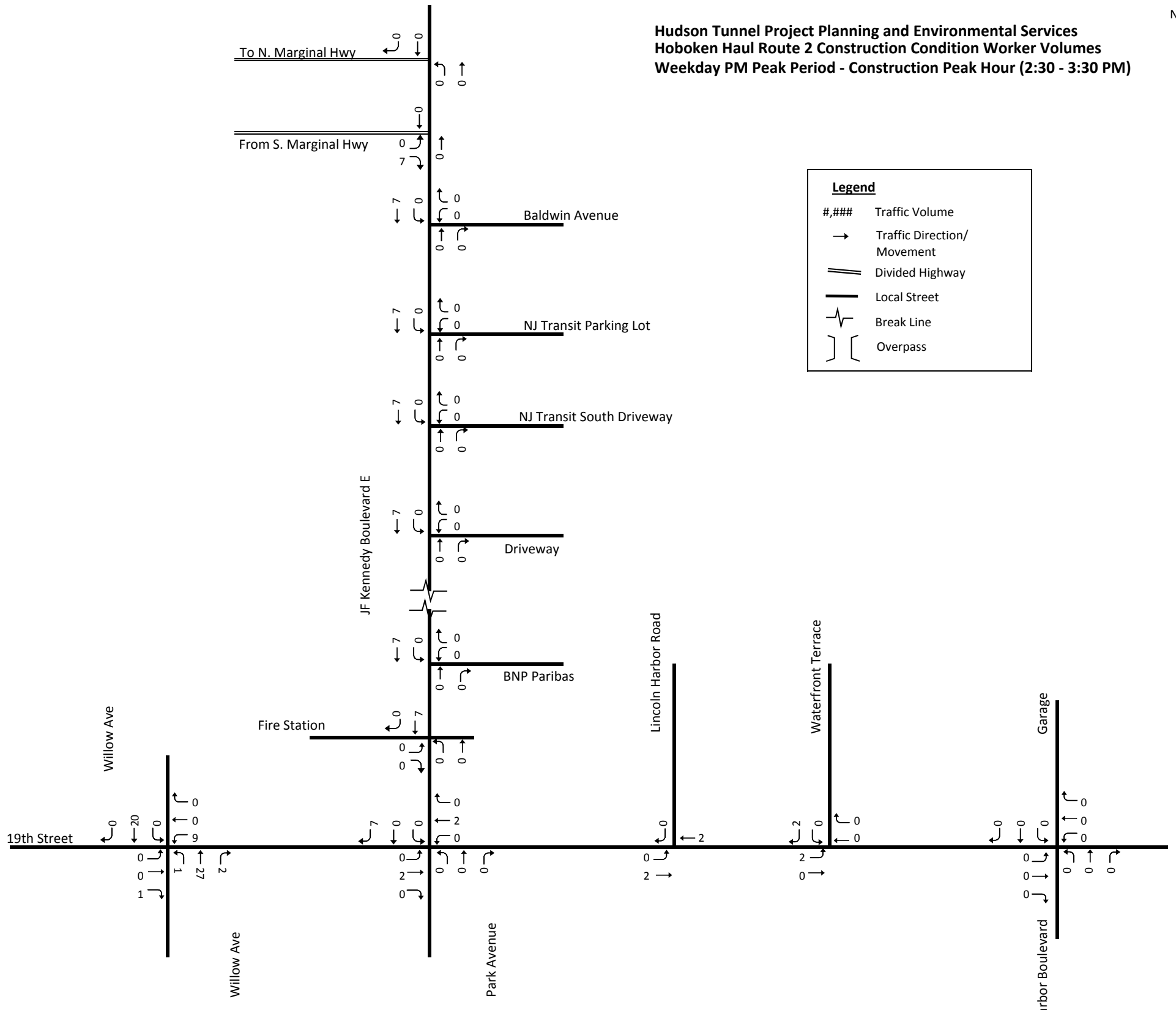
- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
- } { Overpass



Not to Scale
 SIMCO Engineering P.C.

Hoboken Staging Area

Hudson Tunnel Project Planning and Environmental Services
 Hoboken Haul Route 2 Construction Condition Worker Volumes
 Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)



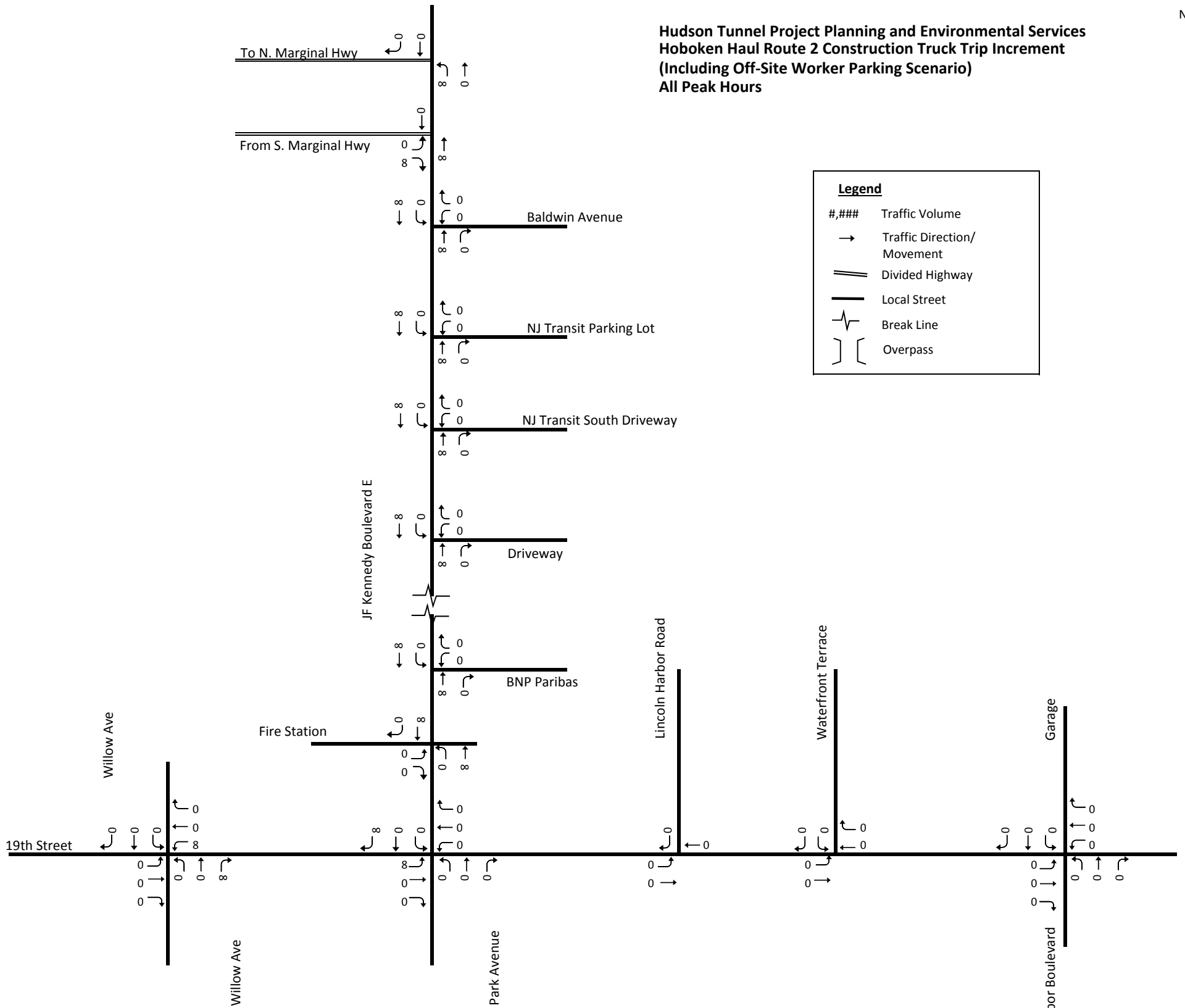
Not to Scale
 SIMCO Engineering P.C.



**Hudson Tunnel Project Planning and Environmental Services
Hoboken Haul Route 2 Construction Truck Trip Increment
(Including Off-Site Worker Parking Scenario)
All Peak Hours**

Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- - - Break Line
- { } Overpass



Not to Scale
SIMCO Engineering P.C.

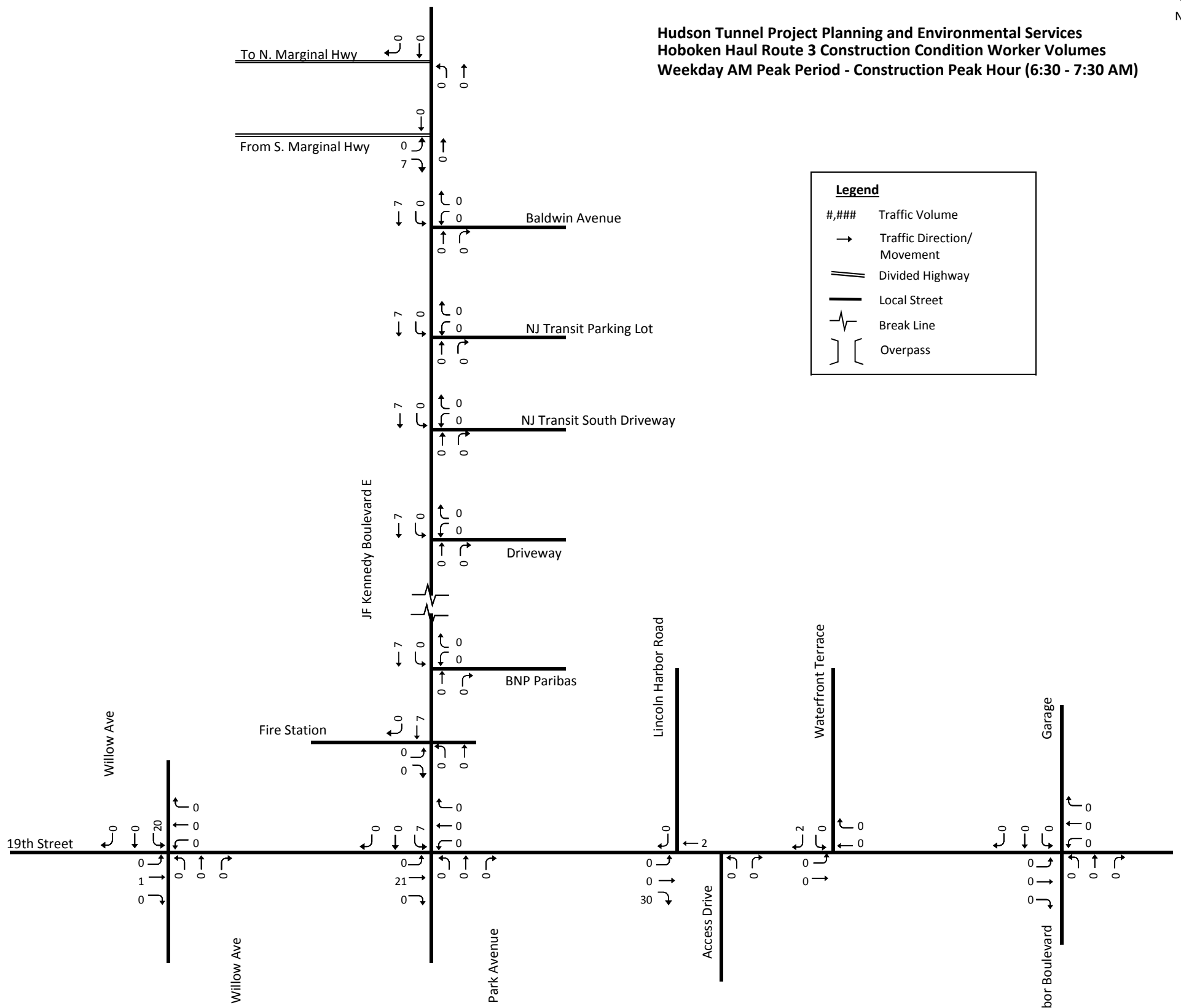
New Jersey: Hoboken Staging Area Study Area
New Tunnel Construction (2025)
Haul Route Option 3

Traffic Increments—Flow Diagrams

- Worker Vehicles (Shift Changes)
 - Trucks (All Hours)

Hoboken Staging Area

Hudson Tunnel Project Planning and Environmental Services
 Hoboken Haul Route 3 Construction Condition Worker Volumes
 Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)



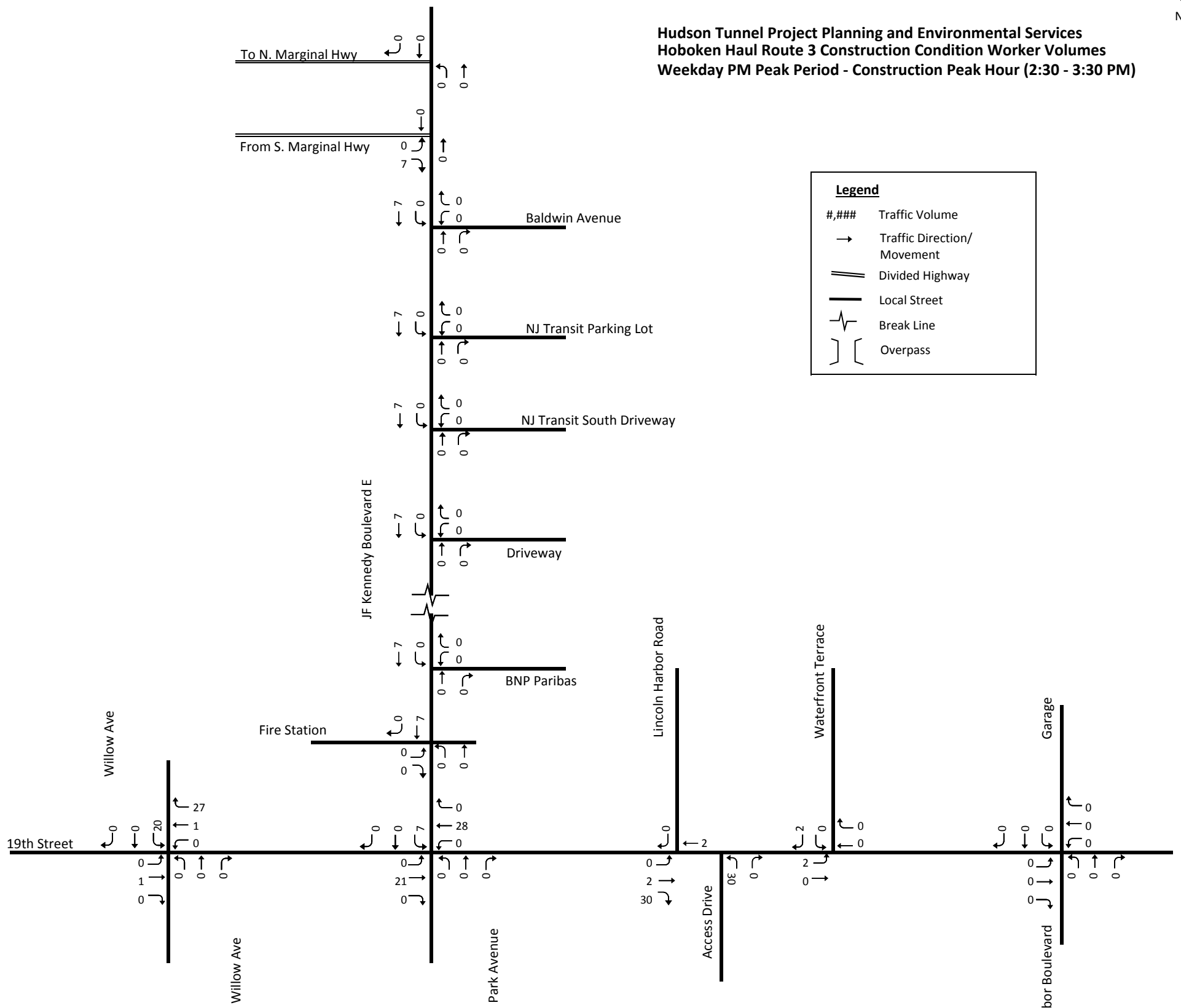
Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- ~ Break Line
- } { Overpass

Not to Scale
 SIMCO Engineering P.C.

Hoboken Staging Area

Hudson Tunnel Project Planning and Environmental Services
 Hoboken Haul Route 3 Construction Condition Worker Volumes
 Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)



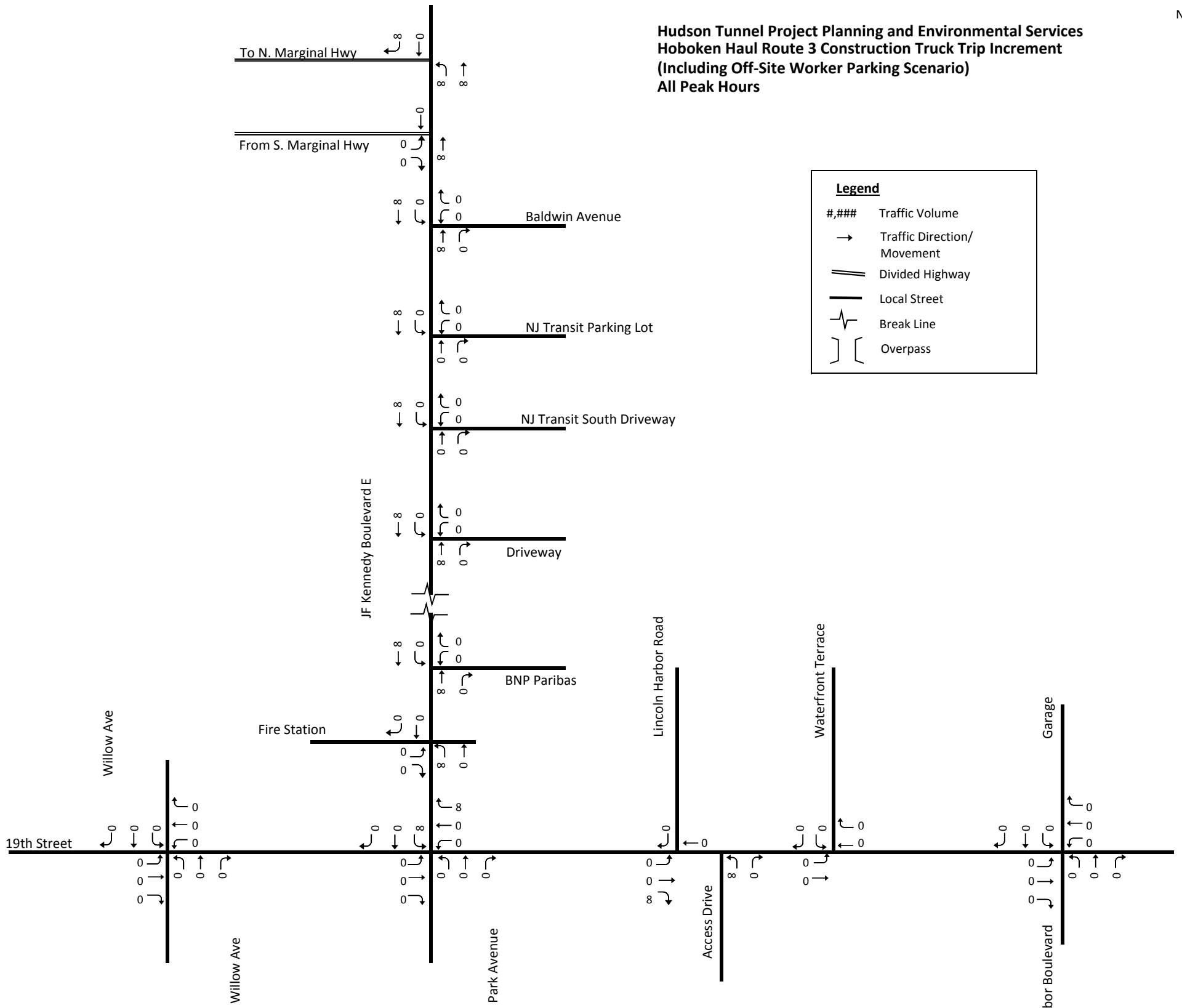
Not to Scale
 SIMCO Engineering P.C.



**Hudson Tunnel Project Planning and Environmental Services
Hoboken Haul Route 3 Construction Truck Trip Increment
(Including Off-Site Worker Parking Scenario)
All Peak Hours**

Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- ~ Break Line
- { } Overpass



Not to Scale
SIMCO Engineering P.C.

New Jersey: Hoboken Staging Area Study Area
New Tunnel Construction (2025)
Haul Route Option 1—Off-Site Worker Parking

Traffic Increments—Flow Diagrams

- Worker Vehicles (Shift Changes)
 - Trucks (All Hours)

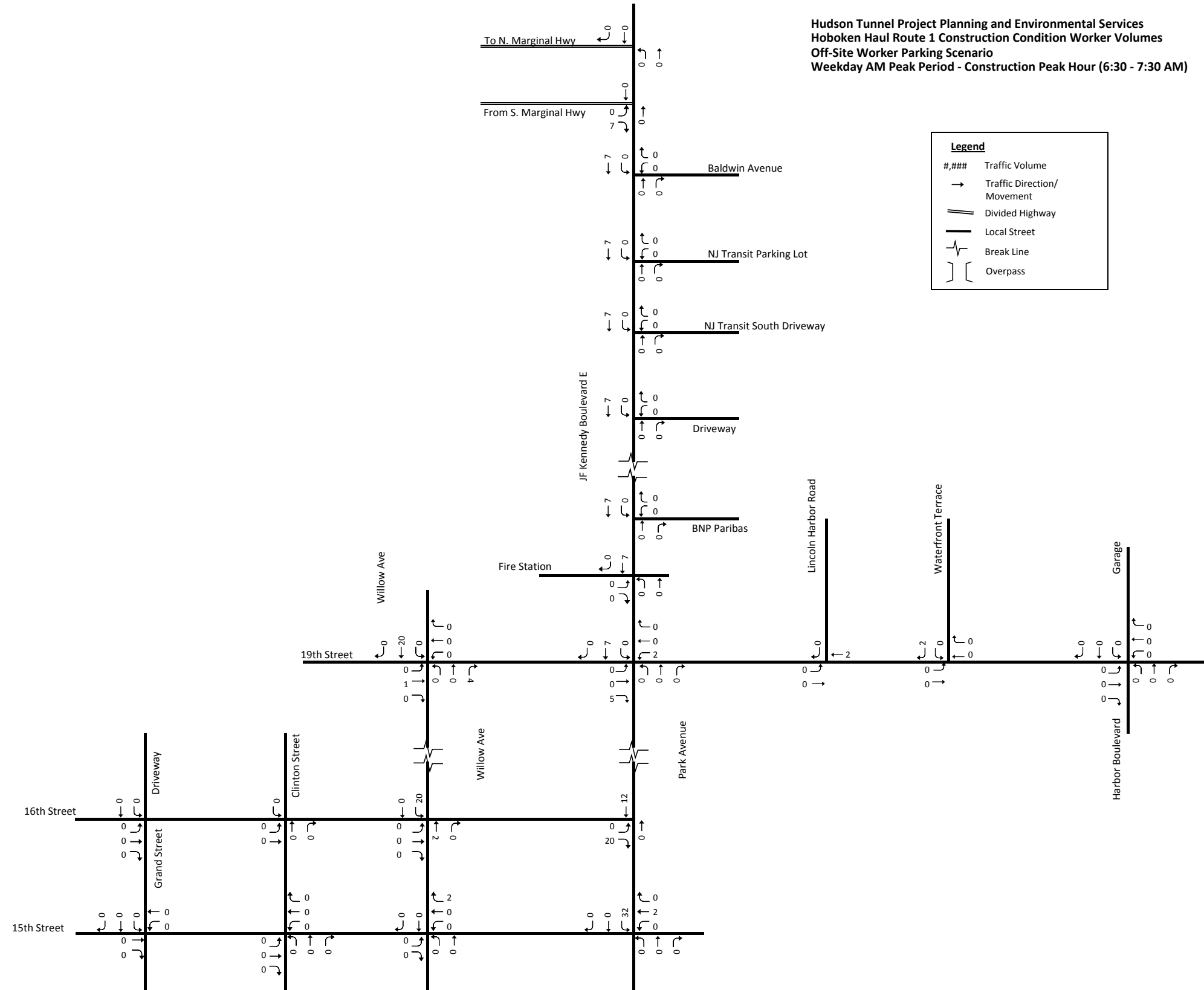
Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Hoboken Haul Route 1 Construction Condition Worker Volumes
 Off-Site Worker Parking Scenario
 Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)

Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- ⚡ Break Line
- { } Overpass



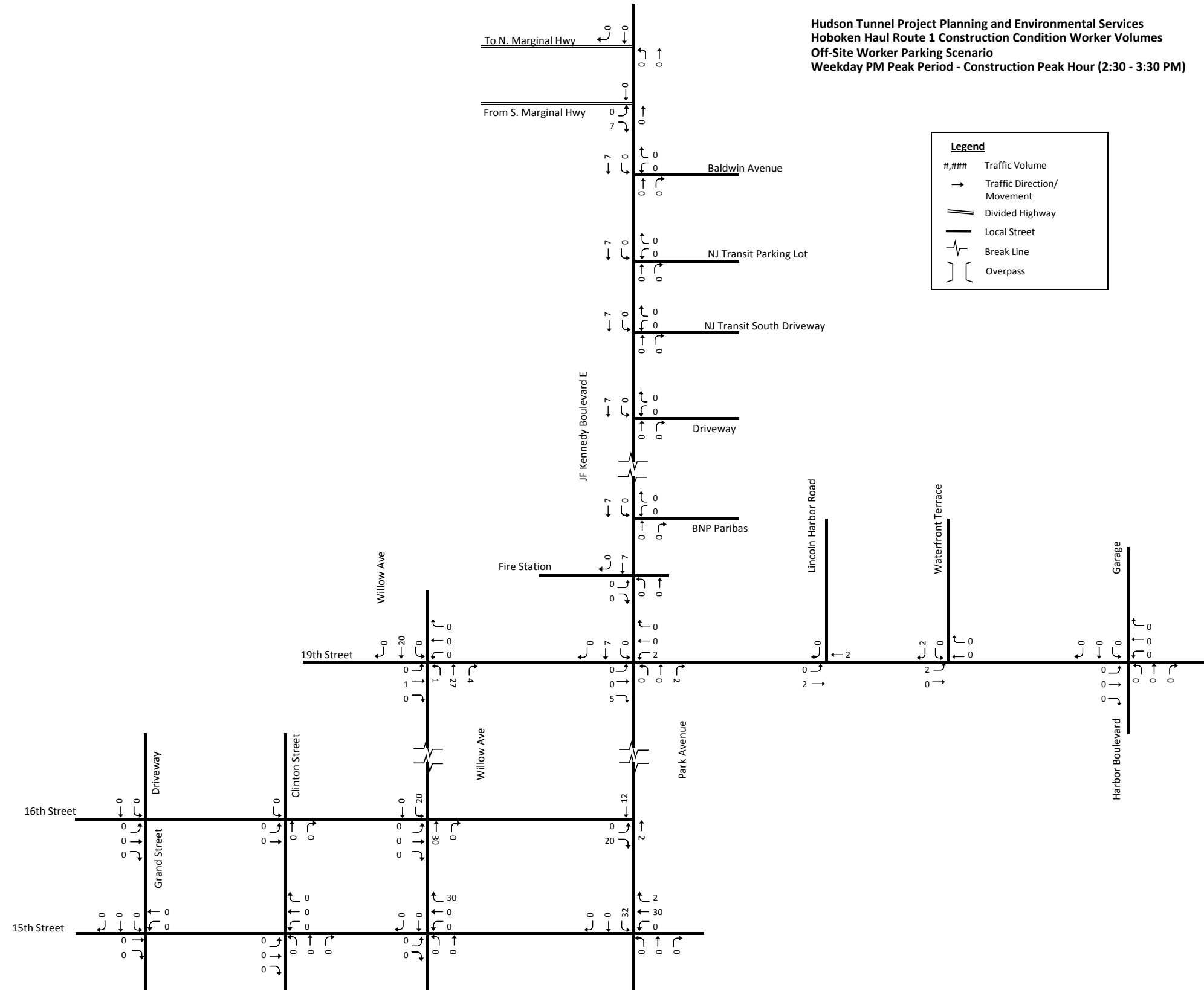
Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Hoboken Haul Route 1 Construction Condition Worker Volumes
 Off-Site Worker Parking Scenario
 Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)

Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- ~ Break Line
- { } Overpass



New Jersey: Hoboken Staging Area Study Area
New Tunnel Construction (2025)
Haul Route Option 2—Off-Site Worker Parking

Traffic Increments—Flow Diagrams

- Worker Vehicles (Shift Changes)
 - Trucks (All Hours)

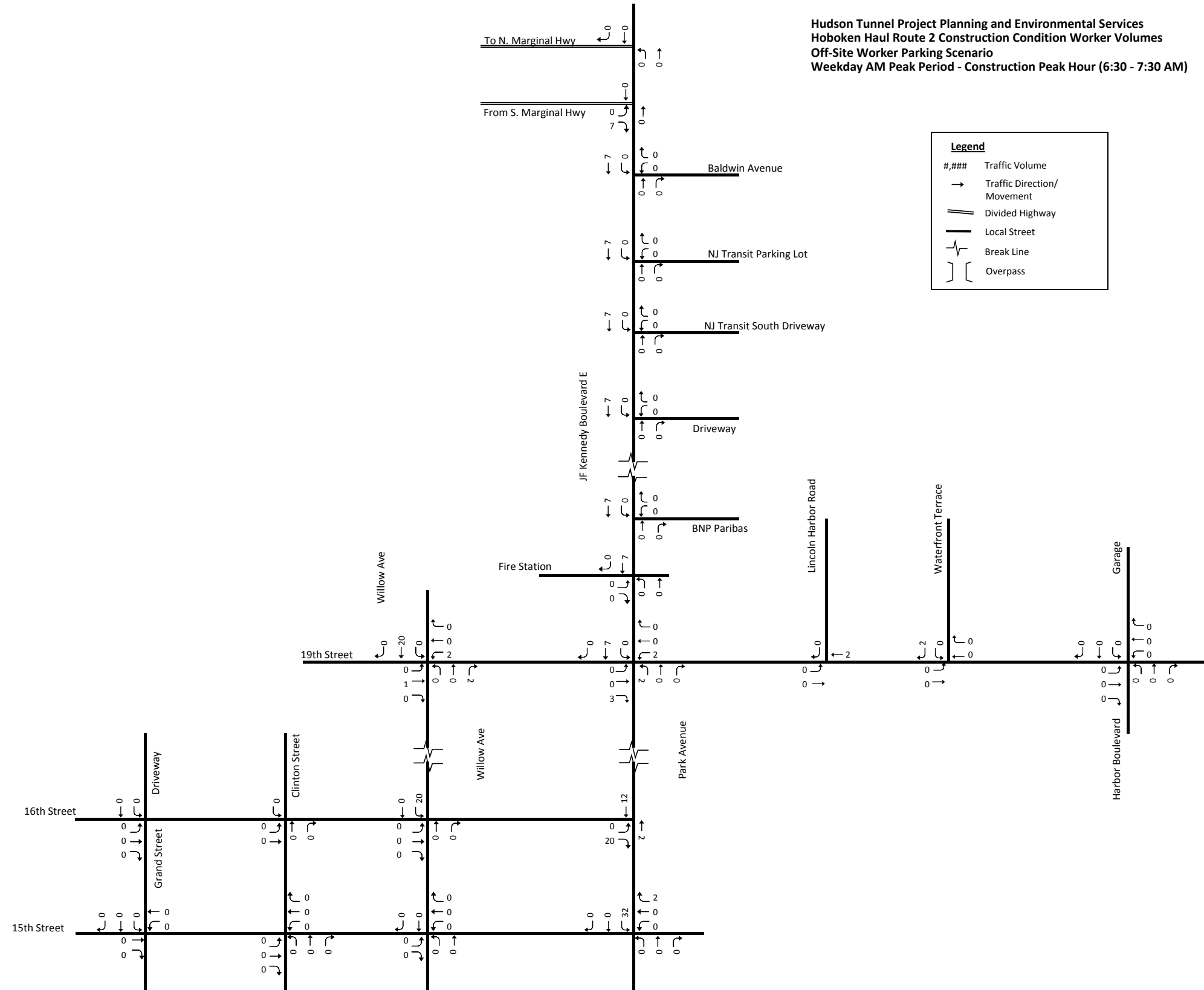
Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Hoboken Haul Route 2 Construction Condition Worker Volumes
 Off-Site Worker Parking Scenario
 Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)

Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- || Divided Highway
- Local Street
- ⚡ Break Line
- { } Overpass



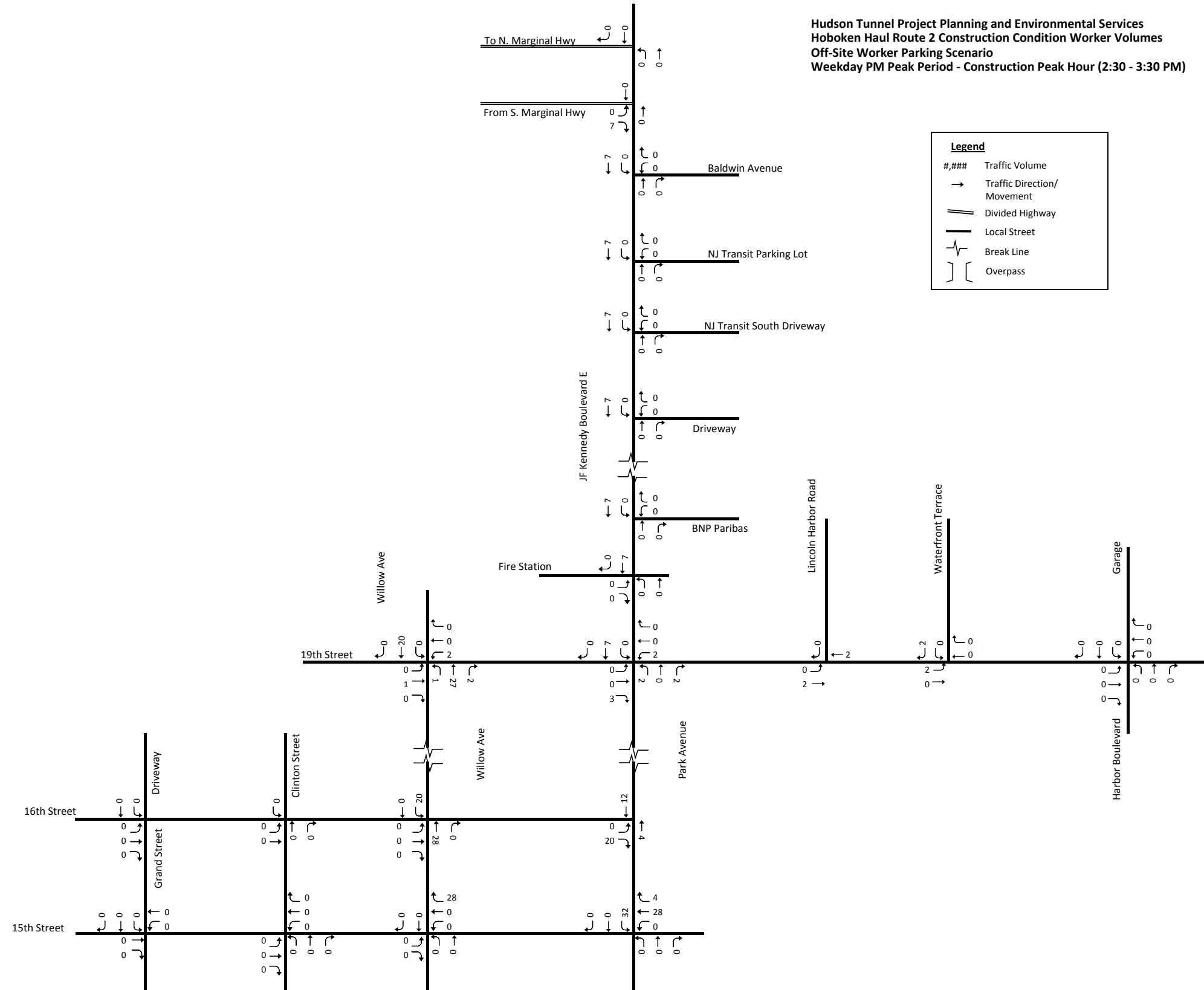
Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Hoboken Haul Route 2 Construction Condition Worker Volumes
 Off-Site Worker Parking Scenario
 Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)

Legend

- #,### Traffic Volume
- Traffic Direction/Movement
- ||| Divided Highway
- Local Street
- ~ Break Line
- { } Overpass



New Jersey: Hoboken Staging Area Study Area
New Tunnel Construction (2025)
Haul Route Option 3—Off-Site Worker Parking

Traffic Increments—Flow Diagrams

- Worker Vehicles (Shift Changes)
 - Trucks (All Hours)

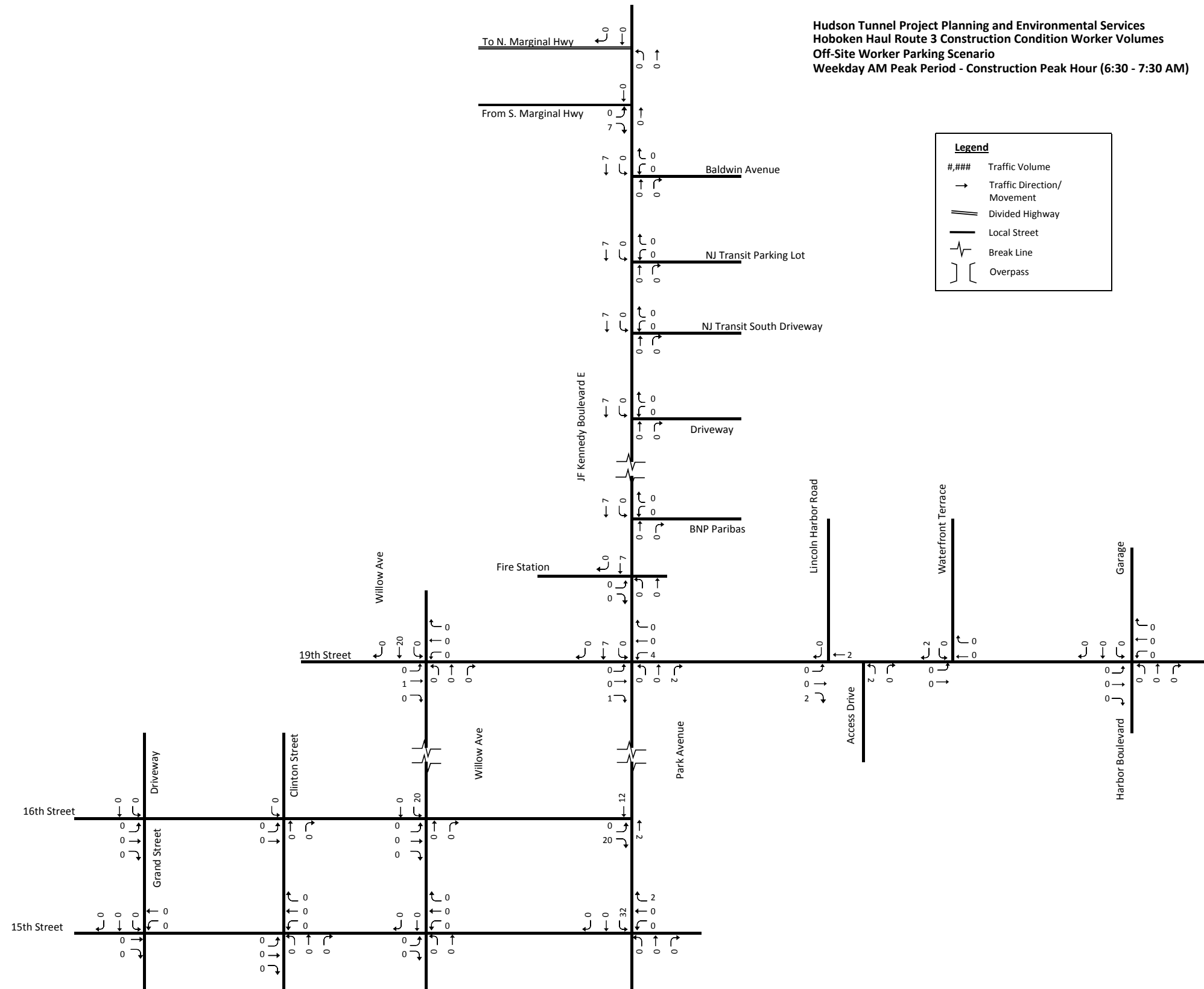
Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Hoboken Haul Route 3 Construction Condition Worker Volumes
 Off-Site Worker Parking Scenario
 Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)

Legend

- #,### Traffic Volume
- Traffic Direction/
Movement
- || Divided Highway
- Local Street
- ~ Break Line
- { } Overpass



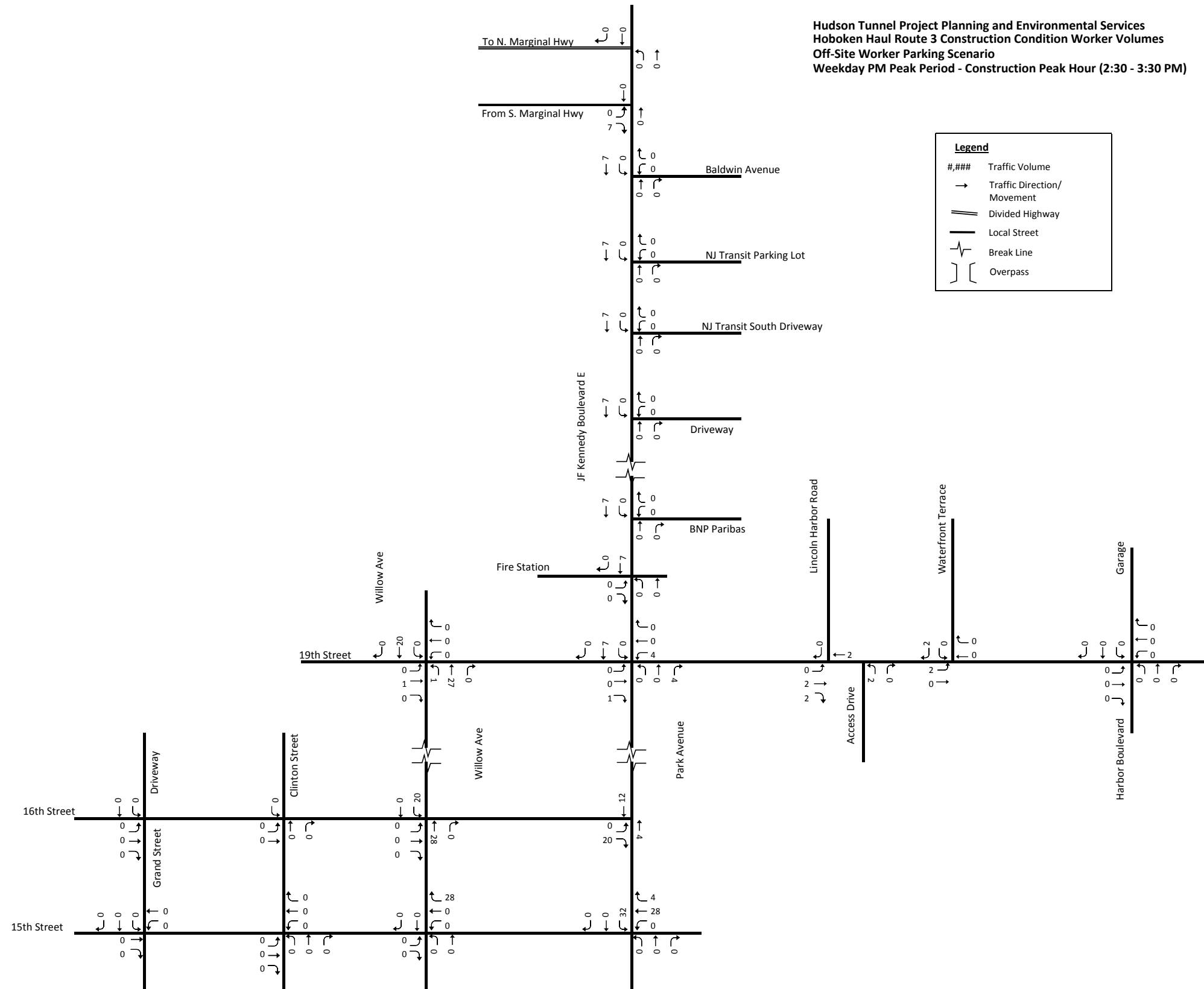
Hoboken Staging Area



Hudson Tunnel Project Planning and Environmental Services
 Hoboken Haul Route 3 Construction Condition Worker Volumes
 Off-Site Worker Parking Scenario
 Weekday PM Peak Period - Construction Peak Hour (2:30 - 3:30 PM)

Legend

- #,### Traffic Volume
- Traffic Direction/
Movement
- || Divided Highway
- Local Street
- ~ Break Line
- { } Overpass

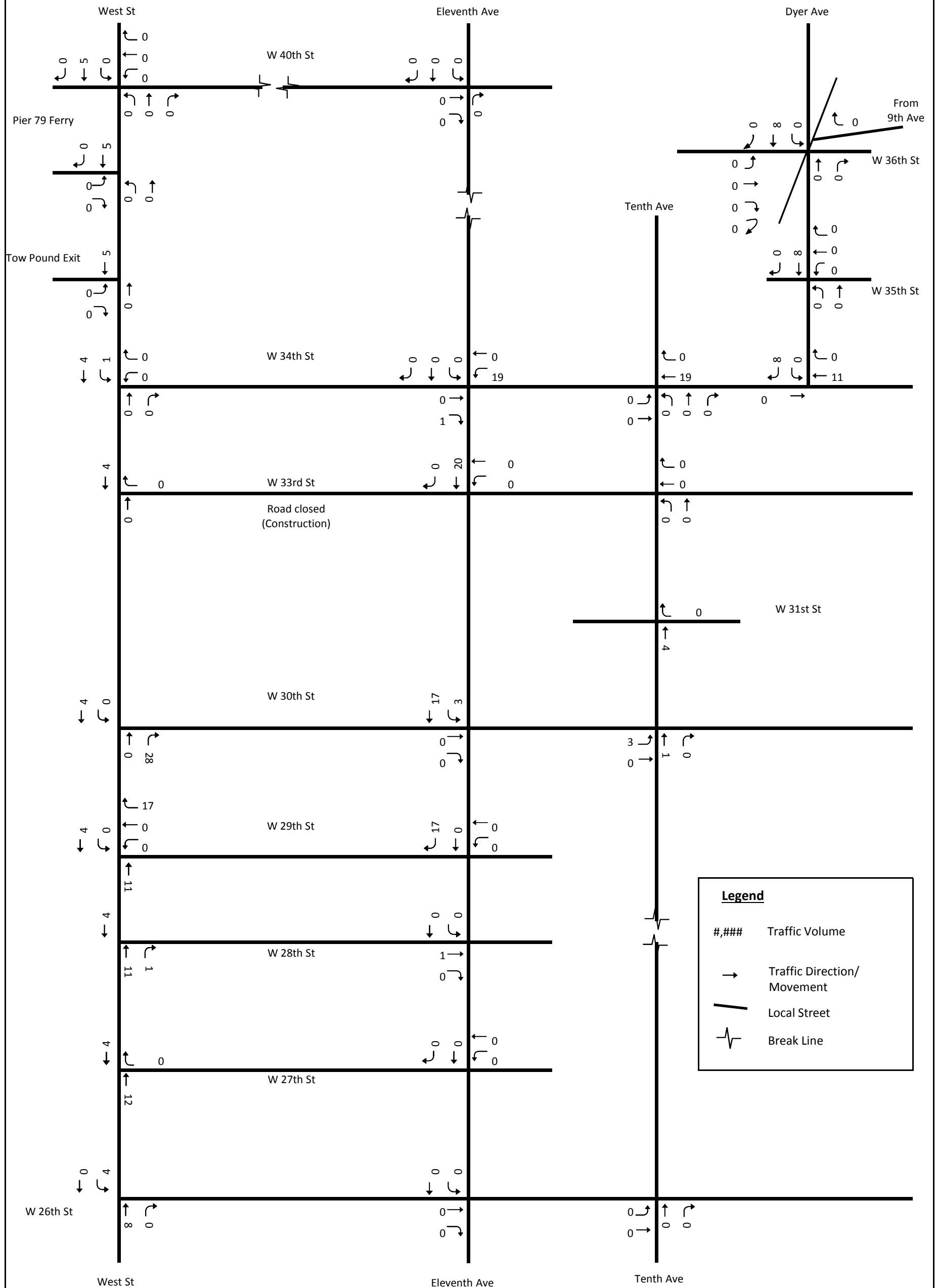


New York: Twelfth Avenue Staging Area Study
Area
New Tunnel Construction (2024)

Traffic Increments—Flow Diagrams

- Worker Vehicles (Shift Changes)
 - Trucks (All Hours)

Hudson Tunnel Project Planning and Environmental Services
Construction Condition Worker Increment
Weekday AM Peak Period - Construction Peak Hour (6:30 - 7:30 AM)



Not to Scale

SIMCO Engineering P.C.

Pedestrian Volumes: Manhattan Peak Hours

Hudson Tunnel Project Planning and Environmental Services
 Pedestrian Analysis Locations
 AM PEAK HOUR

Corners and Crosswalks

PED Int #	Intersection	Type	Location	Direction	Movement	Existing 2016 Volume (Ped Counts)	Existing 2016 Volume (TMC Counts)	Existing 2016 Split for 10th Ave	Background Growth	Soft Site Increment 601 W. 29th Street	Soft Site Increment 606 W. 30th Street	Soft Site Increment Western Rail Yard	Total No Build Increment	10th Ave No Build Detour	No Build 2024 Volume 2024	Build Detour	Build 2024 Volume 2024	
1	10th Ave & 31st St	Crosswalk	North	Eastbound	V1	9			0			50	50	-11	48	0	48	
				Westbound	V2	74			1			87	88	-46	116	0	116	
		Crosswalk	East	Northbound	V3	148			2				106	108	-115	141	0	141
				Southbound	V4	708			9				32	41	-464	285	0	285
		Corner	NE		VNE	25			0				4	4		29		29
2	10th Ave & 33rd St	Crosswalk	East	Northbound	V3	163	Due to construction, TMC Ped Counts were unusually low		2			137	139	-79	223	0	223	
				Southbound	V4	571			7			207	214	-321	464	0	464	
		Crosswalk	South	Eastbound	V5	346			4	12	5	280	301	-189	458	0	458	
				Westbound	V6	92			1	4	2	793	800	-47	845	0	845	
		Corner	SE		VSE	160			2			61	63		223		223	
3	11th Ave & 30th St	Crosswalk	North	Eastbound	V1	32	26		0	46	13	16	75		101		101	
				Westbound	V2	16	12	0	10	5	14	29		41		41		
		Crosswalk	South	Eastbound	V5	67	62	1	111	33	5	150		212		212		
				Westbound	V6	102	83	1	23	11	6	41		124		124		
		Crosswalk	West	Northbound	V7	128	103	1	299	81	16	397		500	-17	483		
				Southbound	V8	319	294	4	67	26	8	105		399	-18	381		
		Corner	SW		VSW	2			0	10	67	51	128		130	35	165	
Corner	NW		VNW	31			0	0	0	0	0		31	-31	0			
4	12th St & 29th St	Crosswalk	North	Eastbound	V1	1	5		0				0		5		5	
				Westbound	V2	3	2	0						0		2		2
		Crosswalk	East	Northbound	V3	4	7		0	1	1			2		9		9
				Southbound	V4	7	8		0	1	1			2		10		10
		Corner	NE		VNE	1			0	0	0			0		1		1
5	12th St & 30th St	Crosswalk	North	Eastbound	V1	0	0		0				0		0		0	
				Westbound	V2	0	0		0					0		0		0
		Crosswalk	East	Northbound	V3	8	3		0	8	7	15	30	33	-18	15		
				Southbound	V4	8	11		0	4	3	14	21	32	-17	15		
		Crosswalk	South	Eastbound	V5	6	3		0			13	13	16		16		
				Westbound	V6	7	6		0			15	15	21		21		
		Corner	NE		VNE	5			0	11	0	28	39	44	-44	0		
Corner	SE		VSE	10			0	10	2	0	12	22	35	57				

Sidewalks

PED Int #	Street - Side	Cross Street 1	Cross Street 2	Direction	Movement	Existing 2016 Volume	Existing 2016 Split for 10th	Background Growth	Soft Site Increment West 29th Street	Soft Site Increment 606 West 30th Street	Soft Site Increment Western Rail Yard	Total No Build Increment	No Build 2024 Volume	Build Detour	Build 2024 Volume
2	10th Avenue - East	31st Street	33rd Street	Northbound	S5	206	82	1			54	55	137	0	137
				Southbound	S6	840	336	4			27	31	367	0	367
2	10th Avenue - West	31st Street	33rd Street	Northbound	S9	0	124	2			393	395	395	-126	269
				Southbound	S10	0	504	6			660	666	666	-510	156
4	12th Street - East	29th Street	30th Street	Northbound	S1	2		0	1	1		2	4		4
				Southbound	S2	8		0	1	1		2	10		10
5	30th Street - South	12th Avenue	11th Avenue	Eastbound	S7	8		0	3	193	6	202	210	18	228
				Westbound	S8	10		0	7	74	8	89	99	17	116
5	30th Street - North	12th Avenue	11th Avenue	Eastbound	S3	4		0	4	0	10	14	18	-18	0
				Westbound	S4	5		0	7	0	5	12	17	-17	0

Hudson Tunnel Project Planning and Environmental Services
 Pedestrian Analysis Locations
 MIDDAY PEAK HOUR

Corners and Crosswalks

PED Int #	Intersection	Type	Location	Direction	Movement	Existing 2016 Volume (Ped Counts)	Existing 2016 Volume (TMC Counts)	Existing 2016 Split for 10th Ave	Background Growth	Soft Site Increment 601 W. 29th Street	Soft Site Increment 606 W. 30th Street	Soft Site Increment Western Rail Yard	Total No Build Increment	10th Ave No Build Detour	No Build 2024 Volume	Build Detour	Build 2024 Volume	
1	10th Ave & 31st St	Crosswalk	North	Eastbound	V1	5			0			307	307	-4	308	0	308	
				Westbound	V2	10			0		300	300	-5	305	0	305		
		Crosswalk	East	Northbound	V3	220			3				342	345	-124	441	0	441
				Southbound	V4	265			3				360	363	-152	476	0	476
		Corner	NE		VNE	70			1				41	42		112		112
2	10th Ave & 33rd St	Crosswalk	East	Northbound	V3	311	Due to construction, TMC Ped Counts were unusually low		4			768	772	-100	983	0	983	
				Southbound	V4	403			5			677	682	-122	963	0	963	
		Crosswalk	South	Eastbound	V5	58			1	15	13	1421	1450	-35	1473	0	1473	
				Westbound	V6	138			2	15	14	1367	1398	-28	1508	0	1508	
		Corner	SE		VSE	162			2			50	52		214		214	
3	11th Ave & 30th St	Crosswalk	North	Eastbound	V1	26	33		0	29	19	118	166		199		199	
				Westbound	V2	25	13	0	29	19	122	170		183		183		
		Crosswalk	South	Eastbound	V5	76	130	2	57	41	731	831		961		961		
				Westbound	V6	92	135	2	57	41	745	845		980		980		
		Crosswalk	West	Northbound	V7	132	149	2	170	94	100	366	515	-67	448			
				Southbound	V8	133	176	2	173	96	105	376	552	-67	485			
		Corner	SW		VSW	6			0	11	45	105	161	167	134	301		
Corner	NW		VNW	44			1	0	0	0	1	45	-45	0				
4	12th St & 29th St	Crosswalk	North	Eastbound	V1	6	8		0				0		8		8	
				Westbound	V2	4	4	0				0		4		4		
		Crosswalk	East	Northbound	V3	5	15	0	5	6		11	26	26				
				Southbound	V4	13	21	0	5	6		11	32	32				
		Corner	NE		VNE	0			0	4	0		4		4			
5	12th St & 30th St	Crosswalk	North	Eastbound	V1	0	1		0				0		1		1	
				Westbound	V2	0	0	0				0		0		0		
		Crosswalk	East	Northbound	V3	7	14	0	6	18	50	74	88	-67	21			
				Southbound	V4	5	21	0	9	19	51	79	100	-67	33			
		Crosswalk	South	Eastbound	V5	6	12	0			99	99	111	111				
				Westbound	V6	9	18	0			101	101	119	119				
		Corner	NE		VNE	3			0	19	0		19	22	-22	0		
Corner	SE		VSE	6			0	11	12		23	29	134	163				

Sidewalks

PED Int #	Street - Side	Cross Street 1	Cross Street 2	Direction	Movement	Existing 2016 Volume	Existing 2016 Split for 10th	Background Growth	Soft Site Increment West 29th Street	Soft Site Increment 606 West 30th Street	Soft Site Increment Western Rail Yard	Total No Build Increment	No Build 2024 Volume	Build Detour	Build 2024 Volume
2	10th Avenue - East	31st Street	33rd Street	Northbound	S5	296	170	2			169	171	341	0	341
				Southbound	S6	365	210	3			174	177	387	0	387
2	10th Avenue - West	31st Street	33rd Street	Northbound	S9	0	126	2			1849	1851	1851	-128	1723
				Southbound	S10	0	155	2			1780	1782	1782	-157	1625
4	12th Street - East	29th Street	30th Street	Northbound	S1	4		0	2	6		8	12		12
				Southbound	S2	6		0	2	6		8	14		14
5	30th Street - South	12th Avenue	11th Avenue	Eastbound	S7	7		0	7	266	50	323	330	67	397
				Westbound	S8	10		0	4	269	51	324	334	67	401
5	30th Street - North	12th Avenue	11th Avenue	Eastbound	S3	0		0	11	0	56	67	67	-67	0
				Westbound	S4	3		0	8	0	56	64	67	-67	0

Hudson Tunnel Project Planning and Environmental Services
 Pedestrian Analysis Locations
 PM PEAK HOUR

Corners and Crosswalks

PED Int #	Intersection	Type	Location	Direction	Movement	Existing 2016 Volume (Ped Counts)	Existing 2016 Volume (TMC Counts)	Existing 2016 Split for 10th Ave	Background Growth	Soft Site Increment 601 W. 29th Street	Soft Site Increment 606 W. 30th Street	Soft Site Increment Western Rail Yard	Total No Build Increment	10th Ave No Build Detour	No Build 2024 Volume 2024	Build Detour	Build 2024 Volume 2024	
1	10th Ave & 31st St	Crosswalk	North	Eastbound	V1	53			1			173	174	-25	202	0	202	
				Westbound	V2	5			0			116	116	-8	113	0	113	
		Crosswalk	East	Northbound	V3	659			8				118	126	-388	397	0	397
				Southbound	V4	181			2					140	142	-133	190	0
		Corner	NE		VNE	26			0				6	6		32		32
2	10th Ave & 33rd St	Crosswalk	East	Northbound	V3	641	Due to construction, TMC Ped Counts were unusually low		8			473	481	-330	792	0	792	
				Southbound	V4	193			2			264	266	-113	346	0	346	
		Crosswalk	South	Eastbound	V5	38			0	10	8	1296	1314	-28	1324	0	1324	
				Westbound	V6	166			2	15	9	600	626	-83	709	0	709	
		Corner	SE		VSE	86			1			29	30		116		116	
3	11th Ave & 30th St	Crosswalk	North	Eastbound	V1	49	29		0	25	13	37	75		104		104	
				Westbound	V2	13	11		0	48	19	41	108		119		119	
		Crosswalk	South	Eastbound	V5	91	135		2	55	28	14	99	234		234		
				Westbound	V6	110	100		1	111	43	13	168	268		268		
		Crosswalk	West	Northbound	V7	324	381		5	157	66	24	252	633	-26	607		
				Southbound	V8	147	229		3	314	104	32	453	682	-45	637		
		Corner	SW		VSW	5			0	19	75	0	94	99	71	170		
Corner	NW		VNW	8			0	0	0	0	0	8	-8	0				
4	12th St & 29th St	Crosswalk	North	Eastbound	V1	0	5		0				0		5		5	
				Westbound	V2	3	13		0						0		13	
		Crosswalk	East	Northbound	V3	20	35		0	3	3			6		41		41
				Southbound	V4	8	15		0	3	2			5		20		20
		Corner	NE		VNE	1			0	2	0			2		3		3
5	12th St & 30th St	Crosswalk	North	Eastbound	V1	0	1		0				0		1		1	
				Westbound	V2	0	1		0						0		1	
		Crosswalk	East	Northbound	V3	15	31		0	5	11	20	36	67	-45	22		
				Southbound	V4	4	32		0	16	18	19	53	85	-26	59		
		Crosswalk	South	Eastbound	V5	11	23		0				40	40	63		63	
				Westbound	V6	26	38		0				38	38	76		76	
		Corner	NE		VNE	6			0	22	0	0	22	28	-28	0		
Corner	SE		VSE	16			0	19	5	0	24	40	71	111				

Sidewalks

PED Int #	Street - Side	Cross Street 1	Cross Street 2	Direction	Movement	Existing 2016 Volume	Existing 2016 Split for 10th	Background Growth	Soft Site Increment West 29th Street	Soft Site Increment 606 West 30th Street	Soft Site Increment Western Rail Yard	Total No Build Increment	No Build 2024 Volume	Build Detour	Build 2024 Volume
2	10th Avenue - East	31st Street	33rd Street	Northbound	S5	680	272	3			73	76	348	0	348
				Southbound	S6	231	92	1			101	102	194	0	194
2	10th Avenue - West	31st Street	33rd Street	Northbound	S9	0	408	5			1302	1307	1307	-413	894
				Southbound	S10	0	139	2			883	885	885	-141	744
4	12th Street - East	29th Street	30th Street	Northbound	S1	20		0	1	3		4	24		24
				Southbound	S2	10		0	1	2		3	13		13
5	30th Street - South	12th Avenue	11th Avenue	Eastbound	S7	14		0	15	189	20	224	238	45	283
				Westbound	S8	25		0	4	262	19	285	310	26	336
5	30th Street - North	12th Avenue	11th Avenue	Eastbound	S3	6		0	17	0	22	39	45	-45	0
				Westbound	S4	0		0	5	0	21	26	26	-26	0

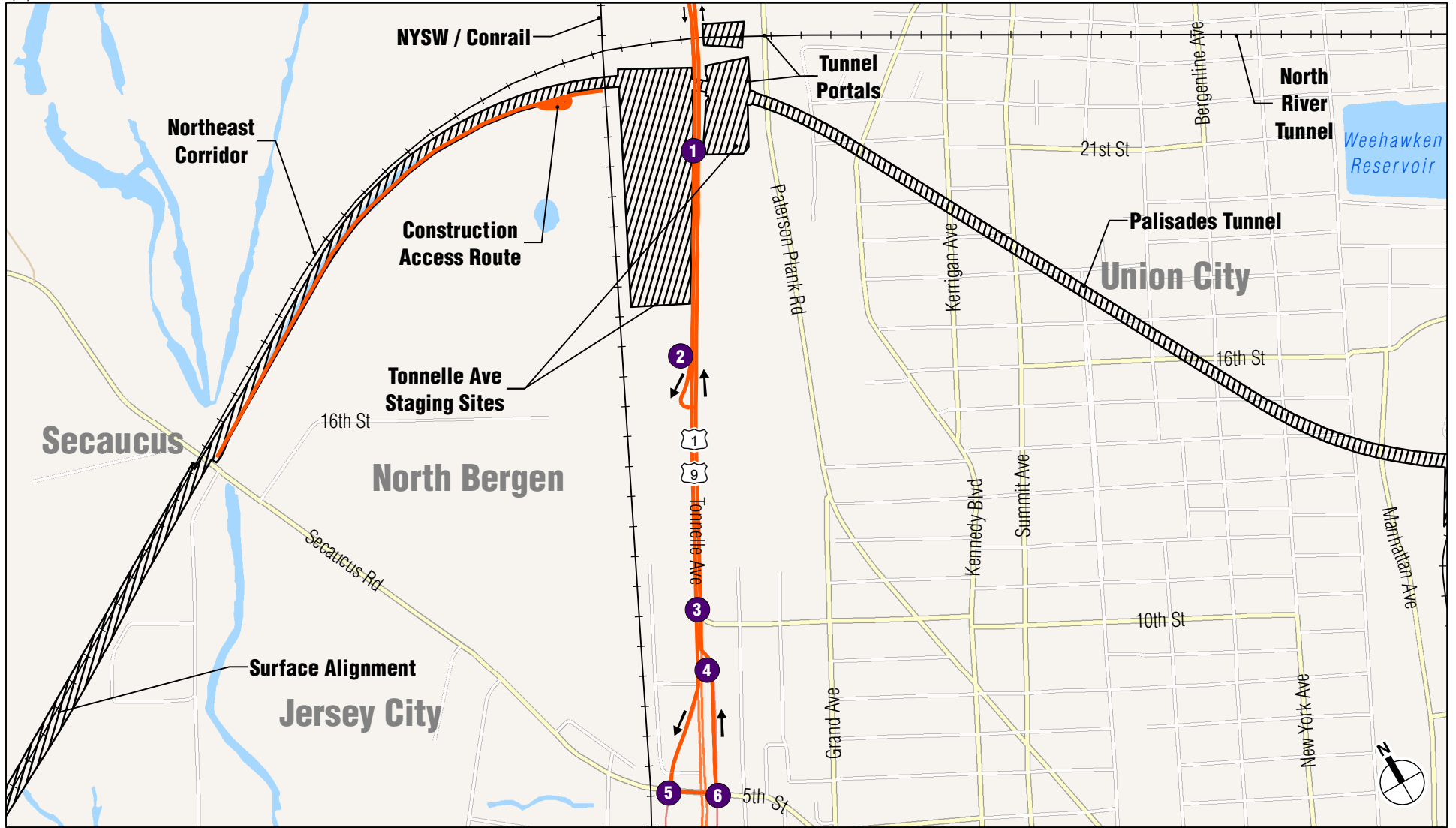


FINAL ENVIRONMENTAL IMPACT STATEMENT AND FINAL SECTION 4(f) EVALUATION

APPENDIX 5-2

Intersection Level of Service Summary Tables

New Jersey: Tonnelle Avenue Staging Area
Study Area—Tonnelle Avenue
New Tunnel Construction (2024)



-  Project Site
-  Primary Study Area Traffic Analysis Intersection
-  Truck Routes and Access Roads

0 1,000 FEET



Traffic Analysis Intersections in New Jersey:
Tonnelle Avenue Staging Site and Truck Routes
Figure 5A-1

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts
Weekday AM Construction Peak Hour (6:30 - 7:30 AM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	13.0	0.94	B	21.3	0.99	C	32.7	1.03	C
	SBT	13.1	0.94	B	21.5	0.99	C	41.9	1.06	D
	Overall	13.1		B	21.5		C	37.4		D
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.3	0.74	D	54.2	0.74	D	53.9	0.77	D
Rt. 1/9	NBT	23.0	0.96	C	35.8	1.01	D	54.2	1.07	D
	SBT	21.8	0.95	C	33.6	1.00	C	45.8	1.04	D
	Overall	24.5		C	36.0		D	50.3		D
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	95.1	1.03	F	154.6	1.20	F	192.9	1.29	F
4. Rt. 1/9 NB and Entrance Ramp from Secaucus Road (Unsignalized)										
Entrance Ramp	WBR	82.2	1.04	F	133.1	1.18	F	192.9	1.33	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	22.3	0.49	C	23.4	0.53	C	23.7	0.54	C
	WBL	17.5	0.61	B	22.2	0.70	C	25.4	0.72	C
	WBT	15.7	0.36	B	16.5	0.38	B	16.9	0.39	B
Rt. 1/9 SB Ramps	SBL	46.3	0.95	D	51.5	0.97	D	58.3	1.00	E
	SBTR	15.7	0.06	B	15.2	0.06	B	14.9	0.07	B
	Overall	26.8		C	29.2		C	31.8		C
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	5.0	0.31	A	5.4	0.35	A	5.7	0.43	A
	EBT	6.8	0.47	A	7.4	0.50	A	7.5	0.50	A
	WBTR	10.1	0.28	B	10.7	0.30	B	11.0	0.30	B
Rt. 1/9 NB Ramps	NBL	42.0	0.74	D	41.6	0.75	D	41.9	0.75	D
	NBT	30.6	0.14	C	30.2	0.17	C	30.1	0.17	C
	Overall	12.2		B	12.6		B	12.7		B

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts
Weekday AM Commuter Peak Hour (7:45 - 8:45 AM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	34.8	1.04	C	54.4	1.09	D	58.2	1.10	E
	SBT	10.9	0.92	B	16.6	0.97	B	18.5	0.98	B
	Overall	23.8		C	36.9		D	39.7		D
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.0	0.76	D	53.9	0.77	D	53.9	0.77	D
Rt. 1/9	NBT	42.8	1.03	D	65.7	1.09	E	70.1	1.11	E
	SBT	16.1	0.87	B	20.7	0.93	C	22.1	0.94	C
	Overall	32.6		C	46.0		D	48.7		D
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	76.8	1.01	F	132.5	1.17	F	144.1	1.20	F
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	90.5	1.03	F	143.0	1.18	F	173.2	1.26	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	20.3	0.40	C	21.3	0.43	C	21.7	0.44	C
	WBL	13.6	0.45	B	14.5	0.51	B	15.5	0.53	B
	WBT	17.6	0.58	B	19.0	0.62	B	19.8	0.63	B
Rt. 1/9 SB Ramps	SBL	41.8	0.92	D	43.9	0.93	D	47.4	0.95	D
	SBT	17.3	0.14	B	16.8	0.15	B	16.2	0.15	B
	Overall	23.9		C	25.3		C	26.8		C
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	6.2	0.29	A	6.8	0.33	A	7.1	0.43	A
	EBT	7.7	0.44	A	8.4	0.47	A	8.4	0.47	A
	WBTR	11.5	0.37	B	12.2	0.40	B	12.4	0.40	B
Rt. 1/9 NB Ramps	NBL	41.7	0.78	D	41.8	0.79	D	41.8	0.79	D
	NBT	28.4	0.15	C	28.0	0.18	C	28.0	0.18	C
	Overall	14.0		B	14.6		B	14.6		B

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts
Weekday MD Commuter Peak Hour (1:00 - 2:00 PM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	4.3	0.73	A	4.3	0.76	A	5.3	0.78	A
	SBT	4.8	0.76	A	4.9	0.79	A	6.0	0.81	A
	Overall	4.7		A	4.8		A	5.8		A
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.9	0.63	D	55.0	0.65	D	55.0	0.65	D
Rt. 1/9	NBT	10.0	0.82	A	12.0	0.86	B	12.5	0.87	B
	SBT	9.1	0.79	A	10.7	0.83	B	11.1	0.84	B
	Overall	11.7		B	13.4		B	13.8		B
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	24.3	0.17	C	26.6	0.19	D	27.2	0.20	D
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	89.0	1.04	F	138.3	1.18	F	166.1	1.25	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	12.0	0.18	B	12.8	0.20	B	13.6	0.20	B
	WBL	6.8	0.27	A	7.3	0.29	A	8.0	0.30	A
	WBT	7.0	0.18	A	7.5	0.19	A	8.2	0.20	A
Rt. 1/9 SB Ramps	SBL	39.1	0.78	D	38.5	0.79	D	38.3	0.80	D
	SBT	25.9	0.13	C	25.2	0.14	C	24.0	0.14	C
	Overall	18.0		B	18.2		B	18.9		B
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	3.9	0.25	A	4.1	0.27	A	4.2	0.33	A
	EBT	4.0	0.18	A	4.3	0.19	A	4.3	0.19	A
	WBTR	8.2	0.18	A	8.6	0.19	A	8.8	0.20	A
Rt. 1/9 NB Ramps	NBL	42.9	0.70	D	42.8	0.70	D	42.8	0.70	D
	NBT	32.8	0.15	C	32.3	0.15	C	32.3	0.15	C
	Overall	12.6		B	12.8		B	12.8		B

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts
Weekday PM Construction Peak Hour (2:30 - 3:30 PM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	10.2	0.91	B	15.0	0.96	B	30.7	1.02	C
	SBT	5.6	0.80	A	6.8	0.84	A	10.9	0.92	B
	Overall	8.2		A	11.3		B	21.5		C
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.8	0.58	D	54.9	0.60	D	55.6	0.73	E
Rt. 1/9	NBT	14.1	0.91	B	20.2	0.96	C	46.6	1.05	D
	SBT	8.4	0.79	A	10.0	0.83	A	18.1	0.92	B
	Overall	12.8		B	16.8		B	34.7		C
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	33.7	0.25	D	38.5	0.30	E	41.8	0.32	E
4. Rt. 1/9 NB and Entrance Ramp from Secaucus Road (Unsignalized)										
Entrance Ramp	WBR	91.9	1.05	F	151.4	1.22	F	215.4	1.37	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	11.2	0.22	B	12.0	0.23	B	13.0	0.25	B
	WBL	6.0	0.38	A	6.5	0.41	A	7.2	0.42	A
	WBT	6.2	0.23	A	6.6	0.25	A	7.3	0.26	A
Rt. 1/9 SB Ramps	SBL	39.6	0.76	D	39.6	0.77	D	38.9	0.78	D
	SBTR	27.5	0.06	C	26.9	0.07	C	25.7	0.07	C
	Overall	14.7		B	15.1		B	15.9		B
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	4.0	0.22	A	4.2	0.25	A	4.5	0.32	A
	EBT	4.3	0.23	A	4.6	0.25	A	4.6	0.25	A
	WBTR	8.1	0.28	A	8.5	0.30	A	9.5	0.31	A
Rt. 1/9 NB Ramps	NBL	42.0	0.70	D	42.0	0.71	D	42.3	0.71	D
	NBT	32.7	0.16	C	32.3	0.16	C	32.2	0.16	C
	Overall	11.8		B	12.0		B	12.4		B

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts
Weekday PM Commuter Peak Hour (5:00 - 6:00 PM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	6.5	0.98	A	30.3	1.02	C	33.2	1.03	C
	SBT	4.6	0.90	A	14.0	0.95	B	15.3	0.96	B
	Overall	14.3		B	22.6		C	24.7		C
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.1	0.73	D	54.0	0.74	D	54.3	0.74	D
Rt. 1/9	NBT	24.1	0.97	C	38.2	1.02	D	41.4	1.03	D
	SBT	18.8	0.93	B	27.5	0.98	C	29.9	0.99	C
	Overall	23.7		C	34.4		C	37.1		D
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	109.6	1.05	F	169.8	1.21	F	181.1	1.24	F
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	82.0	1.02	F	132.3	1.16	F	160.8	1.24	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	18.6	0.37	B	19.4	0.40	B	20.0	0.41	B
	WBL	12.6	0.34	B	13.3	0.39	B	13.9	0.40	B
	WBT	13.3	0.27	B	14.0	0.29	B	14.7	0.30	B
Rt. 1/9 SB Ramps	SBL	39.3	0.90	D	41.1	0.91	D	43.2	0.93	D
	SBT	17.2	0.04	B	16.6	0.04	B	16.0	0.04	B
	Overall	23.4		C	24.4		C	25.8		C
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	3.4	0.23	A	3.6	0.25	A	3.7	0.30	A
	EBT	4.4	0.36	A	4.7	0.38	A	4.7	0.38	A
	WBTR	7.6	0.21	A	7.9	0.22	A	8.0	0.22	A
Rt. 1/9 NB Ramps	NBL	42.0	0.67	D	42.1	0.68	D	42.1	0.68	D
	NBT	34.5	0.23	C	34.4	0.28	C	34.4	0.28	C
	Overall	10.1		B	10.4		B	10.4		B

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - New Tunnel Construction (2024)
Mitigation Results
Weekday AM Construction Peak Hour (6:30 - 7:30 AM)

Intersection	Movement	2024 No Action Alternative			2024 Construction Condition			2024 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.2	0.74	D	53.9	0.77	D	61.1	0.84	D
Rt. 1/9	NBT	35.8	1.01	D	54.2	1.07	D	45.9	1.05	D
	SBT	33.6	1.00	C	45.8	1.04	D	38.5	1.02	D
	Overall	36.0		D	50.3		D	43.6		D
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	154.6	1.20	F	192.9	1.29	F	Unmitigated		
4. Rt. 1/9 NB and Entrance Ramp from Secaucus Road (Unsignalized)										
Entrance Ramp	WBR	133.1	1.18	F	192.9	1.33	F	Unmitigated		

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts
Weekday AM Commuter Peak Hour (7:45 - 8:45 AM)

Intersection	Movement	2024 No Action Alternative			2024 Construction Condition			2024 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	132.5	1.17	F	144.1	1.20	F	Unmitigated		
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	143.0	1.18	F	173.2	1.26	F	Unmitigated		

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts
Weekday MD Commuter Peak Hour (1:00 - 2:00 PM)

Intersection	Movement	2024 No Action Alternative			2024 Construction Condition			2021 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	138.3	1.18	F	166.1	1.25	F	Unmitigated		

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - New Tunnel Construction (2024)
Mitigation Results

Weekday PM Construction Peak Hour (2:30 - 3:30 PM)

Intersection	Movement	2024 No Action Alternative			2024 Construction Condition			2021 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.9	0.60	D	55.6	0.73	E	57.3	0.75	E
Rt. 1/9	NBT	20.2	0.96	C	46.6	1.05	D	44.9	1.05	D
	SBT	10.0	0.83	A	18.1	0.92	B	17.5	0.92	B
	Overall	16.8		B	34.7		C	33.6		C
4. Rt. 1/9 NB and Entrance Ramp from Secaucus Road (Unsignalized)										
Entrance Ramp	WBR	151.4	1.22	F	215.4	1.37	F	Unmitigated		

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

 Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts
Weekday PM Commuter Peak Hour (5:00 - 6:00 PM)

Intersection	Movement	2024 No Action Alternative			2024 Construction Condition			2021 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	169.8	1.21	F	181.1	1.24	F	Unmitigated		
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	132.3	1.16	F	160.8	1.24	F	Unmitigated		

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - New Tunnel Construction (2024)
Mitigation Results - with New Intersection at 1801 Tonnelle Avenue
Weekday AM Construction Peak Hour (6:30 - 7:30 AM)

Intersection	Movement	2024 No Action Alternative			2024 Construction Condition			2024 Construction Condition with Mitigation			
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	
Tonnelle Avenue Portal Analysis Intersections											
1. Rt. 1/9 at Taco Bell (Signalized)											
	Rt. 1/9	NBT	21.3	0.99	C	32.7	1.03	C	32.7	1.03	C
		SBT	21.5	0.99	C	41.9	1.06	D	41.9	1.06	D
		Overall	21.5		C	37.4		D	37.4		D
Rt. 1/9 at 1801 Tonnelle Avenue (Proposed Signalized)											
	1801 Tonnelle Ave Driveway	EBL							132.5	0.92	F
		EBR							54.7	0.18	D
	Rt. 1/9	NBT							81.0	1.14	F
		SBTR							102.4	1.20	F
		Overall							92.2		F
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)											
	Wendy's & White Cap Const. Supply	EBL	54.2	0.74	D	53.9	0.77	D	46.6	0.75	D
		NBT	35.8	1.01	D	54.2	1.07	D	42.4	1.03	D
	Rt. 1/9	SBT	33.6	1.00	C	45.8	1.04	D	25.0	1.01	C
		Overall	36.0		D	50.3		D	34.6		C
3. Rt. 1/9 NB and 10th Street (Unsignalized)											
	10th Street	WBR	154.6	1.20	F	192.9	1.29	D	180.0	1.26	F
4. Rt. 1/9 NB and Entrance Ramp from Secaucus Road (Unsignalized)											
	Entrance Ramp	WBR	133.1	1.18	F	192.9	1.33	D	164.2	1.26	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)											
		EBTR	23.4	0.53	C	23.7	0.54	C	23.5	0.53	C
	Secaucus Road	WBL	22.2	0.70	C	25.4	0.72	C	22.9	0.70	C
		WBT	16.5	0.38	B	16.9	0.39	B	16.5	0.38	B
		SBL	51.5	0.97	D	58.3	1.00	E	51.8	0.98	D
	Rt. 1/9 SB Ramps	SBTR	15.2	0.06	B	14.9	0.07	B	15.2	0.07	B
		Overall	29.2		C	31.8		C	29.4		C
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)											
	Secaucus Road	EBL	5.4	0.35	A	5.7	0.43	A	5.5	0.37	A
		EBT	7.4	0.50	A	7.5	0.50	A	7.5	0.50	A
		WBTR	10.7	0.30	B	11.0	0.30	B	10.8	0.30	B
		NBL	41.6	0.75	D	41.9	0.75	D	41.9	0.75	D
	Rt. 1/9 NB Ramps	NBT	30.2	0.17	C	30.1	0.17	C	30.1	0.17	C
		Overall	12.6		B	12.7		B	12.7		B

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - New Tunnel Construction (2024)
Mitigation Results - with New Intersection at 1801 Tonnelle Avenue
Weekday AM Commuter Peak Hour (7:45 - 8:45 AM)

Intersection	Movement	2024 No Action Alternative			2024 Construction Condition			2024 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	54.4	1.09	D	58.2	1.10	E	58.2	1.10	E
	SBT	16.6	0.97	B	18.5	0.98	B	18.5	0.98	B
	Overall	36.9		D	39.7		D	39.7		D
Rt. 1/9 at 1801 Tonnelle Avenue (Proposed Signalized)										
1801 Tonnelle Ave Driveway	EBL							178.4	0.90	F
	EBR							55.9	0.00	E
Rt. 1/9	NBT							59.4	1.10	E
	SBTR							14.0	0.95	B
	Overall							38.4		D
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	53.9	0.77	D	53.9	0.77	D	47.9	0.77	D
Rt. 1/9	NBT	65.7	1.09	E	70.1	1.11	E	65.7	1.09	E
	SBT	20.7	0.93	C	22.1	0.94	C	17.2	0.93	B
	Overall	46.0		D	48.7		D	44.1		D
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	132.5	1.17	F	144.1	1.20	F	132.4	1.17	F
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	143.0	1.18	F	173.2	1.26	F	143.2	1.18	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	21.3	0.43	C	21.7	0.44	C	21.3	0.43	C
	WBL	14.5	0.51	B	15.5	0.53	B	14.6	0.51	B
	WBT	19.0	0.62	B	19.8	0.63	B	19.0	0.62	B
Rt. 1/9 SB Ramps	SBL	43.9	0.93	D	47.4	0.95	D	43.9	0.93	D
	SBT	16.8	0.15	B	16.2	0.15	B	16.8	0.15	B
	Overall	25.3		C	26.8		C	25.3		C
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	6.8	0.33	A	7.1	0.43	A	6.8	0.33	A
	EBT	8.4	0.47	A	8.4	0.47	A	8.4	0.47	A
	WBTR	12.2	0.40	B	12.4	0.40	B	12.2	0.40	B
Rt. 1/9 NB Ramps	NBL	41.8	0.79	D	41.8	0.79	D	41.8	0.79	D
	NBT	28.0	0.18	C	28.0	0.18	C	28.0	0.18	C
	Overall	14.6		B	14.6		B	14.6		B

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - New Tunnel Construction (2024)
Mitigation Results
Weekday MD Commuter Peak Hour (1:00 - 2:00 PM)

Intersection	Movement	2024 No Action Alternative			2024 Construction Condition			2024 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	4.3	0.76	A	5.3	0.78	A	5.3	0.78	A
	SBT	4.9	0.79	A	6.0	0.81	A	6.0	0.81	A
	Overall	4.8		A	5.8		A	5.8		A
Rt. 1/9 at Wendy's & 1801 Tonnelle Avenue (Signalized)										
1801 Tonnelle Ave Driveway	EBL							178.4	0.90	F
	EBR							0.0	0.00	A
Rt. 1/9	NBT							9.2	0.80	A
	SBTR							8.1	0.86	A
	Overall							9.7		A
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	55.0	0.65	D	55.0	0.65	D	50.8	0.65	D
Rt. 1/9	NBT	12.0	0.86	B	12.5	0.87	B	12.0	0.86	B
	SBT	10.7	0.83	B	11.1	0.84	B	10.0	0.83	A
	Overall	13.4		B	13.8		B	12.8		B
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	26.6	0.19	D	27.2	0.20	D	26.8	0.20	D
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	138.3	1.18	F	166.1	1.25	F	138.8	1.18	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	12.8	0.20	B	13.6	0.20	B	12.8	0.20	B
	WBL	7.3	0.29	A	8.0	0.30	A	7.3	0.29	A
	WBT	7.5	0.19	A	8.2	0.20	A	7.5	0.19	A
Rt. 1/9 SB Ramps	SBL	38.5	0.79	D	38.3	0.80	D	38.5	0.79	D
	SBT	25.2	0.14	C	24.0	0.14	C	25.2	0.14	C
	Overall	18.2		B	18.9		B	18.2		B
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	4.1	0.27	A	4.2	0.33	A	4.1	0.27	A
	EBT	4.3	0.19	A	4.3	0.19	A	4.3	0.19	A
	WBTR	8.6	0.19	A	8.8	0.20	A	8.6	0.19	A
Rt. 1/9 NB Ramps	NBL	42.8	0.70	D	42.8	0.70	D	42.8	0.70	D
	NBT	32.3	0.15	C	32.3	0.15	C	32.3	0.15	C
	Overall	12.8		B	12.8		B	12.8		B

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - New Tunnel Construction (2024)
Mitigation Results
Weekday PM Construction Peak Hour (2:30 - 3:30 PM)

Intersection	Movement	2024 No Action Alternative			2024 Construction Condition			2024 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	15.0	0.96	B	30.7	1.02	C	30.7	1.02	C
	SBT	6.8	0.84	A	10.9	0.92	B	10.9	0.92	B
	Overall	11.3		B	21.5		C	21.5		C
Rt. 1/9 at Wendy's & 1801 Tonnelle Avenue (Signalized)										
1801 Tonnelle Ave Driveway	EBL							397.8	1.66	F
	EBR							64.9	0.59	E
Rt. 1/9	NBT							62.3	1.09	E
	SBTR							26.2	1.00	C
	Overall							54.5		D
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.9	0.60	D	55.6	0.73	E	50.6	0.60	D
	NBT	20.2	0.96	C	46.6	1.05	D	24.3	0.98	C
Rt. 1/9	SBT	10.0	0.83	A	18.1	0.92	B	9.9	0.86	A
	Overall	16.8		B	34.7		C	18.7		B
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	38.5	0.30	E	41.8	0.32	D	40.7	0.31	E
4. Rt. 1/9 NB and Entrance Ramp from Secaucus Road (Unsignalized)										
Entrance Ramp	WBR	151.4	1.22	F	215.4	1.37	D	184.3	1.30	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
	EBTR	12.0	0.23	B	13.0	0.25	B	12.1	0.24	B
Secaucus Road	WBL	6.5	0.41	A	7.2	0.42	A	6.6	0.41	A
	WBT	6.6	0.25	A	7.3	0.26	A	6.7	0.25	A
	SBL	39.6	0.77	D	38.9	0.78	D	39.3	0.76	D
Rt. 1/9 SB Ramps	SBTR	26.9	0.07	C	25.7	0.07	C	26.8	0.07	C
	Overall	15.1		B	15.9		B	15.1		B
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	4.2	0.25	A	4.5	0.32	A	4.3	0.26	A
	EBT	4.6	0.25	A	4.6	0.25	A	4.6	0.25	A
	WBTR	8.5	0.30	A	9.5	0.31	A	8.6	0.30	A
	NBL	42.0	0.71	D	42.3	0.71	D	42.4	0.71	D
Rt. 1/9 NB Ramps	NBT	32.3	0.16	C	32.2	0.16	C	32.2	0.16	C
	Overall	12.0		B	12.4		B	12.1		B

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - New Tunnel Construction (2024)
Mitigation Results
Weekday PM Commuter Peak Hour (5:00 - 6:00 PM)

Intersection	Movement	2024 No Action Alternative			2024 Construction Condition			2024 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	30.3	1.02	C	33.2	1.03	C	33.2	1.03	C
	SBT	14.0	0.95	B	15.3	0.96	B	15.3	0.96	B
	Overall	22.6		C	24.7		C	24.7		C
Rt. 1/9 at Wendy's & 1801 Tonnelle Avenue (Signalized)										
1801 Tonnelle Ave Driveway	EBL							178.4	0.90	F
	EBR							56.1	0.02	E
Rt. 1/9	NBT							57.1	1.09	E
	SBTR							45.9	1.07	D
	Overall							52.2		D
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.0	0.74	D	54.3	0.74	D	49.4	0.74	D
Rt. 1/9	NBT	38.2	1.02	D	41.4	1.03	D	38.2	1.02	D
	SBT	27.5	0.98	C	29.9	0.99	C	16.9	0.98	B
	Overall	34.4		C	37.1		D	29.3		C
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	169.8	1.21	F	181.1	1.24	F	169.6	1.21	F
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	132.3	1.16	F	160.8	1.24	F	131.7	1.16	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	19.4	0.40	B	20.0	0.41	B	19.4	0.40	B
	WBL	13.3	0.39	B	13.9	0.40	B	13.3	0.39	B
	WBT	14.0	0.29	B	14.7	0.30	B	14.0	0.29	B
Rt. 1/9 SB Ramps	SBL	41.1	0.91	D	43.2	0.93	D	41.1	0.91	D
	SBT	16.6	0.04	B	16.0	0.04	B	16.6	0.04	B
	Overall	24.4		C	25.8		C	24.4		C
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	3.6	0.25	A	3.7	0.30	A	3.6	0.25	A
	EBT	4.7	0.38	A	4.7	0.38	A	4.7	0.38	A
	WBTR	7.9	0.22	A	8.0	0.22	A	7.9	0.22	A
Rt. 1/9 NB Ramps	NBL	42.1	0.68	D	42.1	0.68	D	42.1	0.68	D
	NBT	34.4	0.28	C	34.4	0.28	C	34.4	0.28	C
	Overall	10.4		B	10.4		B	10.4		B

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

Adverse Impact

New Jersey: Tonnelle Avenue Staging Area
Study Area—Tonnelle Avenue
North River Tunnel Rehabilitation (2032)

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - North River Tunnel Rehabilitation (2032)
Construction Impacts
Weekday AM Construction Peak Hour (6:30 - 7:30 AM)

Intersection	Movement	2016 Existing			2032 No Action Alternative			2032 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	13.0	0.94	B	47.1	1.07	D	60.0	1.10	E
	SBT	13.1	0.94	B	47.4	1.07	D	82.7	1.16	F
	Overall	13.1		B	47.3		D	71.6		E
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.3	0.74	D	54.2	0.76	D	54.3	0.76	D
Rt. 1/9	NBT	23.0	0.96	C	71.4	1.11	E	87.0	1.15	F
	SBT	21.8	0.95	C	67.7	1.10	E	70.2	1.11	E
	Overall	24.5		C	68.5		E	77.2		E
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	95.1	1.03	F	295.3	1.53	F	356.8	1.67	F
4. Rt. 1/9 NB and Entrance Ramp from Secaucus Road (Unsignalized)										
Entrance Ramp	WBR	82.2	1.04	F	253.6	1.47	F	333.0	1.65	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	22.3	0.49	C	24.3	0.58	C	24.4	0.58	C
	WBL	17.5	0.61	B	41.2	0.84	D	42.7	0.85	D
	WBT	15.7	0.36	B	17.2	0.42	B	17.2	0.42	B
Rt. 1/9 SB Ramps	SBL	46.3	0.95	D	68.9	1.04	E	76.3	1.06	E
	SBTR	15.7	0.06	B	14.9	0.07	B	14.9	0.07	B
	Overall	26.8		C	35.9		D	38.4		D
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	5.0	0.31	A	6.0	0.40	A	6.3	0.47	A
	EBT	6.8	0.47	A	8.4	0.55	A	8.4	0.55	A
	WBTR	10.1	0.28	B	11.7	0.33	B	11.9	0.33	B
Rt. 1/9 NB Ramps	NBL	42.0	0.74	D	41.9	0.77	D	41.9	0.77	D
	NBT	30.6	0.14	C	29.6	0.20	C	29.6	0.20	C
	Overall	12.2		B	13.5		B	13.5		B

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - North River Tunnel Rehabilitation (2032)
Construction Impacts
Weekday AM Commuter Peak Hour (7:45 - 8:45 AM)

Intersection	Movement	2016 Existing			2032 No Action Alternative			2032 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	34.8	1.04	C	92.6	1.18	F	94.9	1.19	F
	SBT	10.9	0.92	B	37.8	1.05	D	40.0	1.05	D
	Overall	23.8		C	67.1		E	69.3		E
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.0	0.76	D	53.6	0.79	D	53.6	0.79	D
Rt. 1/9	NBT	42.8	1.03	D	112.1	1.20	F	115.1	1.21	F
	SBT	16.1	0.87	B	39.3	1.02	D	41.5	1.02	D
	Overall	32.6		C	77.0		E	79.4		E
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	76.8	1.01	F	271.9	1.50	F	281.8	1.53	F
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	90.5	1.03	F	265.4	1.48	F	289.3	1.53	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	20.3	0.40	C	22.7	0.49	C	23.1	0.49	C
	WBL	13.6	0.45	B	18.6	0.63	B	20.1	0.64	C
	WBT	17.6	0.58	B	21.6	0.70	C	22.2	0.71	C
Rt. 1/9 SB Ramps	SBL	41.8	0.92	D	50.7	0.97	D	52.6	0.98	D
	SBT	17.3	0.14	B	16.0	0.17	B	15.7	0.17	B
	Overall	23.9		C	28.5		C	29.5		C
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	6.2	0.29	A	7.8	0.39	A	8.1	0.46	A
	EBT	7.7	0.44	A	9.5	0.52	A	9.5	0.52	A
	WBTR	11.5	0.37	B	13.5	0.45	B	13.5	0.45	B
Rt. 1/9 NB Ramps	NBL	41.7	0.78	D	41.9	0.80	D	41.9	0.80	D
	NBT	28.4	0.15	C	27.4	0.22	C	27.4	0.22	C
	Overall	14.0		B	15.6		B	15.6		B

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - North River Tunnel Rehabilitation (2032)
Construction Impacts
Weekday MD Commuter Peak Hour (1:00 - 2:00 PM)

Intersection	Movement	2016 Existing			2032 No Action Alternative			2032 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	4.3	0.73	A	6.7	0.84	A	6.9	0.84	A
	SBT	4.8	0.76	A	8.0	0.87	A	8.3	0.88	A
	Overall	4.7		A	7.5		A	7.8		A
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.9	0.63	D	54.9	0.66	D	54.9	0.66	D
Rt. 1/9	NBT	10.0	0.82	A	18.7	0.94	B	19.5	0.95	B
	SBT	9.1	0.79	A	15.5	0.91	B	16.0	0.91	B
	Overall	11.7		B	18.9		B	19.5		B
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	24.3	0.17	C	31.2	0.24	D	31.7	0.24	D
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	89.0	1.04	F	252.0	1.45	F	274.2	1.50	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	12.0	0.18	B	13.9	0.22	B	14.4	0.23	B
	WBL	6.8	0.27	A	8.1	0.33	A	8.5	0.34	A
	WBT	7.0	0.18	A	8.3	0.22	A	8.8	0.22	A
Rt. 1/9 SB Ramps	SBL	39.1	0.78	D	37.9	0.80	D	37.9	0.81	D
	SBT	25.9	0.13	C	24.1	0.15	C	23.5	0.15	C
	Overall	18.0		B	18.5		B	19.0		B
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	3.9	0.25	A	4.5	0.31	A	4.6	0.35	A
	EBT	4.0	0.18	A	4.6	0.21	A	4.6	0.21	A
	WBTR	8.2	0.18	A	9.2	0.22	A	9.3	0.22	A
Rt. 1/9 NB Ramps	NBL	42.9	0.70	D	43.3	0.72	D	43.3	0.72	D
	NBT	32.8	0.15	C	31.7	0.16	C	31.7	0.16	C
	Overall	12.6		B	13.2		B	13.2		B

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - North River Tunnel Rehabilitation (2032)
Construction Impacts
Weekday PM Construction Peak Hour (4:45 - 5:45 PM)

Intersection	Movement	2016 Existing			2032 No Action Alternative			2032 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	18.0	0.98	B	62.3	1.11	E	99.3	1.20	F
	SBT	8.2	0.88	A	24.4	1.00	C	52.5	1.09	D
	Overall	13.5		B	44.4		D	77.1		E
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.6	0.69	D	54.3	0.72	D	52.9	0.80	D
Rt. 1/9	NBT	22.1	0.96	C	71.1	1.11	E	127.2	1.24	F
	SBT	15.3	0.90	B	44.4	1.04	D	94.9	1.16	F
	Overall	20.8		C	58.0		E	106.9		F
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	99.5	1.02	F	298.9	1.53	F	356.9	1.65	F
4. Rt. 1/9 NB and Entrance Ramp from Secaucus Road (Unsignalized)										
Entrance Ramp	WBR	91.7	1.05	F	270.6	1.50	F	354.2	1.69	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	14.7	0.32	B	17.0	0.39	B	17.5	0.40	B
	WBL	9.1	0.27	A	11.0	0.37	B	11.4	0.38	B
	WBT	9.7	0.25	A	11.7	0.30	B	12.1	0.30	B
Rt. 1/9 SB Ramps	SBL	36.9	0.82	D	36.6	0.84	D	37.3	0.86	D
	SBTR	21.4	0.03	C	19.5	0.04	B	19.1	0.04	B
	Overall	18.7		B	20.2		C	20.8		C
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	4.0	0.22	A	4.7	0.27	A	4.8	0.32	A
	EBT	5.2	0.35	A	6.2	0.41	A	6.2	0.41	A
	WBTR	7.9	0.21	A	9.7	0.26	A	9.8	0.26	A
Rt. 1/9 NB Ramps	NBL	42.6	0.71	D	42.3	0.73	D	42.3	0.73	D
	NBT	33.3	0.33	C	33.1	0.45	C	33.1	0.45	C
	Overall	11.9		B	12.9		B	12.8		B

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - North River Tunnel Rehabilitation (2032)
Construction Impacts
Weekday PM Commuter Peak Hour (5:00 - 6:00 PM)

Intersection	Movement	2016 Existing			2032 No Action Alternative			2032 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	22.7	0.97	C	61.9	1.10	E	64.5	1.11	E
	SBT	12.9	0.90	B	32.1	1.02	C	33.9	1.04	C
	Overall	18.0		B	47.6		D	49.9		D
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	55.7	0.73	E	53.9	0.75	D	53.9	0.75	D
Rt. 1/9	NBT	24.1	0.97	C	75.7	1.12	E	78.4	1.13	E
	SBT	28.1	0.93	C	57.3	1.08	E	59.8	1.08	E
	Overall	28.1		C	65.9		E	68.4		E
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	109.6	1.05	F	316.4	1.56	F	326.8	1.58	F
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	82.0	1.02	F	254.0	1.46	F	278.7	1.52	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	18.6	0.37	B	21.7	0.46	C	22.0	0.46	C
	WBL	12.6	0.34	B	14.7	0.45	B	15.1	0.46	B
	WBT	13.3	0.27	B	15.3	0.33	B	15.7	0.33	B
Rt. 1/9 SB Ramps	SBL	39.3	0.90	D	45.5	0.95	D	47.4	0.96	D
	SBT	17.2	0.04	B	15.7	0.04	B	15.3	0.04	B
	Overall	23.4		C	27.0		C	28.0		C
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	3.4	0.23	A	3.9	0.29	A	4.0	0.32	A
	EBT	4.4	0.36	A	5.2	0.41	A	5.2	0.41	A
	WBTR	7.6	0.21	A	8.4	0.25	A	8.5	0.25	A
Rt. 1/9 NB Ramps	NBL	42.0	0.67	D	42.4	0.69	D	42.4	0.69	D
	NBT	34.5	0.23	C	34.4	0.37	C	34.4	0.37	C
	Overall	10.1		B	10.8		B	10.8		B

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

 Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - North River Tunnel Rehabilitation (2032)
Construction Impacts
Saturday PM Commuter Peak Hour (2:00 - 3:00 PM)

Intersection	Movement	2016 Existing			2032 No Action Alternative			2032 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	8.9	0.89	A	27.9	1.02	C	29.6	1.02	C
	SBT	7.9	0.87	A	22.4	0.99	C	23.9	1.00	C
	Overall	8.5		A	25.2		C	26.8		C
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.0	0.53	D	54.2	0.57	D	54.2	0.57	D
Rt. 1/9	NBT	11.0	0.88	B	28.7	1.00	C	30.2	1.01	C
	SBT	12.0	0.89	B	34.4	1.02	C	36.2	1.03	D
	Overall	12.7		B	32.2		C	33.8		C
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	129.7	1.01	F	329.8	1.51	F	339.9	1.53	F
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	85.3	1.03	F	272.4	1.50	F	297.9	1.56	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	13.8	0.20	B	15.8	0.24	B	16.2	0.24	B
	WBL	8.3	0.28	A	9.9	0.36	A	10.4	0.37	B
	WBT	8.5	0.18	A	10.1	0.22	B	10.6	0.22	B
Rt. 1/9 SB Ramps	SBL	37.5	0.81	D	36.7	0.83	D	36.8	0.84	D
	SBT	22.7	0.05	C	20.7	0.05	C	20.2	0.05	C
	Overall	19.0		B	19.9		B	20.3		C
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	3.4	0.20	A	3.9	0.25	A	3.9	0.28	A
	EBT	3.9	0.25	A	4.5	0.29	A	4.5	0.29	A
	WBTR	6.9	0.20	A	8.4	0.24	A	8.5	0.24	A
Rt. 1/9 NB Ramps	NBL	41.5	0.67	D	41.9	0.70	D	41.9	0.70	D
	NBT	34.0	0.18	C	34.4	0.38	C	34.4	0.38	C
	Overall	11.8		B	12.7		B	12.6		B

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - North River Tunnel Rehabilitation (2032)
Construction Impacts
Saturday PM Construction Peak Hour (4:45 - 5:45 PM)

Intersection	Movement	2016 Existing			2032 No Action Alternative			2032 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	10.9	0.92	B	39.2	1.05	D	73.4	1.14	E
	SBT	3.7	0.69	A	5.1	0.78	A	7.6	0.87	A
	Overall	7.9		A	24.7		C	44.9		D
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	53.8	0.49	D	53.9	0.53	D	54.1	0.70	D
Rt. 1/9	NBT	13.7	0.92	B	43.6	1.05	D	85.5	1.15	F
	SBT	5.4	0.67	A	7.2	0.77	A	12.3	0.85	B
	Overall	11.5		B	29.0		C	54.4		D
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	134.0	1.02	F	339.4	1.53	F	399.8	1.66	F
4. Rt. 1/9 NB and Entrance Ramp from Secaucus Road (Unsignalized)										
Entrance Ramp	WBR	77.6	1.01	F	260.6	1.48	F	345.7	1.67	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	14.0	0.17	B	16.0	0.21	B	16.5	0.22	B
	WBL	8.7	0.28	A	10.4	0.35	B	10.8	0.36	B
	WBT	8.8	0.18	A	10.5	0.21	B	11.0	0.22	B
Rt. 1/9 SB Ramps	SBL	37.3	0.81	D	36.5	0.84	D	36.6	0.85	D
	SBTR	22.0	0.04	C	20.0	0.04	B	19.5	0.05	B
	Overall	19.5		B	20.4		C	20.9		C
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	3.0	0.19	A	3.4	0.23	A	3.5	0.28	A
	EBT	3.5	0.25	A	4.0	0.28	A	4.0	0.29	A
	WBTR	6.4	0.18	A	7.7	0.22	A	7.7	0.22	A
Rt. 1/9 NB Ramps	NBL	41.3	0.63	D	41.5	0.66	D	41.5	0.66	D
	NBT	35.0	0.16	C	35.0	0.31	C	35.0	0.31	C
	Overall	10.8		B	11.5		B	11.4		B

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Site - North River Tunnel Rehabilitation (2032)
Mitigation Results
Weekday AM Construction Peak Hour (6:30 - 7:30 AM)

Intersection	Movement	2032 No Action Alternative			2032 Construction Condition			2032 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	47.1	1.07	D	60.0	1.10	E	Unmitigated		
	SBT	47.4	1.07	D	82.7	1.16	F			
	Overall	47.3		D	71.6		E			
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.2	0.76	D	54.3	0.76	D	58.4	0.81	E
Rt. 1/9	NBT	71.4	1.11	E	87.0	1.15	F	80.4	1.13	F
	SBT	67.7	1.10	E	70.2	1.11	E	64.0	1.09	E
	Overall	68.5		E	77.2		E	71.4		E
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	295.3	1.53	F	356.8	1.67	F	Unmitigated		
4. Rt. 1/9 NB and Entrance Ramp from Secaucus Road (Unsignalized)										
Entrance Ramp	WBR	253.6	1.47	F	333.0	1.65	F	Unmitigated		

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - North River Tunnel Rehabilitation (2032)
Mitigation Results
Weekday AM Commuter Peak Hour (7:45 - 8:45 AM)

Intersection	Movement	2032 No Action Alternative			2032 Construction Condition			2032 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	265.4	1.48	F	289.3	1.53	F	Unmitigated		

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - North River Tunnel Rehabilitation (2032)
Mitigation Results
Weekday MD Commuter Peak Hour (1:00 - 2:00 PM)

Intersection	Movement	2032 No Action Alternative			2032 Construction Condition			2032 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	252.0	1.45	F	274.2	1.50	F	Unmitigated		

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Site - North River Tunnel Rehabilitation (2032)
Mitigation Results
Weekday PM Construction Peak Hour (4:45 - 5:45 PM)

Intersection	Movement	2032 No Action Alternative			2032 Construction Condition			2032 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	62.3	1.11	E	99.3	1.20	F	Unmitigated		
	SBT	24.4	1.00	C	52.5	1.09	D			
	Overall	44.4		D	77.7		E			
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.3	0.72	D	52.9	0.80	D	62.4	0.88	E
Rt. 1/9	NBT	71.1	1.11	E	127.2	1.24	F	112.5	1.21	F
	SBT	44.4	1.04	D	94.9	1.16	F	81.4	1.13	F
	Overall	58.0		E	106.9		F	94.6		F
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	298.9	1.53	F	356.9	1.65	F	Unmitigated		
4. Rt. 1/9 NB and Entrance Ramp from Secaucus Road (Unsignalized)										
Entrance Ramp	WBR	270.6	1.50	F	354.2	1.69	F	Unmitigated		

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - North River Tunnel Rehabilitation (2032)
Mitigation Results
Weekday PM Commuter Peak Hour (5:00 - 6:00 PM)

Intersection	Movement	2032 No Action Alternative			2032 Construction Condition			2032 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	316.4	1.56	F	326.8	1.58	F	Unmitigated		
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	254.0	1.46	F	278.7	1.52	F	Unmitigated		

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - North River Tunnel Rehabilitation (2032)
Mitigation Results
Saturday PM Commuter Peak Hour (2:00 - 3:00 PM)

Intersection	Movement	2032 No Action Alternative			2032 Construction Condition			2032 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	329.8	1.51	F	339.9	1.53	F	Unmitigated		
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	272.4	1.50	F	297.9	1.56	F	Unmitigated		

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Site - North River Tunnel Rehabilitation (2032)
Mitigation Results
Saturday PM Construction Peak Hour (4:45 - 5:45 PM)

Intersection	Movement	2032 No Action Alternative			2032 Construction Condition			2032 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	39.2	1.05	D	73.4	1.14	E	Unmitigated		
	SBT	5.1	0.78	A	7.6	0.87	A			
	Overall	24.7		C	44.9		D			
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	53.9	0.53	D	54.1	0.70	D	60.8	0.78	E
Rt. 1/9	NBT	43.6	1.05	D	85.5	1.15	F	76.3	1.13	E
	SBT	7.2	0.77	A	12.3	0.85	B	10.9	0.84	B
	Overall	29.0		C	54.4		D	49.2		D
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	339.4	1.53	F	399.8	1.66	F	Unmitigated		
4. Rt. 1/9 NB and Entrance Ramp from Secaucus Road (Unsignalized)										
Entrance Ramp	WBR	260.6	1.48	F	345.7	1.67	F	Unmitigated		

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - North River Tunnel Rehabilitation (2032)
Mitigation Results
Weekday AM Construction Peak Hour (6:30 - 7:30 AM)

Intersection	Movement	2032 No Action Alternative			2032 Construction Condition			2032 Construction Condition With Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	47.1	1.07	D	60.0	1.10	E	60.0	1.10	E
	SBT	47.4	1.07	D	82.7	1.16	F	82.7	1.16	F
	Overall	47.3		D	71.6		E	71.6		E
Rt. 1/9 at Wendy's & 1801 Tonnelle Avenue (Signalized)										
1801 Tonnelle Ave Driveway	EBL							167.4	0.81	F
	EBR							57.2	0.00	E
Rt. 1/9	NBT							61.8	1.10	E
	SBTR							102.5	1.20	F
	Overall							83.2		F
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.2	0.76	D	54.3	0.76	D	51.3	0.81	D
	NBT	71.4	1.11	E	87.0	1.15	F	77.8	1.13	E
Rt. 1/9	SBT	67.7	1.10	E	70.2	1.11	E	55.3	1.09	E
	Overall	68.5		E	77.2		E	65.7		E
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	295.3	1.53	F	356.8	1.67	F	345.7	1.65	F
4. Rt. 1/9 NB and Entrance Ramp from Secaucus Road (Unsignalized)										
Entrance Ramp	WBR	253.6	1.47	F	333.0	1.65	F	310.5	1.60	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
	EBTR	24.3	0.58	C	24.4	0.58	C	24.4	0.58	C
Secaucus Road	WBL	41.2	0.84	D	42.7	0.85	D	42.7	0.85	D
	WBT	17.2	0.42	B	17.2	0.42	B	17.2	0.42	B
	SBL	68.9	1.04	E	76.3	1.06	E	68.9	1.04	E
Rt. 1/9 SB Ramps	SBTR	14.9	0.07	B	14.9	0.07	B	14.9	0.07	B
	Overall	35.9		D	38.4		D	36.0		D
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	6.0	0.40	A	6.3	0.47	A	6.1	0.43	A
	EBT	8.4	0.55	A	8.4	0.55	A	8.4	0.55	A
	WBTR	11.7	0.33	B	11.9	0.33	B	11.7	0.33	B
	NBL	41.9	0.77	D	41.9	0.77	D	41.9	0.77	D
Rt. 1/9 NB Ramps	NBT	29.6	0.20	C	29.6	0.20	C	29.6	0.20	C
	Overall	13.5		B	13.5		B	13.5		B

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - North River Tunnel Rehabilitation (2032)
Mitigation Results
Weekday AM Commuter Peak Hour (7:45 - 8:45 AM)

Intersection	Movement	2032No Action Alternative			2032 Construction Condition			2032 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	92.6	1.18	F	94.9	1.19	F	94.9	1.19	F
	SBT	37.8	1.05	D	40.0	1.05	D	40.0	1.05	D
	Overall	67.1		E	69.3		E	69.3		E
Rt. 1/9 at Wendy's & 1801 Tonnelle Avenue (Signalized)										
1801 Tonnelle Ave Driveway	EBL							167.4	0.81	F
	EBR							57.2	0.00	E
Rt. 1/9	NBT							93.7	1.17	F
	SBTR							54.2	1.09	D
	Overall							75.1		E
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	53.6	0.79	D	53.6	0.79	D	46.9	0.79	D
Rt. 1/9	NBT	112.1	1.20	F	115.1	1.21	F	112.1	1.20	F
	SBT	39.3	1.02	D	41.5	1.02	D	27.6	1.02	C
	Overall	77.0		E	79.4		E	71.6		E
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	271.9	1.50	F	281.8	1.53	F	271.7	1.50	F
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	265.4	1.48	F	289.3	1.53	F	265.0	1.48	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	22.7	0.49	C	23.1	0.49	C	22.7	0.49	C
	WBL	18.6	0.63	B	20.1	0.64	C	18.6	0.63	B
	WBT	21.6	0.70	C	22.2	0.71	C	21.6	0.70	C
Rt. 1/9 SB Ramps	SBL	50.7	0.97	D	52.6	0.98	D	50.7	0.97	D
	SBT	16.0	0.17	B	15.7	0.17	B	16.0	0.17	B
	Overall	28.5		C	29.5		C	28.5		C
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	7.8	0.39	A	8.1	0.46	A	7.8	0.39	A
	EBT	9.5	0.52	A	9.5	0.52	A	9.6	0.52	A
	WBTR	13.5	0.45	B	13.5	0.45	B	13.5	0.45	B
Rt. 1/9 NB Ramps	NBL	41.9	0.80	D	41.9	0.80	D	42.0	0.80	D
	NBT	27.4	0.22	C	27.4	0.22	C	27.3	0.22	C
	Overall	15.6		B	15.6		B	15.6		B

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

 Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - North River Tunnel Rehabilitation (2032)
Mitigation Results
Weekday MD Commuter Peak Hour (1:00 - 2:00 PM)

Intersection	Movement	2032 No Action Alternative			2032 Construction Condition			2032 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	6.7	0.84	A	6.9	0.84	A	6.9	0.84	A
	SBT	8.0	0.87	A	8.3	0.88	A	8.3	0.88	A
	Overall	7.5		A	7.8		A	7.8		A
Rt. 1/9 at Wendy's & 1801 Tonnelle Avenue (Signalized)										
1801 Tonnelle Ave Driveway	EBL							167.4	0.81	F
	EBR							0.0	0.00	A
Rt. 1/9	NBT							8.7	0.85	A
	SBTR							10.2	0.91	B
	Overall							10.1		B
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.9	0.66	D	54.9	0.66	D	52.2	0.66	D
Rt. 1/9	NBT	18.7	0.94	B	19.5	0.95	B	18.7	0.94	B
	SBT	15.5	0.91	B	16.0	0.91	B	13.3	0.91	B
	Overall	18.9		B	19.5		B	17.7		B
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	31.2	0.24	D	31.7	0.24	D	31.3	0.24	D
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	252.0	1.45	F	274.2	1.50	F	252.8	1.45	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	13.9	0.22	B	14.4	0.23	B	13.9	0.22	B
	WBL	8.1	0.33	A	8.5	0.34	A	8.1	0.33	A
	WBT	8.3	0.22	A	8.8	0.22	A	8.3	0.22	A
Rt. 1/9 SB Ramps	SBL	37.9	0.80	D	37.9	0.81	D	37.9	0.80	D
	SBT	24.1	0.15	C	23.5	0.15	C	24.1	0.15	C
	Overall	18.5		B	19.0		B	18.5		B
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	4.5	0.31	A	4.6	0.31	A	4.5	0.31	A
	EBT	4.6	0.21	A	4.6	0.21	A	4.6	0.21	A
	WBTR	9.2	0.22	A	9.3	0.22	A	9.2	0.22	A
Rt. 1/9 NB Ramps	NBL	43.3	0.72	D	43.3	0.72	D	43.3	0.72	D
	NBT	31.7	0.16	C	31.7	0.16	C	31.7	0.16	C
	Overall	13.2		B	13.2		B	13.2		B

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - North River Tunnel Rehabilitation (2032)
Mitigation Results
Weekday PM Construction Peak Hour (4:45 - 5:45 PM)

Intersection	Movement	2032 No Action Alternative			2032 Construction Condition			2032 Construction Condition With Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	62.3	1.11	E	99.3	1.20	F	99.3	1.20	F
	SBT	24.4	1.00	C	52.5	1.09	D	52.5	1.09	D
	Overall	44.4		D	77.1		E	77.1		E
Rt. 1/9 at Wendy's & 1801 Tonnelle Avenue (Signalized)										
1801 Tonnelle Ave Driveway	EBL							495.9	1.89	F
	EBR							126.2	0.93	F
Rt. 1/9	NBT							135.5	1.26	F
	SBTR							93.7	1.18	F
	Overall							125.3		F
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.3	0.72	D	52.9	0.80	D	50.4	0.74	D
	NBT	71.1	1.11	E	127.2	1.24	F	80.1	1.14	F
Rt. 1/9	SBT	44.4	1.04	D	94.9	1.16	F	46.2	1.07	D
	Overall	58.0		E	106.9		F	63.0		E
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	298.9	1.53	F	356.9	1.65	F	346.1	1.63	F
4. Rt. 1/9 NB and Entrance Ramp from Secaucus Road (Unsignalized)										
Entrance Ramp	WBR	270.6	1.50	F	354.2	1.69	F	328.3	1.63	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
	EBTR	17.0	0.39	B	17.5	0.40	B	17.2	0.39	B
Secaucus Road	WBL	11.0	0.37	B	11.4	0.38	B	11.1	0.37	B
	WBT	11.7	0.30	B	12.1	0.30	B	11.7	0.30	B
	SBL	36.6	0.84	D	37.3	0.86	D	36.6	0.85	D
Rt. 1/9 SB Ramps	SBTR	19.5	0.04	B	19.1	0.04	B	19.4	0.04	B
	Overall	20.2		C	20.8		C	20.3		C
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	4.7	0.27	A	4.8	0.32	A	4.8	0.29	A
	EBT	6.2	0.41	A	6.2	0.41	A	6.2	0.41	A
	WBTR	9.7	0.26	A	9.8	0.26	A	9.8	0.26	A
	NBL	42.3	0.73	D	42.3	0.73	D	42.3	0.73	D
Rt. 1/9 NB Ramps	NBT	33.1	0.45	C	33.1	0.45	C	33.1	0.45	C
	Overall	12.9		B	12.8		B	12.8		B

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - North River Tunnel Rehabilitation (2032)
Mitigation Results
Weekday PM Commuter Peak Hour (5:00 - 6:00 PM)

Intersection	Movement	2032 No Action Alternative			2032 Construction Condition			2032 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	61.9	1.10	E	64.5	1.10	E	64.5	1.11	E
	SBT	32.1	1.02	C	33.9	1.02	C	33.9	1.04	C
	Overall	47.6		D	49.9		D	49.9		D
Rt. 1/9 at Wendy's & 1801 Tonnelle Avenue (Signalized)										
1801 Tonnelle Ave Driveway	EBL							81.8	0.58	F
	EBR							56.4	0.06	E
Rt. 1/9	NBT							83.3	1.15	F
	SBTR							53.8	1.09	D
	Overall							69.1		E
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	53.9	0.75	D	53.9	0.75	D	49.2	0.76	D
Rt. 1/9	NBT	75.7	1.12	E	78.4	1.13	E	75.7	1.12	E
	SBT	57.3	1.08	E	59.8	1.08	E	52.2	1.08	D
	Overall	65.9		E	68.4		E	63.3		E
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	316.4	1.56	F	326.8	1.58	F	316.2	1.56	F
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	254.0	1.46	F	278.7	1.52	F	254.2	1.46	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	21.7	0.46	C	22.0	0.46	C	21.8	0.46	C
	WBL	14.7	0.45	B	15.1	0.46	B	14.7	0.45	B
	WBT	15.3	0.33	B	15.7	0.33	B	15.4	0.33	B
Rt. 1/9 SB Ramps	SBL	45.5	0.95	D	47.4	0.96	D	45.2	0.95	D
	SBT	15.7	0.04	B	15.3	0.04	B	15.6	0.04	B
	Overall	27.0		C	28.0		C	27.0		C
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	3.9	0.29	A	4.0	0.32	A	3.9	0.29	A
	EBT	5.2	0.41	A	5.2	0.41	A	5.2	0.41	A
	WBTR	8.4	0.25	A	8.5	0.25	A	8.4	0.25	A
Rt. 1/9 NB Ramps	NBL	42.4	0.69	D	42.4	0.69	D	42.4	0.69	D
	NBT	34.4	0.37	C	34.4	0.37	C	34.4	0.37	C
	Overall	10.8		B	10.8		B	10.8		B

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - North River Tunnel Rehabilitation (2032)
Mitigation Results
Saturday PM Commuter Peak Hour (2:00 - 3:00 PM)

Intersection	Movement	2032 No Action Alternative			2029 Construction Condition			2032 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	27.9	1.02	C	29.6	1.02	C	29.6	1.02	C
	SBT	22.4	0.99	C	23.9	1.00	C	23.9	1.00	C
	Overall	25.2		C	26.8		C	26.8		C
Rt. 1/9 at Wendy's & 1801 Tonnelle Avenue (Signalized)										
1801 Tonnelle Ave Driveway	EBL							188.0	0.86	F
	EBR							0.0	0.00	A
Rt. 1/9	NBT							37.6	1.04	D
	SBTR							34.3	1.04	C
	Overall							36.4		D
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	54.2	0.57	D	54.2	0.57	D	52.3	0.57	D
Rt. 1/9	NBT	28.7	1.00	C	30.2	1.01	C	28.7	1.00	C
	SBT	34.4	1.02	C	36.2	1.03	D	28.9	1.02	C
	Overall	32.2		C	33.8		C	29.5		C
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	329.8	1.51	F	339.9	1.53	F	329.5	1.51	F
4. Rt. 1/9 NB and Entrance Ramp (Unsignalized)										
Entrance Ramp	WBR	272.4	1.50	F	297.9	1.56	F	272.6	1.50	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
Secaucus Road	EBTR	15.8	0.24	B	16.2	0.24	B	15.9	0.24	B
	WBL	9.9	0.36	A	10.4	0.37	B	9.9	0.36	A
	WBT	10.1	0.22	B	10.6	0.22	B	10.1	0.22	B
Rt. 1/9 SB Ramps	SBL	36.7	0.83	D	36.8	0.84	D	36.7	0.83	D
	SBT	20.7	0.05	C	20.2	0.05	C	20.7	0.05	C
	Overall	19.9		B	20.3		C	19.9		B
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	3.9	0.25	A	3.9	0.28	A	3.9	0.25	A
	EBT	4.5	0.29	A	4.5	0.29	A	4.5	0.29	A
	WBTR	8.4	0.24	A	8.5	0.24	A	8.4	0.24	A
Rt. 1/9 NB Ramps	NBL	41.9	0.70	D	41.9	0.70	D	41.9	0.70	D
	NBT	34.4	0.38	C	34.4	0.38	C	34.4	0.38	C
	Overall	12.7		B	12.6		B	12.7		B

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Tonnelle Avenue Staging Area - North River Tunnel Rehabilitation (2032)
Mitigation Results
Saturday PM Construction Peak Hour (4:45 - 5:45 PM)






Intersection	Movement	2032 No Action Alternative			2032 Construction Condition			2032 Construction Condition With Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Tonnelle Avenue Portal Analysis Intersections										
1. Rt. 1/9 at Taco Bell (Signalized)										
Rt. 1/9	NBT	39.2	1.05	D	73.4	1.14	E	73.4	1.14	E
	SBT	5.1	0.78	A	7.6	0.87	A	7.6	0.87	A
	Overall	24.7		C	44.9		D	44.9		D
Rt. 1/9 at Wendy's & 1801 Tonnelle Avenue (Signalized)										
1801 Tonnelle Ave Driveway	EBL							495.9	1.89	F
	EBR							74.7	0.69	E
Rt. 1/9	NBT							107.6	1.20	F
	SBTR							16.8	0.95	B
	Overall							80.1		F
2. Rt. 1/9 at Wendy's & White Cap Const. Supply (Signalized)										
Wendy's & White Cap Const. Supply	EBL	53.9	0.53	D	54.1	0.70	D	51.2	0.55	D
	NBT	43.6	1.05	D	85.5	1.15	F	52.9	1.08	D
Rt. 1/9	SBT	7.2	0.77	A	12.3	0.85	B	7.6	0.80	A
	Overall	29.0		C	54.4		D	34.2		C
3. Rt. 1/9 NB and 10th Street (Unsignalized)										
10th Street	WBR	339.4	1.53	F	399.8	1.66	F	388.3	1.63	F
4. Rt. 1/9 NB and Entrance Ramp from Secaucus Road (Unsignalized)										
Entrance Ramp	WBR	260.6	1.48	F	345.7	1.67	F	320.1	1.61	F
5. Secaucus Road and Rt. 1/9 SB Ramps (Signalized)										
	EBTR	16.0	0.21	B	16.5	0.22	B	16.1	0.21	B
Secaucus Road	WBL	10.4	0.35	B	10.8	0.36	B	10.4	0.36	B
	WBT	10.5	0.21	B	11.0	0.22	B	10.6	0.21	B
	SBL	36.5	0.84	D	36.6	0.85	D	36.5	0.84	D
Rt. 1/9 SB Ramps	SBTR	20.0	0.04	B	19.5	0.05	B	20.0	0.05	B
	Overall	20.4		C	20.9		C	20.4		C
6. Secaucus Road and Rt. 1/9 NB Ramps (Signalized)										
Secaucus Road	EBL	3.4	0.23	A	3.5	0.28	A	3.5	0.25	A
	EBT	4.0	0.28	A	4.0	0.29	A	4.0	0.29	A
	WBTR	7.7	0.22	A	7.7	0.22	A	7.7	0.22	A
	NBL	41.5	0.66	D	41.5	0.66	D	41.5	0.66	D
Rt. 1/9 NB Ramps	NBT	35.0	0.31	C	35.0	0.31	C	35.0	0.31	C
	Overall	11.5		B	11.4		B	11.4		B

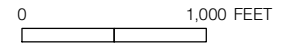
Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

Adverse Impact

New Jersey: Hoboken Staging Area Study
Area—New Tunnel Construction (2025)
Haul Route Option 1








-  Project Site
-  Haul Route Option 1
-  Primary Study Area Traffic Analysis Intersection
-  Proposed New Intersection
-  Secondary Study Area Traffic Analysis Intersection



Traffic Analysis Intersections in New Jersey:
 Hoboken Staging Site and Haul Route Option 1
Figure 5A-2










-  Project Site
-  Haul Route Option 2
-  Primary Study Area Traffic Analysis Intersection
-  Proposed New Intersection
-  Secondary Study Area Traffic Analysis Intersection

0 1,000 FEET



Traffic Analysis Intersections in New Jersey:
 Hoboken Staging Site and Haul Route Option 2
Figure 5A-3

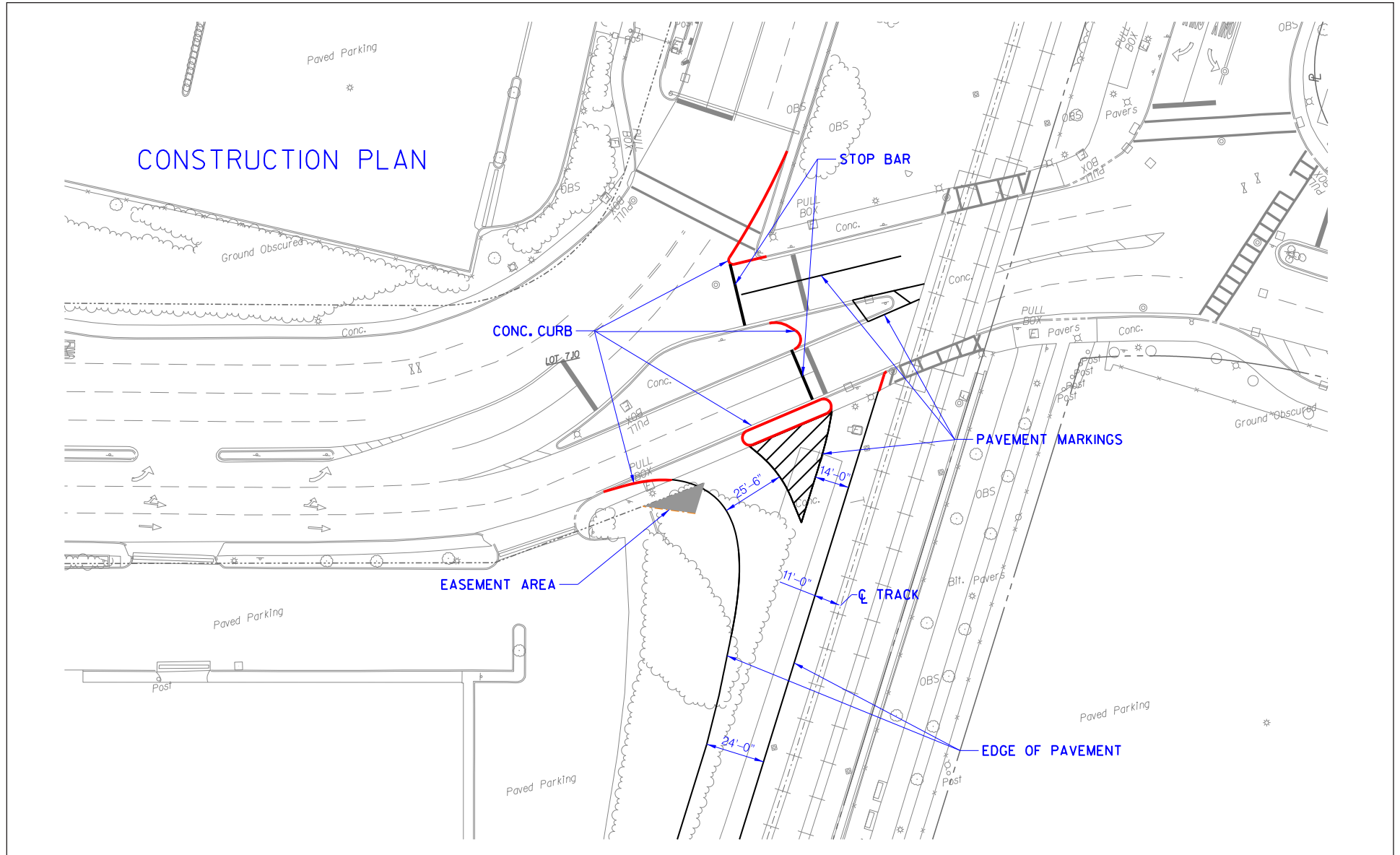


-  Project Site
-  Primary Study Area Traffic Analysis Intersection
-  Haul Route Option 3
-  Proposed New Intersection
-  Secondary Study Area Traffic Analysis Intersection

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Traffic Analysis Intersections in New Jersey:
 Hoboken Staging Site and Haul Route Option 3
Figure 5A-4a



INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 1
Weekday AM Construction Peak Hour (6:30 - 7:30 AM)

Intersection	Movement	2016 Existing			2022 No Action Alternative			2022 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	27.8	0.59	C	28.6	0.63	C	28.6	0.63	C
	WBL	97.4	1.00	F	143.5	1.14	F	145.6	1.15	F
	WBT	22.2	0.14	C	22.3	0.15	C	22.3	0.15	C
	WBR	5.8	0.27	A	5.9	0.28	A	5.9	0.28	A
Willow Avenue	NBLTR	61.8	0.95	E	73.9	1.00	E	76.5	1.02	E
	SBLTR	26.2	0.43	C	26.6	0.46	C	27.1	0.49	C
	Overall	39.4		D	46.8		D	47.8		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	18.8	0.21	B	18.9	0.23	B	19.1	0.24	B
	WBL	80.7	0.89	F	97.1	0.96	F	111.0	1.01	F
	WBT	35.6	0.33	D	35.8	0.35	D	35.8	0.35	D
	WBR (Stop)	32.1	0.01	C	32.1	0.01	C	32.1	0.01	C
Park Avenue	NBLTR	31.0	0.76	C	33.8	0.82	C	34.6	0.83	C
	SBL	18.1	0.19	B	19.1	0.22	B	19.1	0.22	B
	SBT	18.1	0.40	B	18.5	0.42	B	18.8	0.44	B
	SBR	5.5	0.25	A	5.7	0.28	A	5.7	0.28	A
	Overall	27.8		C	30.2		C	31.4		C
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	21.4	0.12	C	21.6	0.12	C	21.6	0.12	C
	EBLT	8.3	0.35	A	8.6	0.37	A	8.6	0.37	A
	WBT	5.0	0.19	A	5.1	0.20	A	5.1	0.20	A
Lincoln Harbor Road	SBR	20.9	0.00	C	21.1	0.00	C	21.1	0.00	C
	Overall	7.9		A	8.1		A	8.1		A
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	20.4	0.70	C	22.2	0.74	C	22.3	0.74	C
	EBT	10.0	0.20	A	10.5	0.22	B	10.6	0.22	B
	WBTR	20.0	0.09	C	21.4	0.09	C	21.5	0.09	C
Waterfront Terrace	SBL	18.6	0.36	B	18.9	0.37	B	18.9	0.37	B
	SBR	27.4	0.75	C	28.7	0.77	C	28.7	0.77	C
	Overall	20.7		C	22.0		C	22.0		C
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	7.4	0.04	A	7.5	0.04	A	7.5	0.04	A
	WBL	8.0	0.05	A	8.1	0.05	A	8.1	0.05	A
Harbor Boulevard	NBLTR	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
Garage	SBLT	16.9	0.01	C	17.6	0.01	C	17.9	0.01	C
	SBR	8.9	0.00	A	8.9	0.00	A	8.9	0.00	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking lot	WBLR	34.1	0.01	C	34.1	0.01	C	34.1	0.01	C
JFK Boulevard	NBTR	1.8	0.18	A	1.8	0.19	A	1.8	0.20	A
	SBL	0.3	0.00	A	0.3	0.00	A	0.3	0.00	A
	SBT	0.7	0.40	A	0.7	0.43	A	0.7	0.43	A
	Overall	1.0		A	1.1		A	1.1		A
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	41.6	0.84	D	44.4	0.87	D	44.4	0.87	D
	WBR	23.0	0.21	C	22.7	0.22	C	22.7	0.22	C
JFK Boulevard	NBTR	12.2	0.37	B	13.1	0.40	B	13.1	0.41	B
	SBL	4.7	0.50	A	5.3	0.55	A	5.3	0.56	A
	SBT	5.2	0.44	A	5.6	0.47	A	5.6	0.48	A
	Overall	13.0		B	13.7		B	13.7		B
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	19.0	0.07	B	19.0	0.08	B	19.0	0.08	B
	EBR	4.6	0.80	A	6.2	0.85	A	6.8	0.86	A
JFK Boulevard	NBT	38.8	0.82	D	42.4	0.86	D	43.7	0.88	D
	NBR	3.0	0.06	A	2.8	0.06	A	2.7	0.06	A
	SBT	11.0	0.35	B	11.2	0.38	B	11.2	0.38	B
	Overall	14.5		B	16.2		B	16.9		B
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	35.8	0.40	D	36.1	0.42	D	36.0	0.43	D
	SBTR	13.1	0.27	B	13.3	0.29	B	13.4	0.29	B
	Overall	25.9		C	26.2		C	26.2		C

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 1
Weekday AM Commuter Peak Hour (7:45 - 8:45 AM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	29.8	0.68	C	31.1	0.73	C	31.1	0.73	C
	WBL	109.3	1.03	F	168.4	1.20	F	168.4	1.20	F
	WBT	22.8	0.19	C	22.9	0.20	C	22.9	0.20	C
	WBR	7.0	0.41	A	7.3	0.44	A	7.3	0.44	A
Willow Avenue	NBLTR	54.3	0.90	D	62.2	0.96	E	63.9	0.97	E
	SBLTR	39.5	0.84	D	44.2	0.89	D	44.2	0.89	D
	Overall	37.6		D	44.3		D	44.7		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	21.2	0.41	C	21.6	0.44	C	21.7	0.45	C
	WBL	121.6	1.05	F	156.2	1.15	F	161.5	1.17	F
	WBT	38.6	0.51	D	39.2	0.54	D	39.2	0.54	D
	WBR (Stop)	32.3	0.02	C	32.3	0.02	C	32.3	0.02	C
Park Avenue	NBLTR	27.0	0.63	C	29.3	0.71	C	29.5	0.71	C
	SBL	17.6	0.23	B	18.5	0.26	B	18.5	0.26	B
	SBT	18.8	0.44	B	19.3	0.47	B	19.5	0.48	B
	SBR	8.5	0.50	A	9.3	0.54	A	9.3	0.54	A
Overall	29.4		C	32.7		C	33.1		C	
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	23.1	0.29	C	23.3	0.30	C	23.3	0.30	C
	EBLT	10.2	0.48	B	10.6	0.51	B	10.6	0.51	B
	WBT	5.9	0.28	A	6.1	0.30	A	6.1	0.30	A
Lincoln Harbor Road	SBR	21.8	0.00	C	21.9	0.00	C	21.9	0.00	C
Overall	10.2		B	10.5		B	10.5		B	
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	25.9	0.78	C	27.6	0.81	C	27.6	0.81	C
	EBT	12.6	0.35	B	12.7	0.37	B	12.7	0.37	B
	WBTR	25.1	0.25	C	25.9	0.27	C	25.9	0.27	C
Waterfront Terrace	SBL	25.2	0.71	C	28.1	0.76	C	28.1	0.76	C
	SBR	33.8	0.84	C	42.4	0.90	D	42.4	0.90	D
Overall	25.4		C	28.8		C	28.8		C	
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	7.7	0.08	A	7.7	0.08	A	7.7	0.09	A
	WBL	9.7	0.12	A	10.0	0.13	A	10.0	0.13	A
Harbor Boulevard	NBLTR	22.8	0.02	C	24.9	0.03	C	25.9	0.03	D
Garage	SBLT	25.8	0.02	D	28.3	0.02	D	27.2	0.02	D
	SBR	8.7	0.01	A	8.7	0.01	A	8.7	0.01	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking Lot	WBLR	34.2	0.01	C	34.2	0.02	C	34.2	0.02	C
JFK Boulevard	NBTR	1.0	0.19	A	1.0	0.20	A	1.0	0.20	A
	SBL	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
	SBT	0.7	0.41	A	0.7	0.44	A	0.7	0.44	A
Overall	0.9		A	1.0		A	1.0		A	
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	30.2	0.60	C	30.2	0.62	C	30.2	0.62	C
	WBR	25.7	0.14	C	25.4	0.15	C	25.4	0.15	C
JFK Boulevard	NBTR	11.4	0.38	B	12.5	0.41	B	12.6	0.42	B
	SBL	4.3	0.60	A	4.9	0.65	A	5.0	0.66	A
	SBT	3.8	0.46	A	4.1	0.50	A	4.1	0.50	A
Overall	8.8		A	9.3		A	9.3		A	
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	19.4	0.14	B	19.4	0.14	B	19.4	0.14	B
	EBR (Yield)	12.1	0.93	B	21.3	0.99	C	22.6	1.00	C
JFK Boulevard	NBT	31.9	0.64	C	33.6	0.67	C	34.2	0.68	C
	NBR	1.9	0.07	A	1.7	0.08	A	1.6	0.08	A
	SBT	8.1	0.42	A	8.4	0.45	A	8.4	0.45	A
Overall	14.2		B	19.6		B	20.5		C	
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	35.8	0.30	D	35.8	0.32	D	36.0	0.33	D
	SBTR	13.8	0.36	B	14.1	0.38	B	14.1	0.38	B
Overall	23.5		C	23.7		C	23.9		C	

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 1
Weekday MD Commuter Peak Hour (1:00 - 2:00 PM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	23.0	0.23	C	23.2	0.27	C	23.2	0.27	C
	WBL	41.5	0.73	D	47.1	0.79	D	47.1	0.79	D
	WBT	22.3	0.15	C	22.4	0.16	C	22.4	0.16	C
	WBR	4.5	0.03	A	4.5	0.03	A	4.5	0.03	A
Willow Avenue	NBLTR	51.3	0.62	D	52.1	0.66	D	52.4	0.67	D
	SBLTR	26.0	0.43	C	26.4	0.46	C	26.4	0.46	C
	Overall	35.1		D	36.2		D	36.4		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	18.5	0.19	B	18.7	0.20	B	18.8	0.21	B
	WBL	69.6	0.82	E	82.7	0.90	F	83.8	0.90	F
	WBT	34.3	0.24	C	34.6	0.25	C	34.6	0.25	C
	WBR (Stop)	32.3	0.02	C	32.3	0.02	C	32.3	0.02	C
Park Avenue	NBLTR	25.8	0.59	C	27.2	0.65	C	27.4	0.65	C
	SBL	15.8	0.13	B	16.2	0.14	B	16.2	0.14	B
	SBT	20.7	0.54	C	21.5	0.57	C	21.7	0.58	C
	SBR	4.5	0.12	A	4.5	0.12	A	4.5	0.12	A
Overall	25.7		C	27.4		C	27.6		C	
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	20.6	0.02	C	20.7	0.02	C	20.7	0.02	C
	EBLT	7.4	0.25	A	7.6	0.27	A	7.6	0.27	A
	WBT	5.0	0.16	A	5.0	0.17	A	5.0	0.17	A
Lincoln Harbor Road	SBR	20.5	0.00	C	20.6	0.00	C	20.6	0.00	C
	Overall	6.8		A	6.9		A	6.9		A
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	14.6	0.55	B	15.7	0.58	B	15.7	0.58	B
	EBT	7.9	0.13	A	8.2	0.14	A	8.2	0.14	A
	WBTR	16.7	0.12	B	17.3	0.13	B	17.3	0.13	B
Waterfront Terrace	SBL	17.3	0.17	B	17.4	0.18	B	17.4	0.18	B
	SBR	23.2	0.65	C	23.9	0.67	C	23.9	0.67	C
Overall	16.8		B	17.6		B	17.6		B	
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	7.7	0.00	A	7.7	0.00	A	7.7	0.00	A
	WBL	7.9	0.03	A	7.9	0.03	A	7.9	0.03	A
Harbor Boulevard Garage	NBLTR	11.2	0.02	B	11.4	0.03	B	11.4	0.03	B
	SBLT	11.4	0.01	B	11.6	0.01	B	11.5	0.01	B
	SBR	8.6	0.01	A	8.6	0.01	A	8.6	0.01	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking Lot	WBLR	34.3	0.05	C	34.3	0.05	C	34.3	0.05	C
	NBTR	1.9	0.22	A	1.9	0.23	A	1.9	0.23	A
JFK Boulevard	SBL	0.3	0.00	A	0.3	0.00	A	0.4	0.00	A
	SBT	0.5	0.24	A	0.6	0.26	A	0.6	0.26	A
	Overall	1.2		A	1.2		A	1.2		A
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	31.1	0.65	C	31.5	0.66	C	31.5	0.66	C
	WBR	25.8	0.26	C	25.6	0.28	C	25.6	0.28	C
JFK Boulevard	NBTR	9.8	0.37	A	10.6	0.40	B	10.7	0.40	B
	SBL	4.0	0.48	A	4.5	0.52	A	4.5	0.53	A
	SBT	3.5	0.25	A	3.5	0.27	A	3.5	0.27	A
Overall	11.1		B	11.5		B	11.5		B	
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	20.3	0.28	C	20.4	0.30	C	20.4	0.30	C
	EBR (Yield)	1.3	0.54	A	1.5	0.58	A	1.5	0.58	A
JFK Boulevard	NBT	50.1	0.95	D	64.5	1.01	E	67.6	1.02	E
	NBR	2.5	0.05	A	2.3	0.06	A	2.3	0.06	A
	SBT	12.2	0.22	B	11.9	0.24	B	11.8	0.24	B
Overall	19.7		B	24.1		C	25.1		C	
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	35.6	0.51	D	35.8	0.55	D	35.6	0.55	D
	SBTR	12.9	0.22	B	13.1	0.23	B	13.2	0.24	B
	Overall	27.3		C	27.5		C	27.5		C

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 1
Weekday PM Construction Peak Hour (2:30 - 3:30 PM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	23.3	0.28	C	23.5	0.30	C	23.5	0.30	C
	WBL	69.8	0.95	E	90.4	1.03	F	91.5	1.03	F
	WBT	25.3	0.37	C	25.7	0.39	C	25.7	0.39	C
	WBR	4.6	0.05	A	4.6	0.06	A	4.6	0.06	A
Willow Avenue	NBLTR	57.1	0.91	E	66.0	0.97	E	76.7	1.02	E
	SBLTR	26.2	0.44	C	26.6	0.47	C	27.0	0.49	C
	Overall	41.8		D	47.9		D	52.3		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	18.7	0.21	B	18.9	0.23	B	19.1	0.24	B
	WBL	109.4	1.01	F	134.9	1.09	F	152.6	1.14	F
	WBT	36.1	0.38	D	36.5	0.40	D	36.5	0.40	D
	WBR (Stop)	32.3	0.03	C	32.4	0.03	C	32.4	0.03	C
Park Avenue	NBLTR	29.8	0.73	C	34.2	0.82	C	35.1	0.83	D
	SBL	16.0	0.08	B	16.5	0.09	B	16.5	0.09	B
	SBT	22.5	0.62	C	23.5	0.65	C	24.1	0.67	C
	SBR	4.8	0.17	A	5.0	0.19	A	5.0	0.19	A
	Overall	30.9		C	34.6		C	36.2		D
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	21.3	0.04	C	21.5	0.05	C	21.5	0.05	C
	EBLT	8.3	0.32	A	8.6	0.34	A	8.6	0.35	A
	WBT	5.1	0.22	A	5.1	0.24	A	5.1	0.24	A
Lincoln Harbor Road	SBR	21.2	0.00	C	21.4	0.00	C	21.4	0.00	C
	Overall	7.3		A	7.5		A	7.5		A
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	20.5	0.69	C	22.8	0.74	C	22.9	0.74	C
	EBT	9.9	0.12	A	10.5	0.13	B	10.5	0.13	B
	WBTR	20.8	0.15	C	22.1	0.17	C	22.2	0.17	C
Waterfront Terrace	SBL	17.3	0.23	B	17.3	0.23	B	17.3	0.23	B
	SBR	27.3	0.76	C	28.1	0.77	C	28.3	0.78	C
	Overall	21.6		C	22.9		C	23.0		C
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
	WBL	7.7	0.03	A	7.8	0.04	A	7.8	0.04	A
Harbor Boulevard	NBLTR	10.5	0.04	B	10.7	0.04	B	10.8	0.04	B
Garage	SBLT	11.5	0.02	B	11.7	0.02	B	11.8	0.02	B
	SBR	8.6	0.01	A	8.6	0.01	A	8.6	0.01	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking lot	WBLR	34.0	0.33	C	34.3	0.36	C	34.3	0.36	C
JFK Boulevard	NBTR	2.3	0.21	A	2.4	0.22	A	2.4	0.22	A
	SBL	0.5	0.01	A	0.5	0.01	A	0.5	0.01	A
	SBT	0.8	0.29	A	0.8	0.31	A	0.8	0.32	A
	Overall	1.8		A	1.8		A	1.8		A
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	33.3	0.71	C	34.2	0.74	C	34.2	0.74	C
	WBR	24.5	0.22	C	24.2	0.23	C	24.2	0.23	C
JFK Boulevard	NBTR	10.7	0.38	B	11.8	0.42	B	11.8	0.42	B
	SBL	4.6	0.54	A	5.4	0.59	A	5.5	0.59	A
	SBT	3.8	0.33	A	4.1	0.35	A	4.1	0.36	A
	Overall	11.1		B	11.7		B	11.7		B
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	20.3	0.29	C	20.4	0.31	C	20.4	0.31	C
	EBR	1.3	0.55	A	1.5	0.58	A	1.6	0.59	A
JFK Boulevard	NBT	33.7	0.69	C	35.1	0.72	D	35.3	0.73	D
	NBR	2.2	0.13	A	2.0	0.14	A	1.9	0.14	A
	SBT	10.4	0.31	B	10.3	0.33	B	10.4	0.33	B
	Overall	11.5		B	11.9		B	11.9		B
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	35.9	0.34	D	35.8	0.36	D	35.9	0.36	D
	SBTR	13.0	0.27	B	13.3	0.29	B	13.3	0.29	B
	Overall	24.7		C	24.8		C	24.9		C

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

 Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 1
Weekday PM Commuter Peak Hour (5:00 - 6:00 PM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	26.8	0.94dr	C	27.6	1.00dr	C	27.6	1.00dr	C
	WBL	103.0	1.05	F	151.0	1.19	F	151.0	1.19	F
Willow Avenue	WBT	26.5	0.44	C	27.0	0.47	C	27.0	0.47	C
	WBR	5.9	0.27	A	6.1	0.29	A	6.1	0.29	A
	NBLTR	51.9	0.79	D	54.6	0.84	D	55.2	0.85	E
	SBLTR	40.0	0.86	D	45.5	0.92	D	45.5	0.92	D
	Overall	40.0		D	46.3		D	46.5		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	20.0	0.33	C	20.3	0.35	C	20.4	0.36	C
	WBL	121.5	1.05	F	157.7	1.16	F	163.0	1.17	F
Park Avenue	WBT	44.8	0.74	D	46.9	0.78	D	46.9	0.78	D
	WBR (Stop)	32.7	0.05	C	32.8	0.06	C	32.8	0.06	C
	NBLTR	26.3	0.61	C	28.3	0.68	C	28.4	0.69	C
	SBL	16.0	0.10	B	16.5	0.11	B	16.5	0.11	B
	SBR	21.8	0.59	C	22.7	0.63	C	23.0	0.64	C
Overall	31.6		C	35.0		D	35.4		D	
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	21.8	0.01	C	22.0	0.01	C	22.0	0.01	C
	EBLT	9.9	0.46	A	10.4	0.48	B	10.4	0.48	B
Lincoln Harbor Road	WBT	5.7	0.27	A	5.9	0.29	A	5.9	0.29	A
	SBR	22.2	0.10	C	22.4	0.10	C	22.4	0.10	C
	Overall	10.6		B	11.0		B	11.0		B
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	26.4	0.81	C	30.4	0.86	C	30.4	0.86	C
	EBT	10.5	0.17	B	10.7	0.18	B	10.7	0.18	B
Waterfront Terrace	WBTR	27.7	0.37	C	29.4	0.41	C	29.4	0.41	C
	SBL	20.9	0.39	C	21.8	0.42	C	21.8	0.42	C
	SBR	36.6	0.84	D	43.4	0.88	D	43.4	0.88	D
	Overall	26.9		C	30.5		C	30.5		C
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	7.6	0.00	A	7.6	0.00	A	7.6	0.00	A
	WBL	8.2	0.08	A	8.3	0.08	A	8.3	0.08	A
Harbor Boulevard	NBLTR	21.8	0.26	C	25.0	0.31	C	25.1	0.31	D
	SBLT	20.9	0.30	C	22.9	0.35	C	22.9	0.35	C
	SBR	8.9	0.03	A	9.0	0.04	A	9.0	0.04	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking Lot	WBLR	45.2	0.59	D	47.2	0.62	D	47.2	0.62	D
JFK Boulevard	NBTR	2.3	0.22	A	2.4	0.24	A	2.4	0.24	A
	SBL	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
	SBT	1.7	0.34	A	1.7	0.36	A	1.7	0.37	A
	Overall	3.4		A	3.6		A	3.6		A
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	42.9	0.68	D	43.6	0.69	D	43.6	0.69	D
	WBR	34.6	0.15	C	34.3	0.16	C	34.3	0.16	C
JFK Boulevard	NBTR	5.8	0.32	A	6.0	0.34	A	6.1	0.35	A
	SBL	4.7	0.59	A	6.2	0.65	A	6.3	0.66	A
	SBT	2.8	0.30	A	3.0	0.32	A	3.0	0.32	A
	Overall	9.9		A	10.3		B	10.3		B
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	30.9	0.40	C	31.1	0.42	C	31.1	0.42	C
	EBR (Yield)	1.7	0.61	A	2.0	0.64	A	2.0	0.65	A
JFK Boulevard	NBT	32.9	0.50	C	32.3	0.50	C	32.2	0.51	C
	NBR	8.6	0.19	A	7.2	0.21	A	7.2	0.21	A
	SBT	5.8	0.20	A	6.2	0.21	A	6.3	0.21	A
	Overall	10.5		B	10.3		B	10.4		B
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	53.3	0.20	D	53.6	0.21	D	53.7	0.22	D
	SBTR	9.6	0.18	A	9.7	0.19	A	9.7	0.19	A
	Overall	26.3		C	26.5		C	27.0		C

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).
dr = lane group operates with a De Facto Right Turn.

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Mitigation Results - Haul Route 1
Weekday AM Construction Peak Hour (6:30 - 7:30 AM)

Intersection	Movement	2025 No Action Alternative			2025 Construction Condition			2025 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	18.9	0.23	B	19.1	0.24	B	21.1	0.26	C
	WBL	97.1	0.96	D	111.0	1.01	D	22.6	0.35	C
	WBT	35.8	0.35	D	35.8	0.35	D	35.8	0.35	D
	WBR (Stop)	32.1	0.01	C	32.1	0.01	C	32.1	0.01	C
Park Avenue	NBLTR	33.8	0.82	C	34.6	0.83	C	34.6	0.83	C
	SBL	19.1	0.22	B	19.1	0.22	B	19.1	0.22	B
	SBT	18.5	0.42	B	18.8	0.44	B	18.8	0.44	B
	SBR	5.7	0.28	A	5.7	0.28	A	5.7	0.28	A
	Overall	30.2		C	31.4		C	25.6		C

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Mitigation Results - Haul Route 1
Weekday PM Construction Peak Hour (2:30 - 3:30 PM)

Intersection	Movement	2025 No Action Alternative			2025 Construction Condition			2025 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	23.5	0.30	C	23.5	0.30	C	23.5	0.30	C
	WBL	90.4	1.03	F	91.5	1.03	F	91.5	1.03	F
	WBT	25.7	0.39	C	25.7	0.39	C	25.7	0.39	C
	WBR	4.6	0.06	A	4.6	0.06	A	4.9	0.06	A
Willow Avenue	NBLTR	66.0	0.97	E	76.7	1.02	E	64.1	0.96	E
	SBLTR	26.6	0.47	C	27.0	0.49	C	28.0	0.51	C
	Overall	47.9		D	52.3		D	47.8		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	18.9	0.23	B	19.1	0.24	B	21.1	0.26	C
	WBL	134.9	1.09	F	152.6	1.14	F	23.3	0.39	C
	WBT	36.5	0.40	D	36.5	0.40	D	36.5	0.40	D
	WBR (Stop)	32.4	0.03	C	32.4	0.03	C	32.4	0.03	C
Park Avenue	NBLTR	34.2	0.82	C	35.1	0.83	D	35.1	0.83	D
	SBL	16.5	0.09	B	16.5	0.09	B	16.5	0.09	B
	SBT	23.5	0.65	C	24.1	0.67	C	24.1	0.67	C
	SBR	5.0	0.19	A	5.0	0.19	A	5.0	0.19	A
	Overall	34.6		C	36.2		D	27.0		C

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 1

Weekday AM Construction Peak Hour - Off-Site Worker Parking (6:30 - 7:30 AM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	27.8	0.59	C	28.6	0.63	C	28.6	0.63	C
	WBL	97.4	1.00	F	143.5	1.14	F	145.6	1.15	F
	WBT	22.2	0.14	C	22.3	0.15	C	22.3	0.15	C
Willow Avenue	WBR	5.8	0.27	A	5.9	0.28	A	5.9	0.28	A
	NBLTR	61.8	0.95	E	73.9	1.00	E	78.0	1.02	E
	SBLTR	26.2	0.43	C	26.6	0.46	C	27.0	0.49	C
	Overall	39.4		D	46.8		D	48.3		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	18.8	0.21	B	18.9	0.23	B	19.0	0.24	B
	WBL	80.7	0.89	F	97.1	0.96	F	106.0	0.99	F
	WBT	35.6	0.33	D	35.8	0.35	D	35.8	0.35	D
Park Avenue	WBR (Stop)	32.1	0.01	C	32.1	0.01	C	32.1	0.01	C
	NBLTR	31.0	0.76	C	33.8	0.82	C	34.6	0.83	C
	SBL	18.1	0.19	B	19.1	0.22	B	19.1	0.22	B
	SBT	18.1	0.40	B	18.5	0.42	B	18.8	0.44	B
	SBR	5.5	0.25	A	5.7	0.28	A	5.7	0.28	A
	Overall	27.8		C	30.2		C	31.2		C
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	21.4	0.12	C	21.6	0.12	C	21.6	0.12	C
	EBLT	8.3	0.35	A	8.6	0.37	A	8.6	0.37	A
	WBT	5.0	0.19	A	5.1	0.20	A	5.1	0.20	A
Lincoln Harbor Road	SBR	20.9	0.00	C	21.1	0.00	C	21.1	0.00	C
	Overall	7.9		A	8.1		A	8.1		A
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	20.4	0.70	C	22.2	0.74	C	22.3	0.74	C
	EBT	10.0	0.20	A	10.5	0.22	B	10.6	0.22	B
	WBTR	20.0	0.09	C	21.4	0.09	C	21.5	0.09	C
Waterfront Terrace	SBL	18.6	0.36	B	18.9	0.37	B	18.9	0.37	B
	SBR	27.4	0.75	C	28.7	0.77	C	28.7	0.77	C
	Overall	20.7		C	22.0		C	22.0		C
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	7.4	0.04	A	7.5	0.04	A	7.5	0.04	A
	WBL	8.0	0.05	A	8.1	0.05	A	8.1	0.05	A
Harbor Boulevard	NBLTR	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
	Garage	SBLT	16.9	0.01	C	17.6	0.01	C	17.9	0.01
	SBR	8.9	0.00	A	8.9	0.00	A	8.9	0.00	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking lot	WBLR	34.1	0.01	C	34.1	0.01	C	34.1	0.01	C
	NBTR	1.8	0.18	A	1.8	0.19	A	1.8	0.20	A
JFK Boulevard	SBL	0.3	0.00	A	0.3	0.00	A	0.3	0.00	A
	SBT	0.7	0.40	A	0.7	0.43	A	0.7	0.43	A
	Overall	1.0		A	1.1		A	1.1		A
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	41.6	0.84	D	44.4	0.87	D	44.4	0.87	D
	WBR	23.0	0.21	C	22.7	0.22	C	22.7	0.22	C
JFK Boulevard	NBTR	12.2	0.37	B	13.1	0.40	B	13.1	0.41	B
	SBL	4.7	0.50	A	5.3	0.55	A	5.3	0.56	A
	SBT	5.2	0.44	A	5.6	0.47	A	5.6	0.48	A
	Overall	13.0		B	13.7		B	13.7		B
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	19.0	0.07	B	19.0	0.08	B	19.0	0.08	B
	EBR	4.6	0.80	A	6.2	0.85	A	6.8	0.86	A
JFK Boulevard	NBT	38.8	0.82	D	42.4	0.86	D	43.7	0.88	D
	NBR	3.0	0.06	A	2.8	0.06	A	2.7	0.06	A
	SBT	11.0	0.35	B	11.2	0.38	B	11.2	0.38	B
	Overall	14.5		B	16.2		B	16.9		B
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	35.8	0.40	D	36.1	0.42	D	36.0	0.43	D
	SBTR	13.1	0.27	B	13.3	0.29	B	13.4	0.29	B
	Overall	25.9		C	26.2		C	26.2		C

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 1

Weekday AM Construction Peak Hour - Off-Site Worker Parking (6:30 - 7:30 AM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
17. 16th Street and Willow Avenue (Signalized)										
16th Street	EBLTR	37.0	0.61	D	38.2	0.64	D	38.2	0.64	D
Willow Avenue	NBTR	6.2	0.42	A	6.3	0.45	A	6.3	0.45	A
	SBLT	11.3	0.38	B	11.5	0.40	B	13.0	0.44	B
	Overall	12.6		B	12.9		B	13.5		B
18. 16th Street and Park Avenue (Signalized)										
16th Street	EBLR	26.1	0.05	C	26.3	0.05	C	26.3	0.07	C
Park Avenue	NBT	5.3	0.54	A	5.7	0.58	A	5.7	0.58	A
	SBT	30.8	0.86	C	37.8	0.92	D	41.1	0.94	D
Park Avenue Service Road	SET	23.8	0.57	C	24.3	0.59	C	24.3	0.59	C
	Overall	17.5		B	20.2		C	21.5		C
19. 15th Street and Willow Avenue (Signalized)										
15th Street	EBLR	40.1	0.66	D	44.4	0.72	D	44.7	0.72	D
	WBL	25.3	0.14	C	25.5	0.15	C	25.5	0.15	C
	WBTR	26.4	0.25	C	26.6	0.26	C	26.7	0.27	C
Willow Avenue	NBLT	9.9	0.38	A	10.2	0.41	B	10.2	0.41	B
	SBTR	1.1	0.40	A	1.2	0.43	A	1.1	0.43	A
	Overall	11.7		B	12.3		B	12.4		B
20. 15th Street and Park Avenue (Signalized)										
15th Street	WBT	31.0	0.40	C	31.0	0.40	C	31.4	0.42	C
	WBR	20.9	0.31	C	21.3	0.39	C	21.2	0.39	C
Park Avenue	NBL	6.8	0.01	A	7.1	0.01	A	7.2	0.01	A
	NBTR	10.1	0.42	B	10.9	0.45	B	11.0	0.46	B
	SBL	3.8	0.35	A	4.2	0.38	A	4.4	0.44	A
	SBTR	4.2	0.38	A	4.5	0.41	A	4.5	0.41	A
	Overall	10.9		B	11.3		B	11.3		B

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 1

Weekday PM Construction Peak Hour - Off-Site Worker Parking (2:30 - 3:30 PM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	23.3	0.28	C	23.5	0.30	C	23.5	0.30	C
	WBL	69.8	0.95	E	90.4	1.03	F	91.5	1.03	F
	WBT	25.3	0.37	C	25.7	0.39	C	25.7	0.39	C
	WBR	4.6	0.05	A	4.6	0.06	A	4.6	0.06	A
Willow Avenue	NBLTR	57.1	0.91	E	66.0	0.97	E	77.4	1.02	E
	SBLTR	26.2	0.44	C	26.6	0.47	C	27.0	0.49	C
	Overall	41.8		D	47.9		D	52.6		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	18.7	0.21	B	18.9	0.23	B	19.0	0.24	B
	WBL	109.4	1.01	F	134.9	1.09	F	145.4	1.12	F
	WBT	36.1	0.38	D	36.5	0.40	D	36.5	0.40	D
	WBR (Stop)	32.3	0.03	C	32.4	0.03	C	32.4	0.03	C
Park Avenue	NBLTR	29.8	0.73	C	34.2	0.82	C	35.2	0.83	D
	SBL	16.0	0.08	B	16.5	0.09	B	16.5	0.09	B
	SBT	22.5	0.62	C	23.5	0.65	C	24.1	0.67	C
	SBR	4.8	0.17	A	5.0	0.19	A	5.0	0.19	A
	Overall	30.9		C	34.6		C	35.8		D
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	21.3	0.04	C	21.5	0.05	C	21.5	0.05	C
	EBLT	8.3	0.32	A	8.6	0.34	A	8.6	0.35	A
	WBT	5.1	0.22	A	5.1	0.24	A	5.1	0.24	A
Lincoln Harbor Road	SBR	21.2	0.00	C	21.4	0.00	C	21.4	0.00	C
	Overall	7.3		A	7.5		A	7.5		A
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	20.5	0.69	C	22.8	0.74	C	22.9	0.74	C
	EBT	9.9	0.12	A	10.5	0.13	B	10.5	0.13	B
	WBTR	20.8	0.15	C	22.1	0.17	C	22.2	0.17	C
Waterfront Terrace	SBL	17.3	0.23	B	17.3	0.23	B	17.3	0.23	B
	SBR	27.3	0.76	C	28.1	0.77	C	28.3	0.78	C
	Overall	21.6		C	22.9		C	23.0		C
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
	WBL	7.7	0.03	A	7.8	0.04	A	7.8	0.04	A
Harbor Boulevard	NBLTR	10.5	0.04	B	10.7	0.04	B	10.8	0.04	B
Garage	SBLT	11.5	0.02	B	11.7	0.02	B	11.8	0.02	B
	SBR	8.6	0.01	A	8.6	0.01	A	8.6	0.01	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking lot	WBLR	34.0	0.33	C	34.3	0.36	C	34.3	0.36	C
JFK Boulevard	NBTR	2.3	0.21	A	2.4	0.22	A	2.4	0.22	A
	SBL	0.5	0.01	A	0.5	0.01	A	0.5	0.01	A
	SBT	0.8	0.29	A	0.8	0.31	A	0.8	0.32	A
	Overall	1.8		A	1.8		A	1.8		A
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	33.3	0.71	C	34.2	0.74	C	34.2	0.74	C
	WBR	24.5	0.22	C	24.2	0.23	C	24.2	0.23	C
JFK Boulevard	NBTR	10.7	0.38	B	11.8	0.42	B	11.8	0.42	B
	SBL	4.6	0.54	A	5.4	0.59	A	5.5	0.59	A
	SBT	3.8	0.33	A	4.1	0.35	A	4.1	0.36	A
	Overall	11.1		B	11.7		B	11.7		B
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	20.3	0.29	C	20.4	0.31	C	20.4	0.31	C
	EBR	1.3	0.55	A	1.5	0.58	A	1.6	0.59	A
JFK Boulevard	NBT	33.7	0.69	C	35.1	0.72	D	35.3	0.73	D
	NBR	2.2	0.13	A	2.0	0.14	A	1.9	0.14	A
	SBT	10.4	0.31	B	10.3	0.33	B	10.4	0.33	B
	Overall	11.5		B	11.9		B	11.9		B
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	35.9	0.34	D	35.8	0.36	D	35.9	0.36	D
	SBTR	13.0	0.27	B	13.3	0.29	B	13.3	0.29	B
	Overall	24.7		C	24.8		C	24.9		C

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 1

Weekday PM Construction Peak Hour - Off-Site Worker Parking (2:30 - 3:30 PM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
17. 16th Street and Willow Avenue (Signalized)										
16th Street	EBLTR	37.2	0.63	D	38.8	0.67	D	38.8	0.67	D
Willow Avenue	NBTR	6.4	0.42	A	6.5	0.45	A	6.7	0.47	A
	SBLT	10.3	0.39	B	10.6	0.42	B	11.8	0.45	B
	Overall	12.3		B	12.7		B	13.2		B
18. 16th Street and Park Avenue (Signalized)										
16th Street	EBLR	26.3	0.06	C	26.4	0.07	C	26.2	0.17	C
Park Avenue	NBT	5.7	0.57	A	6.1	0.61	A	6.2	0.61	A
	SBT	23.5	0.83	C	28.1	0.89	C	59.8	1.03	E
Park Avenue Service Road	SET	27.8	0.58	C	28.7	0.61	C	22.4	0.46	C
	Overall	15.8		B	17.9		B	30.1		C
19. 15th Street and Willow Avenue (Signalized)										
15th Street	EBLR	56.9	0.83	E	72.4	0.92	E	94.9	1.00	F
	WBL	25.3	0.14	C	25.5	0.14	C	25.5	0.14	C
	WBTR	27.3	0.30	C	27.7	0.33	C	28.5	0.37	C
Willow Avenue	NBLT	9.3	0.31	A	9.4	0.33	A	9.4	0.33	A
	SBTR	1.5	0.43	A	1.7	0.46	A	1.0	0.46	A
	Overall	14.1		B	16.3		B	19.1		B
20. 15th Street and Park Avenue (Signalized)										
15th Street	WBT	36.6	0.68	D	38.2	0.70	D	45.2	0.78	D
	WBR	19.8	0.45	B	20.3	0.52	C	19.8	0.51	B
Park Avenue	NBL	8.6	0.02	A	8.9	0.03	A	9.7	0.03	A
	NBTR	13.0	0.49	B	14.1	0.53	B	15.3	0.54	B
	SBL	5.8	0.54	A	7.0	0.59	A	8.7	0.65	A
	SBTR	5.3	0.44	A	5.7	0.47	A	6.0	0.47	A
		Overall	12.9		B	13.7		B	15.2	

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Mitigation Results - Haul Route 1

Weekday AM Construction Peak Hour - Off-Site Worker Parking (6:30 - 7:30 AM)

Intersection	Movement	2025 No Action Alternative			2025 Construction Condition			2025 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS

Hoboken Shaft Site Analysis Intersections

No Significant Adverse Impacts to Signalized Intersections during the Weekday AM Construction Peak Hour

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Mitigation Results - Haul Route 1

Weekday PM Construction Peak Hour - Off-Site Worker Parking (2:30 - 3:30 PM)

Intersection	Movement	2025 No Action Alternative			2025 Construction Condition			2025 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	23.5	0.30	C	23.5	0.30	C	23.5	0.30	C
	WBL	90.4	1.03	F	91.5	1.03	F	91.5	1.03	F
	WBT	25.7	0.39	C	25.7	0.39	C	25.7	0.39	C
	WBR	4.6	0.06	A	4.6	0.06	A	4.9	0.06	A
Willow Avenue	NBLTR	66.0	0.97	E	77.4	1.02	E	64.4	0.96	E
	SBLTR	26.6	0.47	C	27.0	0.49	C	28.0	0.51	C
	Overall	47.9		D	52.6		D	47.9		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	18.9	0.23	B	19.1	0.24	B	18.4	0.23	B
	WBL	134.9	1.09	F	152.6	1.14	F	123.6	1.06	F
	WBT	36.5	0.40	D	36.5	0.40	D	35.4	0.38	D
	WBR (Stop)	32.4	0.03	C	32.4	0.03	C	31.6	0.03	C
Park Avenue	NBLTR	34.2	0.82	C	35.1	0.83	D	38.5	0.86	D
	SBL	16.5	0.09	B	16.5	0.09	B	17.2	0.10	B
	SBT	23.5	0.65	C	24.1	0.67	C	25.2	0.69	C
	SBR	5.0	0.19	A	5.0	0.19	A	5.3	0.18	A
	Overall	34.6		C	36.2		D	35.3		D
18. 16th Street and Park Avenue (Signalized)										
16th Street	EBLR	26.4	0.07	C	26.2	0.17	C	26.5	0.17	C
Park Avenue	NBT	6.1	0.61	A	6.2	0.61	A	6.2	0.61	A
	SBT	28.1	0.89	C	59.8	1.03	E	42.7	0.97	D
Park Avenue Service Road	SET	28.7	0.61	C	22.4	0.46	C	24.3	0.51	C
Overall		17.9		B	30.1		C	23.5		C
19. 15th Street and Willow Avenue (Signalized)										
15th Street	EBLR	72.4	0.92	E	94.9	1.00	F	81.2	0.96	F
	WBL	25.5	0.14	C	25.5	0.14	C	24.6	0.14	C
	WBTR	27.7	0.33	C	28.5	0.37	C	27.5	0.36	C
Willow Avenue	NBLT	9.4	0.33	A	9.4	0.33	A	10.0	0.34	A
	SBTR	1.7	0.46	A	1.0	0.46	A	1.1	0.47	A
	Overall	16.3		B	19.1		B	17.4		B

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

 Adverse Impact

New Jersey: Hoboken Staging Area Study
Area—New Tunnel Construction (2025)
Haul Route Option 2

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 2
Weekday AM Construction Peak Hour (6:30 - 7:30 AM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	27.8	0.59	C	28.6	0.63	C	28.6	0.63	C
	WBL	97.4	1.00	F	143.5	1.14	F	191.8	1.27	F
	WBT	22.2	0.14	C	22.3	0.15	C	22.3	0.15	C
	WBR	5.8	0.27	A	5.9	0.28	A	5.9	0.28	A
Willow Avenue	NBLTR	61.8	0.95	E	73.9	1.00	E	76.5	1.02	E
	SBLTR	26.2	0.43	C	26.6	0.46	C	27.0	0.49	C
	Overall	39.4		D	46.8		D	52.1		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	18.8	0.21	B	18.9	0.23	B	19.0	0.24	B
	WBL	80.7	0.89	F	97.1	0.96	F	100.1	0.97	F
	WBT	35.6	0.33	D	35.8	0.35	D	35.9	0.35	D
	WBR (Stop)	32.1	0.01	C	32.1	0.01	C	32.1	0.01	C
Park Avenue	NBLTR	31.0	0.76	C	33.8	0.82	C	33.8	0.82	C
	SBL	18.1	0.19	B	19.1	0.22	B	19.1	0.22	B
	SBT	18.1	0.40	B	18.5	0.42	B	18.5	0.42	B
	SBR	5.5	0.25	A	5.7	0.28	A	5.9	0.30	A
	Overall	27.8		C	30.2		C	30.3		C
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	21.4	0.12	C	21.6	0.12	C	21.6	0.12	C
	EBLT	8.3	0.35	A	8.6	0.37	A	8.6	0.37	A
	WBT	5.0	0.19	A	5.1	0.20	A	5.1	0.20	A
Lincoln Harbor Road	SBR	20.9	0.00	C	21.1	0.00	C	21.1	0.00	C
	Overall	7.9		A	8.1		A	8.1		A
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	20.4	0.70	C	22.2	0.74	C	22.3	0.74	C
	EBT	10.0	0.20	A	10.5	0.22	B	10.6	0.22	B
	WBTR	20.0	0.09	C	21.4	0.09	C	21.5	0.09	C
Waterfront Terrace	SBL	18.6	0.36	B	18.9	0.37	B	18.9	0.37	B
	SBR	27.4	0.75	C	28.7	0.77	C	28.7	0.77	C
	Overall	20.7		C	22.0		C	22.0		C
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	7.4	0.04	A	7.5	0.04	A	7.5	0.04	A
	WBL	8.0	0.05	A	8.1	0.05	A	8.1	0.05	A
Harbor Boulevard	NBLTR	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
Garage	SBLT	16.9	0.01	C	17.6	0.01	C	17.9	0.01	C
	SBR	8.9	0.00	A	8.9	0.00	A	8.9	0.00	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking lot	WBLR	34.1	0.01	C	34.1	0.01	C	34.1	0.01	C
JFK Boulevard	NBTR	1.8	0.18	A	1.8	0.19	A	1.8	0.20	A
	SBL	0.3	0.00	A	0.3	0.00	A	0.3	0.00	A
	SBT	0.7	0.40	A	0.7	0.43	A	0.7	0.43	A
	Overall	1.0		A	1.1		A	1.1		A
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	41.6	0.84	D	44.4	0.87	D	44.4	0.87	D
	WBR	23.0	0.21	C	22.7	0.22	C	22.7	0.22	C
JFK Boulevard	NBTR	12.2	0.37	B	13.1	0.40	B	13.1	0.41	B
	SBL	4.7	0.50	A	5.3	0.55	A	5.3	0.56	A
	SBT	5.2	0.44	A	5.6	0.47	A	5.6	0.48	A
	Overall	13.0		B	13.7		B	13.7		B
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	19.0	0.07	B	19.0	0.08	B	19.0	0.08	B
	EBR	4.6	0.80	A	6.2	0.85	A	6.8	0.86	A
JFK Boulevard	NBT	38.8	0.82	D	42.4	0.86	D	43.7	0.88	D
	NBR	3.0	0.06	A	2.8	0.06	A	2.7	0.06	A
	SBT	11.0	0.35	B	11.2	0.38	B	11.2	0.38	B
	Overall	14.5		B	16.2		B	16.9		B
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	35.8	0.40	D	36.1	0.42	D	36.0	0.43	D
	SBTR	13.1	0.27	B	13.3	0.29	B	13.4	0.29	B
	Overall	25.9		C	26.2		C	26.2		C

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 2
Weekday AM Commuter Peak Hour (7:45 - 8:45 AM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	29.8	0.68	C	31.1	0.73	C	31.1	0.73	C
	WBL	109.3	1.03	F	168.4	1.20	F	191.0	1.26	F
	WBT	22.8	0.19	C	22.9	0.20	C	22.9	0.20	C
	WBR	7.0	0.41	A	7.3	0.44	A	7.3	0.44	A
Willow Avenue	NBLTR	54.3	0.90	D	62.2	0.96	E	63.9	0.97	E
	SBLTR	39.5	0.84	D	44.2	0.89	D	44.2	0.89	D
	Overall	37.6		D	44.3		D	46.4		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	21.2	0.41	C	21.6	0.44	C	21.7	0.45	C
	WBL	121.6	1.05	F	156.2	1.15	F	161.5	1.17	F
	WBT	38.6	0.51	D	39.2	0.54	D	39.2	0.54	D
	WBR (Stop)	32.3	0.02	C	32.3	0.02	C	32.3	0.02	C
Park Avenue	NBLTR	27.0	0.63	C	29.3	0.71	C	29.3	0.71	C
	SBL	17.6	0.23	B	18.5	0.26	B	18.5	0.26	B
	SBT	18.8	0.44	B	19.3	0.47	B	19.3	0.47	B
	SBR	8.5	0.50	A	9.3	0.54	A	9.5	0.55	A
Overall	29.4		C	32.7		C	33.0		C	
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	23.1	0.29	C	23.3	0.30	C	23.3	0.30	C
	EBLT	10.2	0.48	B	10.6	0.51	B	10.6	0.51	B
	WBT	5.9	0.28	A	6.1	0.30	A	6.1	0.30	A
Lincoln Harbor Road	SBR	21.8	0.00	C	21.9	0.00	C	21.9	0.00	C
	Overall	10.2		B	10.5		B	10.5		B
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	25.9	0.78	C	27.6	0.81	C	27.6	0.81	C
	EBT	12.6	0.35	B	12.7	0.37	B	12.7	0.37	B
	WBTR	25.1	0.25	C	25.9	0.27	C	25.9	0.27	C
Waterfront Terrace	SBL	25.2	0.71	C	28.1	0.76	C	28.1	0.76	C
	SBR	33.8	0.84	C	42.4	0.90	D	42.4	0.90	D
	Overall	25.4		C	28.8		C	28.8		C
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	7.7	0.08	A	7.7	0.08	A	7.7	0.09	A
	WBL	9.7	0.12	A	10.0	0.13	A	10.0	0.13	A
Harbor Boulevard Garage	NBLTR	22.8	0.02	C	24.9	0.03	C	25.9	0.03	D
	SBLT	25.8	0.02	D	28.3	0.02	D	27.2	0.02	D
	SBR	8.7	0.01	A	8.7	0.01	A	8.7	0.01	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking Lot	WBLR	34.2	0.01	C	34.2	0.02	C	34.2	0.02	C
	JFK Boulevard	1.0	0.19	A	1.0	0.20	A	1.0	0.20	A
JFK Boulevard	SBL	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
	SBT	0.7	0.41	A	0.7	0.44	A	0.7	0.44	A
	Overall	0.9		A	1.0		A	1.0		A
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	30.2	0.60	C	30.2	0.62	C	30.2	0.62	C
	WBR	25.7	0.14	C	25.4	0.15	C	25.4	0.15	C
JFK Boulevard	NBTR	11.4	0.38	B	12.5	0.41	B	12.6	0.42	B
	SBL	4.3	0.60	A	4.9	0.65	A	5.0	0.66	A
	SBT	3.8	0.46	A	4.1	0.50	A	4.1	0.50	A
	Overall	8.8		A	9.3		A	9.3		A
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	19.4	0.14	B	19.4	0.14	B	19.4	0.14	B
	EBR (Yield)	12.1	0.93	B	21.3	0.99	C	22.6	1.00	C
JFK Boulevard	NBT	31.9	0.64	C	33.6	0.67	C	34.2	0.68	C
	NBR	1.9	0.07	A	1.7	0.08	A	1.6	0.08	A
	SBT	8.1	0.42	A	8.4	0.45	A	8.4	0.45	A
Overall	14.2		B	19.6		B	20.5		C	
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	35.8	0.30	D	35.8	0.32	D	36.0	0.33	D
	SBTR	13.8	0.36	B	14.1	0.38	B	14.1	0.38	B
	Overall	23.5		C	23.7		C	23.9		C

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

 Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 2
Weekday MD Commuter Peak Hour (1:00 - 2:00 PM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	23.0	0.23	C	23.2	0.27	C	23.2	0.27	C
	WBL	41.5	0.73	D	47.1	0.79	D	50.0	0.82	D
	WBT	22.3	0.15	C	22.4	0.16	C	22.4	0.16	C
	WBR	4.5	0.03	A	4.5	0.03	A	4.5	0.03	A
Willow Avenue	NBLTR	51.3	0.62	D	52.1	0.66	D	52.4	0.67	D
	SBLTR	26.0	0.43	C	26.4	0.46	C	26.4	0.46	C
	Overall	35.1		D	36.2		D	36.8		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	18.5	0.19	B	18.7	0.20	B	18.8	0.21	B
	WBL	69.6	0.82	E	82.7	0.90	F	83.8	0.90	F
	WBT	34.3	0.24	C	34.6	0.25	C	34.6	0.25	C
	WBR (Stop)	32.3	0.02	C	32.3	0.02	C	32.3	0.02	C
Park Avenue	NBLTR	25.8	0.59	C	27.2	0.65	C	27.2	0.65	C
	SBL	15.8	0.13	B	16.2	0.14	B	16.2	0.14	B
	SBT	20.7	0.54	C	21.5	0.57	C	21.5	0.57	C
	SBR	4.5	0.12	A	4.5	0.12	A	4.6	0.13	A
Overall	25.7		C	27.4		C	27.4		C	
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	20.6	0.02	C	20.7	0.02	C	20.7	0.02	C
	EBLT	7.4	0.25	A	7.6	0.27	A	7.6	0.27	A
	WBT	5.0	0.16	A	5.0	0.17	A	5.0	0.17	A
Lincoln Harbor Road	SBR	20.5	0.00	C	20.6	0.00	C	20.6	0.00	C
Overall	6.8		A	6.9		A	6.9		A	
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	14.6	0.55	B	15.7	0.58	B	15.7	0.58	B
	EBT	7.9	0.13	A	8.2	0.14	A	8.2	0.14	A
	WBTR	16.7	0.12	B	17.3	0.13	B	17.3	0.13	B
Waterfront Terrace	SBL	17.3	0.17	B	17.4	0.18	B	17.4	0.18	B
	SBR	23.2	0.65	C	23.9	0.67	C	23.9	0.67	C
Overall	16.8		B	17.6		B	17.6		B	
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	7.7	0.00	A	7.7	0.00	A	7.7	0.00	A
	WBL	7.9	0.03	A	7.9	0.03	A	7.9	0.03	A
Harbor Boulevard	NBLTR	11.2	0.02	B	11.4	0.03	B	11.4	0.03	B
Garage	SBLT	11.4	0.01	B	11.6	0.01	B	11.5	0.01	B
SBR	8.6	0.01	A	8.6	0.01	A	8.6	0.01	A	
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking Lot	WBLR	34.3	0.05	C	34.3	0.05	C	34.3	0.05	C
JFK Boulevard	NBTR	1.9	0.22	A	1.9	0.23	A	1.9	0.23	A
SBL	0.3	0.00	A	0.3	0.00	A	0.4	0.00	A	
SBT	0.5	0.24	A	0.6	0.26	A	0.6	0.26	A	
Overall	1.2		A	1.2		A	1.2		A	
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	31.1	0.65	C	31.5	0.66	C	31.5	0.66	C
	WBR	25.8	0.26	C	25.6	0.28	C	25.6	0.28	C
JFK Boulevard	NBTR	9.8	0.37	A	10.6	0.40	B	10.7	0.40	B
	SBL	4.0	0.48	A	4.5	0.52	A	4.5	0.53	A
	SBT	3.5	0.25	A	3.5	0.27	A	3.5	0.27	A
Overall	11.1		B	11.5		B	11.5		B	
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	20.3	0.28	C	20.4	0.30	C	20.4	0.30	C
	EBR (Yield)	1.3	0.54	A	1.5	0.58	A	1.5	0.58	A
JFK Boulevard	NBT	50.1	0.95	D	64.5	1.01	E	67.6	1.02	E
	NBR	2.5	0.05	A	2.3	0.06	A	2.3	0.06	A
	SBT	12.2	0.22	B	11.9	0.24	B	11.8	0.24	B
Overall	19.7		B	24.1		C	25.1		C	
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	35.6	0.51	D	35.8	0.55	D	35.6	0.55	D
	SBTR	12.9	0.22	B	13.1	0.23	B	13.2	0.24	B
	Overall	27.3		C	27.5		C	27.5		C

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 2
Weekday PM Commuter Peak Hour (5:00 - 6:00 PM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	26.8	0.94dr	C	27.6	1.00dr	C	27.6	1.00dr	C
	WBL	103.0	1.05	F	151.0	1.19	F	164.9	1.23	F
	WBT	26.5	0.44	C	27.0	0.47	C	27.0	0.47	C
	WBR	5.9	0.27	A	6.1	0.29	A	6.1	0.29	A
Willow Avenue	NBLTR	51.9	0.79	D	54.6	0.84	D	55.2	0.85	E
	SBLTR	40.0	0.86	D	45.5	0.92	D	45.5	0.92	D
	Overall	40.0		D	46.3		D	47.9		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	20.0	0.33	C	20.3	0.35	C	20.4	0.36	C
	WBL	121.5	1.05	F	157.7	1.16	F	163.0	1.17	F
	WBT	44.8	0.74	D	46.9	0.78	D	46.9	0.78	D
	WBR (Stop)	32.7	0.05	C	32.8	0.06	C	32.8	0.06	C
Park Avenue	NBLTR	26.3	0.61	C	28.3	0.68	C	28.3	0.68	C
	SBL	16.0	0.10	B	16.5	0.11	B	16.5	0.11	B
	SBT	21.8	0.59	C	22.7	0.63	C	22.7	0.63	C
	SBR	7.7	0.44	A	8.2	0.47	A	8.4	0.48	A
	Overall	31.6		C	35.0		D	35.3		D
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	21.8	0.01	C	22.0	0.01	C	22.0	0.01	C
	EBLT	9.9	0.46	A	10.4	0.48	B	10.4	0.48	B
	WBT	5.7	0.27	A	5.9	0.29	A	5.9	0.29	A
Lincoln Harbor Road	SBR	22.2	0.10	C	22.4	0.10	C	22.4	0.10	C
	Overall	10.6		B	11.0		B	11.0		B
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	26.4	0.81	C	30.4	0.86	C	30.4	0.86	C
	EBT	10.5	0.17	B	10.7	0.18	B	10.7	0.18	B
	WBTR	27.7	0.37	C	29.4	0.41	C	29.4	0.41	C
Waterfront Terrace	SBL	20.9	0.39	C	21.8	0.42	C	21.8	0.42	C
	SBR	36.6	0.84	D	43.4	0.88	D	43.4	0.88	D
	Overall	26.9		C	30.5		C	30.5		C
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	7.6	0.00	A	7.6	0.00	A	7.6	0.00	A
	WBL	8.2	0.08	A	8.3	0.08	A	8.3	0.08	A
Harbor Boulevard	NBLTR	21.8	0.26	C	25.0	0.31	C	25.1	0.31	D
Garage	SBLT	20.9	0.30	C	22.9	0.35	C	22.9	0.35	C
	SBR	8.9	0.03	A	9.0	0.04	A	9.0	0.04	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking Lot	WBTR	45.2	0.59	D	47.2	0.62	D	47.2	0.62	D
JFK Boulevard	NBTR	2.3	0.22	A	2.4	0.24	A	2.4	0.24	A
	SBL	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
	SBT	1.7	0.34	A	1.7	0.36	A	1.7	0.37	A
	Overall	3.4		A	3.6		A	3.6		A
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	42.9	0.68	D	43.6	0.69	D	43.6	0.69	D
	WBR	34.6	0.15	C	34.3	0.16	C	34.3	0.16	C
JFK Boulevard	NBTR	5.8	0.32	A	6.0	0.34	A	6.1	0.35	A
	SBL	4.7	0.59	A	6.2	0.65	A	6.3	0.66	A
	SBT	2.8	0.30	A	3.0	0.32	A	3.0	0.32	A
	Overall	9.9		A	10.3		B	10.3		B
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	30.9	0.40	C	31.1	0.42	C	31.1	0.42	C
	EBR (Yield)	1.7	0.61	A	2.0	0.64	A	2.0	0.65	A
JFK Boulevard	NBT	32.9	0.50	C	32.3	0.50	C	32.2	0.51	C
	NBR	8.6	0.19	A	7.2	0.21	A	7.2	0.21	A
	SBT	5.8	0.20	A	6.2	0.21	A	6.3	0.21	A
	Overall	10.5		B	10.3		B	10.4		B
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	53.3	0.20	D	53.6	0.21	D	53.7	0.22	D
	SBTR	9.6	0.18	A	9.7	0.19	A	9.7	0.19	A
	Overall	26.3		C	26.5		C	27.0		C

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).
dr = lane group operates with a De Facto Right Turn.

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 2
Weekday PM Construction Peak Hour (2:30 - 3:30 PM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	23.3	0.28	C	23.5	0.30	C	23.5	0.30	C
	WBL	69.8	0.95	E	90.4	1.03	F	111.5	1.10	F
	WBT	25.3	0.37	C	25.7	0.39	C	25.7	0.39	C
Willow Avenue	WBR	4.6	0.05	A	4.6	0.06	A	4.6	0.06	A
	NBLTR	57.1	0.91	E	66.0	0.97	E	76.7	1.02	E
	SBLTR	26.2	0.44	C	26.6	0.47	C	27.0	0.49	C
	Overall	41.8		D	47.9		D	55.3		E
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	18.7	0.21	B	18.9	0.23	B	19.0	0.24	B
	WBL	109.4	1.01	F	134.9	1.09	F	139.3	1.11	F
	WBT	36.1	0.38	D	36.5	0.40	D	36.5	0.40	D
	WBR (Stop)	32.3	0.03	C	32.4	0.03	C	32.4	0.03	C
Park Avenue	NBLTR	29.8	0.73	C	34.2	0.82	C	34.2	0.82	C
	SBL	16.0	0.08	B	16.5	0.09	B	16.5	0.09	B
	SBT	22.5	0.62	C	23.5	0.65	C	23.5	0.65	C
	SBR	4.8	0.17	A	5.0	0.19	A	5.1	0.20	A
Overall	30.9		C	34.6		C	34.7		C	
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	21.3	0.04	C	21.5	0.05	C	21.5	0.05	C
	EBLT	8.3	0.32	A	8.6	0.34	A	8.6	0.35	A
	WBT	5.1	0.22	A	5.1	0.24	A	5.1	0.24	A
Lincoln Harbor Road	SBR	21.2	0.00	C	21.4	0.00	C	21.4	0.00	C
Overall	7.3		A	7.5		A	7.5		A	
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	20.5	0.69	C	22.8	0.74	C	22.9	0.74	C
	EBT	9.9	0.12	A	10.5	0.13	B	10.5	0.13	B
	WBTR	20.8	0.15	C	22.1	0.17	C	22.2	0.17	C
Waterfront Terrace	SBL	17.3	0.23	B	17.3	0.23	B	17.3	0.23	B
	SBR	27.3	0.76	C	28.1	0.77	C	28.3	0.78	C
Overall	21.6		C	22.9		C	23.0		C	
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
	WBL	7.7	0.03	A	7.8	0.04	A	7.8	0.04	A
Harbor Boulevard	NBLTR	10.5	0.04	B	10.7	0.04	B	10.8	0.04	B
Garage	SBLT	11.5	0.02	B	11.7	0.02	B	11.8	0.02	B
	SBR	8.6	0.01	A	8.6	0.01	A	8.6	0.01	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking lot	WBLR	34.0	0.33	C	34.3	0.36	C	34.3	0.36	C
JFK Boulevard	NBTR	2.3	0.21	A	2.4	0.22	A	2.4	0.22	A
	SBL	0.5	0.01	A	0.5	0.01	A	0.5	0.01	A
	SBT	0.8	0.29	A	0.8	0.31	A	0.8	0.32	A
Overall	1.8		A	1.8		A	1.8		A	
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	33.3	0.71	C	34.2	0.74	C	34.2	0.74	C
	WBR	24.5	0.22	C	24.2	0.23	C	24.2	0.23	C
JFK Boulevard	NBTR	10.7	0.38	B	11.8	0.42	B	11.8	0.42	B
	SBL	4.6	0.54	A	5.4	0.59	A	5.5	0.59	A
	SBT	3.8	0.33	A	4.1	0.35	A	4.1	0.36	A
Overall	11.1		B	11.7		B	11.7		B	
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	20.3	0.29	C	20.4	0.31	C	20.4	0.31	C
	EBR	1.3	0.55	A	1.5	0.58	A	1.6	0.59	A
JFK Boulevard	NBT	33.7	0.69	C	35.1	0.72	D	35.3	0.73	D
	NBR	2.2	0.13	A	2.0	0.14	A	1.9	0.14	A
	SBT	10.4	0.31	B	10.3	0.33	B	10.4	0.33	B
Overall	11.5		B	11.9		B	11.9		B	
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	35.9	0.34	D	35.8	0.36	D	35.9	0.36	D
	SBTR	13.0	0.27	B	13.3	0.29	B	13.3	0.29	B
Overall	24.7		C	24.8		C	24.9		C	

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Mitigation Results - Haul Route 2
Weekday AM Construction Peak Hour (6:30 - 7:30 AM)

Intersection	Movement	2025 No Action Condition			2025 Construction Condition			2025 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	28.6	0.63	C	28.6	0.63	C	26.4	0.59	C
	WBL	143.5	1.14	F	191.8	1.27	F	146.6	1.16	F
	WBT	22.3	0.15	C	22.3	0.15	C	20.8	0.14	C
	WBR	5.9	0.28	A	5.9	0.28	A	6.3	0.29	A
Willow Avenue	NBLTR	73.9	1.00	E	76.5	1.02	E	65.5	0.96	E
	SBLTR	26.6	0.46	C	27.0	0.49	C	30.3	0.54	C
	Overall	46.8		D	52.1		D	45.2		D

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 2
Weekday AM Commuter Peak Hour (7:45 - 8:45 AM)

Intersection	Movement	2025 No Action Alternative			2025 Construction Condition			2025 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	31.1	0.73	C	31.1	0.73	C	42.9	0.87	D
	WBL	168.4	1.20	F	191.0	1.26	F	130.0	1.11	F
	WBT	22.9	0.20	C	22.9	0.20	C	22.1	0.20	C
Willow Avenue	WBR	7.3	0.44	A	7.3	0.44	A	7.3	0.44	A
	NBLTR	62.2	0.96	E	63.9	0.97	E	60.9	0.97	E
	SBLTR	44.2	0.89	D	44.2	0.89	D	49.5	0.93	D
	Overall	44.3		D	46.4		D	46.2		D

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 2
Weekday MD Commuter Peak Hour (1:00 - 2:00 PM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
No Impacts to Hoboken Shaft Site Analysis Intersections										

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Mitigation Results - Haul Route 2
Weekday PM Construction Peak Hour (2:30 - 3:30 PM)

Intersection	Movement	2025 No Action Condition			2025 Construction Condition			2025 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	23.5	0.30	C	23.5	0.30	C	22.7	0.29	C
	WBL	90.4	1.03	F	111.5	1.10	F	97.4	1.06	F
	WBT	25.7	0.39	C	25.7	0.39	C	24.7	0.37	C
	WBR	4.6	0.06	A	4.6	0.06	A	5.3	0.05	A
Willow Avenue	NBLTR	66.0	0.97	E	76.7	1.02	E	57.5	0.91	E
	SBLTR	26.6	0.47	C	27.0	0.49	C	30.2	0.55	C
	Overall	47.9		D	55.3		E	46.7		D

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2022)
Construction Impacts - Haul Route 2
Weekday PM Commuter Peak Hour (5:00 - 6:00 PM)

Intersection	Movement	2025 No Action			2025 Construction Condition			2025 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	27.6	1.00dr	C	27.6	1.00dr	C	26.5	0.97dr	C
	WBL	151.0	1.19	F	164.9	1.23	F	145.0	1.18	F
	WBT	27.0	0.47	C	27.0	0.47	C	26.0	0.45	C
	WBR	6.1	0.29	A	6.1	0.29	A	6.1	0.29	A
Willow Avenue	NBLTR	54.6	0.84	D	55.2	0.85	E	56.2	0.85	E
	SBLTR	45.5	0.92	D	45.5	0.92	D	51.6	0.95	D
	Overall	46.3		D	47.9		D	47.8		D

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 2

Weekday AM Construction Peak Hour - Off-Site Worker Parking (6:30 - 7:30 AM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	27.8	0.59	C	28.6	0.63	C	28.6	0.63	C
	WBL	97.4	1.00	F	143.5	1.14	F	171.4	1.22	F
	WBT	22.2	0.14	C	22.3	0.15	C	22.3	0.15	C
	WBR	5.8	0.27	A	5.9	0.28	A	5.9	0.28	A
Willow Avenue	NBLTR	61.8	0.95	E	73.9	1.00	E	76.9	1.02	E
	SBLTR	26.2	0.43	C	26.6	0.46	C	27.0	0.49	C
	Overall	39.4		D	46.8		D	50.3		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	18.8	0.21	B	18.9	0.23	B	19.0	0.24	B
	WBL	80.7	0.89	F	97.1	0.96	F	104.3	0.99	F
	WBT	35.6	0.33	D	35.8	0.35	D	35.8	0.35	D
	WBR (Stop)	32.1	0.01	C	32.1	0.01	C	32.1	0.01	C
Park Avenue	NBLTR	31.0	0.76	C	33.8	0.82	C	34.4	0.83	C
	SBL	18.1	0.19	B	19.1	0.22	B	19.2	0.22	B
	SBT	18.1	0.40	B	18.5	0.42	B	18.6	0.43	B
	SBR	5.5	0.25	A	5.7	0.28	A	5.8	0.29	A
	Overall	27.8		C	30.2		C	30.9		C
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	21.4	0.12	C	21.6	0.12	C	21.6	0.12	C
	EBLT	8.3	0.35	A	8.6	0.37	A	8.6	0.37	A
	WBT	5.0	0.19	A	5.1	0.20	A	5.1	0.20	A
Lincoln Harbor Road	SBR	20.9	0.00	C	21.1	0.00	C	21.1	0.00	C
	Overall	7.9		A	8.1		A	8.1		A
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	20.4	0.70	C	22.2	0.74	C	22.3	0.74	C
	EBT	10.0	0.20	A	10.5	0.22	B	10.6	0.22	B
	WBTR	20.0	0.09	C	21.4	0.09	C	21.5	0.09	C
Waterfront Terrace	SBL	18.6	0.36	B	18.9	0.37	B	18.9	0.37	B
	SBR	27.4	0.75	C	28.7	0.77	C	28.7	0.77	C
	Overall	20.7		C	22.0		C	22.0		C
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	7.4	0.04	A	7.5	0.04	A	7.5	0.04	A
	WBL	8.0	0.05	A	8.1	0.05	A	8.1	0.05	A
Harbor Boulevard	NBLTR	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
Garage	SBLT	16.9	0.01	C	17.6	0.01	C	17.9	0.01	C
	SBR	8.9	0.00	A	8.9	0.00	A	8.9	0.00	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking lot	WBLR	34.1	0.01	C	34.1	0.01	C	34.1	0.01	C
JFK Boulevard	NBTR	1.8	0.18	A	1.8	0.19	A	1.8	0.20	A
	SBL	0.3	0.00	A	0.3	0.00	A	0.3	0.00	A
	SBT	0.7	0.40	A	0.7	0.43	A	0.7	0.43	A
	Overall	1.0		A	1.1		A	1.1		A
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	41.6	0.84	D	44.4	0.87	D	44.4	0.87	D
	WBR	23.0	0.21	C	22.7	0.22	C	22.7	0.22	C
JFK Boulevard	NBTR	12.2	0.37	B	13.1	0.40	B	13.1	0.41	B
	SBL	4.7	0.50	A	5.3	0.55	A	5.3	0.56	A
	SBT	5.2	0.44	A	5.6	0.47	A	5.6	0.48	A
	Overall	13.0		B	13.7		B	13.7		B
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	19.0	0.07	B	19.0	0.08	B	19.0	0.08	B
	EBR	4.6	0.80	A	6.2	0.85	A	6.8	0.86	A
JFK Boulevard	NBT	38.8	0.82	D	42.4	0.86	D	43.7	0.88	D
	NBR	3.0	0.06	A	2.8	0.06	A	2.7	0.06	A
	SBT	11.0	0.35	B	11.2	0.38	B	11.2	0.38	B
	Overall	14.5		B	16.2		B	16.9		B
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	35.8	0.40	D	36.1	0.42	D	36.0	0.43	D
	SBTR	13.1	0.27	B	13.3	0.29	B	13.4	0.29	B
	Overall	25.9		C	26.2		C	26.2		C

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 2

Weekday AM Construction Peak Hour - Off-Site Worker Parking (6:30 - 7:30 AM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
17. 16th Street and Willow Avenue (Signalized)										
16th Street	EBLTR	37.0	0.61	D	38.2	0.64	D	38.2	0.64	D
Willow Avenue	NBTR	6.2	0.42	A	6.3	0.45	A	6.3	0.45	A
	SBLT	11.3	0.38	B	11.5	0.40	B	12.7	0.44	B
	Overall	12.6		B	12.9		B	13.3		B
18. 16th Street and Park Avenue (Signalized)										
16th Street	EBLR	26.1	0.05	C	26.3	0.05	C	26.3	0.07	C
Park Avenue	NBT	5.3	0.54	A	5.7	0.58	A	5.7	0.58	A
	SBT	30.8	0.86	C	37.8	0.92	D	41.1	0.94	D
Park Avenue Service Road	SET	23.8	0.57	C	24.3	0.59	C	24.3	0.59	C
	Overall	17.5		B	20.2		C	21.5		C
19. 15th Street and Willow Avenue (Signalized)										
15th Street	EBLR	40.1	0.66	D	44.4	0.72	D	44.4	0.72	D
	WBL	25.3	0.14	C	25.5	0.15	C	25.5	0.15	C
	WBTR	26.4	0.25	C	26.6	0.26	C	26.6	0.26	C
Willow Avenue	NBLT	9.9	0.38	A	10.2	0.41	B	10.2	0.41	B
	SBTR	1.1	0.40	A	1.2	0.43	A	1.1	0.43	A
	Overall	11.7		B	12.3		B	12.3		B
20. 15th Street and Park Avenue (Signalized)										
15th Street	WBT	31.0	0.40	C	31.0	0.40	C	31.3	0.40	C
	WBR	20.9	0.31	C	21.3	0.39	C	21.3	0.39	C
Park Avenue	NBL	6.8	0.01	A	7.1	0.01	A	7.2	0.01	A
	NBTR	10.1	0.42	B	10.9	0.45	B	11.0	0.46	B
	SBL	3.8	0.35	A	4.2	0.38	A	4.4	0.44	A
	SBTR	4.2	0.38	A	4.5	0.41	A	4.5	0.41	A
	Overall	10.9		B	11.3		B	11.3		B

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

 Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 2

Weekday PM Construction Peak Hour - Off-Site Worker Parking (2:30 - 3:30 PM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	23.3	0.28	C	23.5	0.30	C	23.5	0.30	C
	WBL	69.8	0.95	E	90.4	1.03	F	102.7	1.07	F
	WBT	25.3	0.37	C	25.7	0.39	C	25.7	0.39	C
	WBR	4.6	0.05	A	4.6	0.06	A	4.6	0.06	A
Willow Avenue	NBLTR	57.1	0.91	E	66.0	0.97	E	77.0	1.02	E
	SBLTR	26.2	0.44	C	26.6	0.47	C	27.0	0.49	C
	Overall	41.8		D	47.9		D	54.1		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	18.7	0.21	B	18.9	0.23	B	19.0	0.24	B
	WBL	109.4	1.01	F	134.9	1.09	F	143.1	1.12	F
	WBT	36.1	0.38	D	36.5	0.40	D	36.5	0.40	D
	WBR (Stop)	32.3	0.03	C	32.4	0.03	C	32.4	0.03	C
Park Avenue	NBLTR	29.8	0.73	C	34.2	0.82	C	35.2	0.83	D
	SBL	16.0	0.08	B	16.5	0.09	B	16.6	0.09	B
	SBT	22.5	0.62	C	23.5	0.65	C	23.8	0.66	C
	SBR	4.8	0.17	A	5.0	0.19	A	5.0	0.20	A
	Overall	30.9		C	34.6		C	35.5		D
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	21.3	0.04	C	21.5	0.05	C	21.5	0.05	C
	EBLT	8.3	0.32	A	8.6	0.34	A	8.6	0.35	A
	WBT	5.1	0.22	A	5.1	0.24	A	5.1	0.24	A
Lincoln Harbor Road	SBR	21.2	0.00	C	21.4	0.00	C	0.0	0.00	A
	Overall	7.3		A	7.5		A	7.3		A
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	20.5	0.69	C	22.8	0.74	C	22.9	0.74	C
	EBT	9.9	0.12	A	10.5	0.13	B	10.5	0.13	B
	WBTR	20.8	0.15	C	22.1	0.17	C	22.2	0.17	C
Waterfront Terrace	SBL	17.3	0.23	B	17.3	0.23	B	17.3	0.23	B
	SBR	27.3	0.76	C	28.1	0.77	C	28.3	0.78	C
	Overall	21.6		C	22.9		C	23.0		C
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
	WBL	7.7	0.03	A	7.8	0.04	A	7.8	0.04	A
Harbor Boulevard	NBLTR	10.5	0.04	B	10.7	0.04	B	10.8	0.04	B
Garage	SBLT	11.5	0.02	B	11.7	0.02	B	11.8	0.02	B
	SBR	8.6	0.01	A	8.6	0.01	A	8.6	0.01	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking lot	WBLR	34.0	0.33	C	34.3	0.36	C	34.3	0.36	C
JFK Boulevard	NBTR	2.3	0.21	A	2.4	0.22	A	2.4	0.22	A
	SBL	0.5	0.01	A	0.5	0.01	A	0.5	0.01	A
	SBT	0.8	0.29	A	0.8	0.31	A	0.8	0.32	A
	Overall	1.8		A	1.8		A	1.8		A
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	33.3	0.71	C	34.2	0.74	C	34.2	0.74	C
	WBR	24.5	0.22	C	24.2	0.23	C	24.2	0.23	C
JFK Boulevard	NBTR	10.7	0.38	B	11.8	0.42	B	11.8	0.42	B
	SBL	4.6	0.54	A	5.4	0.59	A	5.5	0.59	A
	SBT	3.8	0.33	A	4.1	0.35	A	4.1	0.36	A
	Overall	11.1		B	11.7		B	11.7		B
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	20.3	0.29	C	20.4	0.31	C	20.4	0.31	C
	EBR	1.3	0.55	A	1.5	0.58	A	1.6	0.59	A
JFK Boulevard	NBT	33.7	0.69	C	35.1	0.72	D	35.3	0.73	D
	NBR	2.2	0.13	A	2.0	0.14	A	1.9	0.14	A
	SBT	10.4	0.31	B	10.3	0.33	B	10.4	0.33	B
	Overall	11.5		B	11.9		B	11.9		B
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	35.9	0.34	D	35.8	0.36	D	35.9	0.36	D
	SBTR	13.0	0.27	B	13.3	0.29	B	13.3	0.29	B
	Overall	24.7		C	24.8		C	24.9		C

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 2

Weekday PM Construction Peak Hour - Off-Site Worker Parking (2:30 - 3:30 PM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
17. 16th Street and Willow Avenue (Signalized)										
16th Street	EBLTR	37.2	0.63	D	38.8	0.67	D	38.8	0.67	D
Willow Avenue	NBTR	6.4	0.42	A	6.5	0.45	A	6.7	0.46	A
	SBLT	10.3	0.39	B	10.6	0.42	B	11.6	0.45	B
	Overall	12.3		B	12.7		B	13.1		B
18. 16th Street and Park Avenue (Signalized)										
16th Street	EBLR	26.3	0.06	C	26.4	0.07	C	26.2	0.17	C
Park Avenue	NBT	5.7	0.57	A	6.1	0.61	A	6.2	0.61	A
	SBT	23.5	0.83	C	28.1	0.89	C	59.8	1.03	E
Park Avenue Service Road	SET	27.8	0.58	C	28.7	0.61	C	22.4	0.46	C
	Overall	15.8		B	17.9		B	30.1		C
19. 15th Street and Willow Avenue (Signalized)										
15th Street	EBLR	56.9	0.83	E	72.4	0.92	E	93.5	1.00	F
	WBL	25.3	0.14	C	25.5	0.14	C	25.5	0.14	C
	WBTR	27.3	0.30	C	27.7	0.33	C	28.5	0.37	C
Willow Avenue	NBLT	9.3	0.31	A	9.4	0.33	A	9.4	0.33	A
	SBTR	1.5	0.43	A	1.7	0.46	A	1.0	0.46	A
	Overall	14.1		B	16.3		B	18.9		B
20. 15th Street and Park Avenue (Signalized)										
15th Street	WBT	36.6	0.68	D	38.2	0.70	D	44.5	0.78	D
	WBR	19.8	0.45	B	20.3	0.52	C	19.9	0.51	B
Park Avenue	NBL	8.6	0.02	A	8.9	0.03	A	9.7	0.03	A
	NBTR	13.0	0.49	B	14.1	0.53	B	15.2	0.54	B
	SBL	5.8	0.54	A	7.0	0.59	A	8.6	0.65	A
	SBTR	5.3	0.44	A	5.7	0.47	A	6.0	0.47	A
		Overall	12.9		B	13.7		B	15.1	

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Mitigation Results - Haul Route 2

Weekday AM Construction Peak Hour - Off-Site Worker Parking (6:30 - 7:30 AM)

Intersection	Movement	2025 No Action Condition			2025 Construction Condition			2025 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	28.6	0.63	C	28.6	0.63	C	27.5	0.61	C
	WBL	143.5	1.14	F	171.4	1.22	F	149.1	1.16	F
	WBT	22.3	0.15	C	22.3	0.15	C	21.5	0.14	C
Willow Avenue	WBR	5.9	0.28	A	5.9	0.28	A	5.9	0.28	A
	NBLTR	73.9	1.00	E	76.9	1.02	E	77.7	1.02	E
	SBLTR	26.6	0.46	C	27.0	0.49	C	28.0	0.50	C
	Overall	46.8		D	50.3		D	48.7		D

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

 Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Mitigation Results - Haul Route 2

Weekday PM Construction Peak Hour - Off-Site Worker Parking (2:30 - 3:30 PM)

Intersection	Movement	2025 No Action Condition			2025 Construction Condition			2025 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	23.5	0.30	C	23.5	0.30	C	22.7	0.29	C
	WBL	90.4	1.03	F	102.7	1.07	F	89.7	1.03	F
	WBT	25.7	0.39	C	25.7	0.39	C	24.7	0.37	C
	WBR	4.6	0.06	A	4.6	0.06	A	4.9	0.06	A
Willow Avenue	NBLTR	66.0	0.97	E	77.0	1.02	E	65.3	0.96	E
	SBLTR	26.6	0.47	C	27.0	0.49	C	29.1	0.53	C
	Overall	47.9		D	54.1		D	48.2		D
18. 16th Street and Park Avenue (Signalized)										
16th Street	EBLR	26.4	0.07	C	26.2	0.17	C	26.5	0.17	C
Park Avenue	NBT	6.1	0.61	A	6.2	0.61	A	6.2	0.61	A
	SBT	28.1	0.89	C	59.8	1.03	E	42.7	0.97	E
Park Avenue Service Road	SET	28.7	0.61	C	22.4	0.46	C	24.3	0.51	C
	Overall	17.9		B	30.1		C	23.5		C
19. 15th Street and Willow Avenue (Signalized)										
15th Street	EBLR	72.4	0.92	E	93.5	1.00	F	79.0	0.95	E
	WBL	25.5	0.14	C	25.5	0.14	C	24.6	0.14	C
	WBTR	27.7	0.33	C	28.5	0.37	C	27.4	0.36	C
Willow Avenue	NBLT	9.4	0.33	A	9.4	0.33	A	10.0	0.34	A
	SBTR	1.7	0.46	A	1.0	0.46	A	1.1	0.47	A
	Overall	16.3		B	18.9		B	17.1		B

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

 Adverse Impact

New Jersey: Hoboken Staging Area Study
Area—New Tunnel Construction (2025)
Haul Route Option 3

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 3
Weekday AM Construction Peak Hour (6:30 - 7:30 AM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	27.8	0.59	C	28.6	0.63	C	28.6	0.63	C
	WBL	97.4	1.00	F	143.5	1.14	F	145.6	1.15	F
	WBT	22.2	0.14	C	22.3	0.15	C	22.3	0.15	C
	WBR	5.8	0.27	A	5.9	0.28	A	5.9	0.28	A
Willow Avenue	NBLTR	61.8	0.95	E	73.9	1.00	E	72.8	1.00	E
	SBLTR	26.2	0.43	C	26.6	0.46	C	27.1	0.49	C
	Overall	39.4		D	46.8		D	46.5		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	18.8	0.21	B	18.9	0.23	B	19.1	0.24	B
	WBL	80.7	0.89	F	97.1	0.96	F	104.8	0.99	F
	WBT	35.6	0.33	D	35.8	0.35	D	35.8	0.35	D
	WBR (Stop)	32.1	0.01	C	32.1	0.01	C	32.2	0.02	C
Park Avenue	NBLTR	31.0	0.76	C	33.8	0.82	C	33.8	0.82	C
	SBL	18.1	0.19	B	19.1	0.22	B	20.9	0.31	C
	SBT	18.1	0.40	B	18.5	0.42	B	18.5	0.42	B
	SBR	5.5	0.25	A	5.7	0.28	A	5.7	0.28	A
	Overall	27.8		C	30.2		C	30.6		C
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	21.4	0.12	C	21.6	0.12	C	25.4	0.14	C
	EBLT	8.3	0.35	A	8.6	0.37	A	12.4	0.42	B
	EBR							10.1	0.04	B
	WBT	5.0	0.19	A	5.1	0.20	A	7.0	0.21	A
Site Access Driveway	NBL							33.0	0.20	C
Lincoln Harbor Road	SBR	20.9	0.00	C	21.1	0.00	C	24.8	0.00	C
	Overall	7.9		A	8.1		A	11.3		B
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	20.4	0.70	C	22.2	0.74	C	22.3	0.74	C
	EBT	10.0	0.20	A	10.5	0.22	B	10.6	0.22	B
	WBTR	20.0	0.09	C	21.4	0.09	C	21.5	0.09	C
Waterfront Terrace	SBL	18.6	0.36	B	18.9	0.37	B	18.9	0.37	B
	SBR	27.4	0.75	C	28.7	0.77	C	28.7	0.77	C
	Overall	20.7		C	22.0		C	22.0		C
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	7.4	0.04	A	7.5	0.04	A	7.5	0.04	A
	WBL	8.0	0.05	A	8.1	0.05	A	8.1	0.05	A
Harbor Boulevard	NBLTR	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
Garage	SBLT	16.9	0.01	C	17.6	0.01	C	17.9	0.01	C
	SBR	8.9	0.00	A	8.9	0.00	A	8.9	0.00	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking lot	WBTR	34.1	0.01	C	34.1	0.01	C	34.1	0.01	C
JFK Boulevard	NBTR	1.8	0.18	A	1.8	0.19	A	1.8	0.20	A
	SBL	0.3	0.00	A	0.3	0.00	A	0.3	0.00	A
	SBT	0.7	0.40	A	0.7	0.43	A	0.7	0.43	A
	Overall	1.0		A	1.1		A	1.1		A
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	41.6	0.84	D	44.4	0.87	D	44.4	0.87	D
	WBR	23.0	0.21	C	22.7	0.22	C	22.7	0.22	C
JFK Boulevard	NBTR	12.2	0.37	B	13.1	0.40	B	13.1	0.41	B
	SBL	4.7	0.50	A	5.3	0.55	A	5.3	0.56	A
	SBT	5.2	0.44	A	5.6	0.47	A	5.6	0.48	A
	Overall	13.0		B	13.7		B	13.7		B
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	19.0	0.07	B	19.0	0.08	B	19.0	0.08	B
	EBR	4.6	0.80	A	6.2	0.85	A	6.8	0.86	A
JFK Boulevard	NBT	38.8	0.82	D	42.4	0.86	D	43.7	0.88	D
	NBR	3.0	0.06	A	2.8	0.06	A	2.7	0.06	A
	SBT	11.0	0.35	B	11.2	0.38	B	11.2	0.38	B
	Overall	14.5		B	16.2		B	16.9		B
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	35.8	0.40	D	36.1	0.42	D	36.0	0.43	D
	SBTR	13.1	0.27	B	13.3	0.29	B	13.4	0.29	B
	Overall	25.9		C	26.2		C	26.2		C

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 3
Weekday AM Commuter Peak Hour (7:45 - 8:45 AM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	29.8	0.68	C	31.1	0.73	C	31.1	0.73	C
	WBL	109.3	1.03	F	168.4	1.20	F	168.4	1.20	F
	WBT	22.8	0.19	C	22.9	0.20	C	22.9	0.20	C
	WBR	7.0	0.41	A	7.3	0.44	A	7.3	0.44	A
Willow Avenue	NBLTR	54.3	0.90	D	62.2	0.96	E	62.2	0.96	E
	SBLTR	39.5	0.84	D	44.2	0.89	D	44.2	0.89	D
	Overall	37.6		D	44.3		D	44.3		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	21.2	0.41	C	21.6	0.44	C	21.6	0.44	C
	WBL	121.6	1.05	F	156.2	1.15	F	156.2	1.15	F
	WBT	38.6	0.51	D	39.2	0.54	D	39.2	0.54	D
	WBR (Stop)	32.3	0.02	C	32.3	0.02	C	32.4	0.03	C
Park Avenue	NBLTR	27.0	0.63	C	29.3	0.71	C	29.4	0.71	C
	SBL	17.6	0.23	B	18.5	0.26	B	19.1	0.30	B
	SBT	18.8	0.44	B	19.3	0.47	B	19.3	0.47	B
	SBR	8.5	0.50	A	9.3	0.54	A	9.3	0.54	A
Overall	29.4		C	32.7		C	32.7		C	
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	23.1	0.29	C	23.3	0.30	C	27.4	0.32	C
	EBLT	10.2	0.48	B	10.6	0.51	B	15.3	0.57	B
	EBR							11.0	0.01	B
	WBT	5.9	0.28	A	6.1	0.30	A	8.4	0.32	A
Site Access Driveway	NBL						44.2	0.38	D	
Lincoln Harbor Road	SBR	21.8	0.00	C	21.9	0.00	C	25.7	0.00	C
Overall	10.2		B	10.5		B	14.4		B	
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	25.9	0.78	C	27.6	0.81	C	27.6	0.81	C
	EBT	12.6	0.35	B	12.7	0.37	B	12.7	0.37	B
	WBTR	25.1	0.25	C	25.9	0.27	C	25.9	0.27	C
	Waterfront Terrace	SBL	25.2	0.71	C	28.1	0.76	C	28.1	0.76
	SBR	33.8	0.84	C	42.4	0.90	D	42.4	0.90	D
Overall	25.4		C	28.8		C	28.8		C	
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	7.7	0.08	A	7.7	0.08	A	7.7	0.09	A
	WBL	9.7	0.12	A	10.0	0.13	A	10.0	0.13	A
Harbor Boulevard	NBLTR	22.8	0.02	C	24.9	0.03	C	25.9	0.03	D
Garage	SBLT	25.8	0.02	D	28.3	0.02	D	27.2	0.02	D
	SBR	8.7	0.01	A	8.7	0.01	A	8.7	0.01	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking Lot	WBLR	34.2	0.01	C	34.2	0.02	C	34.2	0.02	C
JFK Boulevard	NBTR	1.0	0.19	A	1.0	0.20	A	1.0	0.20	A
	SBL	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
	SBT	0.7	0.41	A	0.7	0.44	A	0.7	0.44	A
Overall	0.9		A	1.0		A	1.0		A	
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	30.2	0.60	C	30.2	0.62	C	30.2	0.62	C
	WBR	25.7	0.14	C	25.4	0.15	C	25.4	0.15	C
JFK Boulevard	NBTR	11.4	0.38	B	12.5	0.41	B	12.6	0.42	B
	SBL	4.3	0.60	A	4.9	0.65	A	5.0	0.66	A
	SBT	3.8	0.46	A	4.1	0.50	A	4.1	0.50	A
Overall	8.8		A	9.3		A	9.3		A	
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	19.4	0.14	B	19.4	0.14	B	19.4	0.14	B
	EBR (Yield)	12.1	0.93	B	21.3	0.99	C	22.6	1.00	C
JFK Boulevard	NBT	31.9	0.64	C	33.6	0.67	C	34.2	0.68	C
	NBR	1.9	0.07	A	1.7	0.08	A	1.6	0.08	A
	SBT	8.1	0.42	A	8.4	0.45	A	8.4	0.45	A
Overall	14.2		B	19.6		B	20.5		C	
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	35.8	0.30	D	35.8	0.32	D	36.0	0.33	D
	SBTR	13.8	0.36	B	14.1	0.38	B	14.1	0.38	B
	Overall	23.5		C	23.7		C	23.9		C

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 3
Weekday MD Commuter Peak Hour (1:00 - 2:00 PM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	23.0	0.23	C	23.2	0.27	C	23.2	0.27	C
	WBL	41.5	0.73	D	47.1	0.79	D	47.1	0.79	D
	WBT	22.3	0.15	C	22.4	0.16	C	22.4	0.16	C
	WBR	4.5	0.03	A	4.5	0.03	A	4.5	0.03	A
Willow Avenue	NBLTR	51.3	0.62	D	52.1	0.66	D	51.0	0.66	D
	SBLTR	26.0	0.43	C	26.4	0.46	C	26.4	0.46	C
	Overall	35.1		D	36.2		D	35.9		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	18.5	0.19	B	18.7	0.20	B	18.7	0.20	B
	WBL	69.6	0.82	E	82.7	0.90	F	82.7	0.90	F
	WBT	34.3	0.24	C	34.6	0.25	C	34.6	0.25	C
	WBR (Stop)	32.3	0.02	C	32.3	0.02	C	32.4	0.03	C
Park Avenue	NBLTR	25.8	0.59	C	27.2	0.65	C	27.2	0.65	C
	SBL	15.8	0.13	B	16.2	0.14	B	16.7	0.18	B
	SBT	20.7	0.54	C	21.5	0.57	C	21.5	0.57	C
	SBR	4.5	0.12	A	4.5	0.12	A	4.5	0.12	A
Overall	25.7		C	27.4		C	27.4		C	
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	20.6	0.02	C	20.7	0.02	C	24.4	0.03	C
	EBLT	7.4	0.25	A	7.6	0.27	A	11.0	0.30	B
	EBR			A			A	9.4	0.01	A
	WBT	5.0	0.16	A	5.0	0.17	A	6.9	0.18	A
Site Access Driveway	NBL			A			A	36.6	0.32	D
Lincoln Harbor Road	SBR	20.5	0.00	C	20.6	0.00	C	24.3	0.00	C
Overall	6.8		A	6.9		A	10.0		A	
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	14.6	0.55	B	15.7	0.58	B	15.7	0.58	B
	EBT	7.9	0.13	A	8.2	0.14	A	8.2	0.14	A
	WBTR	16.7	0.12	B	17.3	0.13	B	17.3	0.13	B
Waterfront Terrace	SBL	17.3	0.17	B	17.4	0.18	B	17.4	0.18	B
	SBR	23.2	0.65	C	23.9	0.67	C	23.9	0.67	C
Overall	16.8		B	17.6		B	17.6		B	
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	7.7	0.00	A	7.7	0.00	A	7.7	0.00	A
	WBL	7.9	0.03	A	7.9	0.03	A	7.9	0.03	A
Harbor Boulevard	NBLTR	11.2	0.02	B	11.4	0.03	B	11.4	0.03	B
Garage	SBLT	11.4	0.01	B	11.6	0.01	B	11.5	0.01	B
	SBR	8.6	0.01	A	8.6	0.01	A	8.6	0.01	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking Lot	WBLR	34.3	0.05	C	34.3	0.05	C	34.3	0.05	C
JFK Boulevard	NBTR	1.9	0.22	A	1.9	0.23	A	1.9	0.23	A
	SBL	0.3	0.00	A	0.3	0.00	A	0.4	0.00	A
	SBT	0.5	0.24	A	0.6	0.26	A	0.6	0.26	A
Overall	1.2		A	1.2		A	1.2		A	
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	31.1	0.65	C	31.5	0.66	C	31.5	0.66	C
	WBR	25.8	0.26	C	25.6	0.28	C	25.6	0.28	C
JFK Boulevard	NBTR	9.8	0.37	A	10.6	0.40	B	10.7	0.40	B
	SBL	4.0	0.48	A	4.5	0.52	A	4.5	0.53	A
	SBT	3.5	0.25	A	3.5	0.27	A	3.5	0.27	A
Overall	11.1		B	11.5		B	11.5		B	
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	20.3	0.28	C	20.4	0.30	C	20.4	0.30	C
	EBR (Yield)	1.3	0.54	A	1.5	0.58	A	1.5	0.58	A
JFK Boulevard	NBT	50.1	0.95	D	64.5	1.01	E	67.6	1.02	E
	NBR	2.5	0.05	A	2.3	0.06	A	2.3	0.06	A
	SBT	12.2	0.22	B	11.9	0.24	B	11.8	0.24	B
Overall	19.7		B	24.1		C	25.1		C	
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	35.6	0.51	D	35.8	0.55	D	35.6	0.55	D
	SBTR	12.9	0.22	B	13.1	0.23	B	13.2	0.24	B
	Overall	27.3		C	27.5		C	27.5		C

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 3
Weekday PM Construction Peak Hour (2:30 - 3:30 PM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	23.3	0.28	C	23.5	0.30	C	23.5	0.30	C
	WBL	69.8	0.95	E	90.4	1.03	F	91.5	1.03	F
	WBT	25.3	0.37	C	25.7	0.39	C	25.7	0.39	C
	WBR	4.6	0.05	A	4.6	0.06	A	4.7	0.07	A
Willow Avenue	NBLTR	57.1	0.91	E	66.0	0.97	E	64.6	0.97	E
	SBLTR	26.2	0.44	C	26.6	0.47	C	27.0	0.49	C
	Overall	41.8		D	47.9		D	46.9		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	18.7	0.21	B	18.9	0.23	B	19.1	0.24	B
	WBL	109.4	1.01	F	134.9	1.09	F	143.9	1.12	F
	WBT	36.1	0.38	D	36.5	0.40	D	37.1	0.44	D
	WBR (Stop)	32.3	0.03	C	32.4	0.03	C	32.5	0.03	C
Park Avenue	NBLTR	29.8	0.73	C	34.2	0.82	C	34.2	0.82	C
	SBL	16.0	0.08	B	16.5	0.09	B	17.6	0.17	B
	SBT	22.5	0.62	C	23.5	0.65	C	23.5	0.65	C
	SBR	4.8	0.17	A	5.0	0.19	A	5.0	0.20	A
	Overall	30.9		C	34.6		C	35.2		D
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	21.3	0.04	C	21.5	0.05	C	25.5	0.05	C
	EBLT	8.3	0.32	A	8.6	0.34	A	12.6	0.40	B
	EBR							10.4	0.03	B
	WBT	5.1	0.22	A	5.1	0.24	A	7.1	0.26	A
Site Access Driveway	NBL							132.0	0.91	F
Lincoln Harbor Road	SBR	21.2	0.00	C	21.4	0.00	C	25.3	0.00	C
	Overall	7.3		A	7.5		A	14.6		B
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	20.5	0.69	C	22.8	0.74	C	22.9	0.74	C
	EBT	9.9	0.12	A	10.5	0.13	B	10.5	0.13	B
	WBTR	20.8	0.15	C	22.1	0.17	C	22.2	0.17	C
Waterfront Terrace	SBL	17.3	0.23	B	17.3	0.23	B	17.3	0.23	B
	SBR	27.3	0.76	C	28.1	0.77	C	28.3	0.78	C
	Overall	21.6		C	22.9		C	23.0		C
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
	WBL	7.7	0.03	A	7.8	0.04	A	7.8	0.04	A
Harbor Boulevard	NBLTR	10.5	0.04	B	10.7	0.04	B	10.8	0.04	B
Garage	SBLT	11.5	0.02	B	11.7	0.02	B	12.4	0.02	B
	SBR	8.6	0.01	A	8.6	0.01	A	8.6	0.01	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking lot	WBLR	34.0	0.33	C	34.3	0.36	C	34.3	0.36	C
JFK Boulevard	NBTR	2.3	0.21	A	2.4	0.22	A	2.4	0.22	A
	SBL	0.5	0.01	A	0.5	0.01	A	0.5	0.01	A
	SBT	0.8	0.29	A	0.8	0.31	A	0.8	0.32	A
	Overall	1.8		A	1.8		A	1.8		A
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	33.3	0.71	C	34.2	0.74	C	34.2	0.74	C
	WBR	24.5	0.22	C	24.2	0.23	C	24.2	0.23	C
JFK Boulevard	NBTR	10.7	0.38	B	11.8	0.42	B	11.8	0.42	B
	SBL	4.6	0.54	A	5.4	0.59	A	5.5	0.59	A
	SBT	3.8	0.33	A	4.1	0.35	A	4.1	0.36	A
	Overall	11.1		B	11.7		B	11.7		B
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	20.3	0.29	C	20.4	0.31	C	20.4	0.31	C
	EBR	1.3	0.55	A	1.5	0.58	A	1.6	0.59	A
JFK Boulevard	NBT	33.7	0.69	C	35.1	0.72	D	35.3	0.73	D
	NBR	2.2	0.13	A	2.0	0.14	A	1.9	0.14	A
	SBT	10.4	0.31	B	10.3	0.33	B	10.4	0.33	B
	Overall	11.5		B	11.9		B	11.9		B
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	35.9	0.34	D	35.8	0.36	D	35.9	0.36	D
	SBTR	13.0	0.27	B	13.3	0.29	B	13.3	0.29	B
	Overall	24.7		C	24.8		C	24.9		C

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 3
Weekday PM Commuter Peak Hour (5:00 - 6:00 PM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	26.8	0.94dr	C	27.6	1.00dr	C	27.6	1.00dr	C
	WBL	103.0	1.05	F	151.0	1.19	F	151.0	1.19	F
	WBT	26.5	0.44	C	27.0	0.47	C	27.0	0.47	C
	WBR	5.9	0.27	A	6.1	0.29	A	6.1	0.29	A
Willow Avenue	NBLTR	51.9	0.79	D	54.6	0.84	D	53.3	0.84	D
	SBLTR	40.0	0.86	D	45.5	0.92	D	45.5	0.92	D
	Overall	40.0		D	46.3		D	46.0		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	20.0	0.33	C	20.3	0.35	C	20.3	0.35	C
	WBL	121.5	1.05	F	157.7	1.16	F	157.7	1.16	F
	WBT	44.8	0.74	D	46.9	0.78	D	46.9	0.78	D
	WBR (Stop)	32.7	0.05	C	32.8	0.06	C	32.8	0.06	C
Park Avenue	NBLTR	26.3	0.61	C	28.3	0.68	C	28.3	0.68	C
	SBL	16.0	0.10	B	16.5	0.11	B	17.0	0.15	B
	SBT	21.8	0.59	C	22.7	0.63	C	22.7	0.63	C
	SBR	7.7	0.44	A	8.2	0.47	A	8.2	0.47	A
Overall	31.6		C	35.0		D	35.0		C	
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	21.8	0.01	C	22.0	0.01	C	26.0	0.01	C
	EBLT	9.9	0.46	A	10.4	0.48	B	15.1	0.55	B
	EBR							11.1	0.01	B
	WBT	5.7	0.27	A	5.9	0.29	A	8.0	0.31	A
Site Access Driveway	NBL							42.7	0.36	D
	SBR	22.2	0.10	C	22.4	0.10	C	26.4	0.10	C
Lincoln Harbor Road	SBR	22.2	0.10	C	22.4	0.10	C	26.4	0.10	C
Overall	10.6		B	11.0		B	14.8		B	
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	26.4	0.81	C	30.4	0.86	C	30.4	0.86	C
	EBT	10.5	0.17	B	10.7	0.18	B	10.7	0.18	B
	WBTR	27.7	0.37	C	29.4	0.41	C	29.4	0.41	C
Waterfront Terrace	SBL	20.9	0.39	C	21.8	0.42	C	21.8	0.42	C
	SBR	36.6	0.84	D	43.4	0.88	D	43.4	0.88	D
	Overall	26.9		C	30.5		C	30.5		C
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	7.6	0.00	A	7.6	0.00	A	7.6	0.00	A
	WBL	8.2	0.08	A	8.3	0.08	A	8.3	0.08	A
Harbor Boulevard	NBLTR	21.8	0.26	C	25.0	0.31	C	25.1	0.31	D
	SBLT	20.9	0.30	C	22.9	0.35	C	22.9	0.35	C
	SBR	8.9	0.03	A	9.0	0.04	A	9.0	0.04	A
Garage	SBLT	20.9	0.30	C	22.9	0.35	C	22.9	0.35	C
Overall	8.9		A	9.0		A	9.0		A	
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking Lot	WBTR	45.2	0.59	D	47.2	0.62	D	47.2	0.62	D
JFK Boulevard	NBTR	2.3	0.22	A	2.4	0.24	A	2.4	0.24	A
	SBL	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
	SBT	1.7	0.34	A	1.7	0.36	A	1.7	0.37	A
	Overall	3.4		A	3.6		A	3.6		A
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	42.9	0.68	D	43.6	0.69	D	43.6	0.69	D
	WBR	34.6	0.15	C	34.3	0.16	C	34.3	0.16	C
JFK Boulevard	NBTR	5.8	0.32	A	6.0	0.34	A	6.1	0.35	A
	SBL	4.7	0.59	A	6.2	0.65	A	7.9	0.66	A
	SBT	2.8	0.30	A	3.0	0.32	A	4.2	0.32	A
	Overall	9.9		A	10.3		B	11.0		B
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	30.9	0.40	C	31.1	0.42	C	31.1	0.42	C
	EBR (Yield)	1.7	0.61	A	2.0	0.64	A	2.0	0.65	A
JFK Boulevard	NBT	32.9	0.50	C	32.3	0.50	C	31.7	0.51	C
	NBR	8.6	0.19	A	7.2	0.21	A	1.7	0.21	A
	SBT	5.8	0.20	A	6.2	0.21	A	6.3	0.21	A
	Overall	10.5		B	10.3		B	9.2		A
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	53.3	0.20	D	53.6	0.21	D	53.6	0.22	D
	SBTR	9.6	0.18	A	9.7	0.19	A	9.7	0.19	A
	Overall	26.3		C	26.5		C	27.0		C

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 3

Weekday AM Construction Peak Hour - Off-Site Worker Parking (6:30 - 7:30 AM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	27.8	0.59	C	28.6	0.63	C	28.6	0.63	C
	WBL	97.4	1.00	F	143.5	1.14	F	145.6	1.15	F
	WBT	22.2	0.14	C	22.3	0.15	C	22.3	0.15	C
	WBR	5.8	0.27	A	5.9	0.28	A	5.9	0.28	A
Willow Avenue	NBLTR	61.8	0.95	E	73.9	1.00	E	73.9	1.00	E
	SBLTR	26.2	0.43	C	26.6	0.46	C	27.0	0.49	C
	Overall	39.4		D	46.8		D	46.9		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	18.8	0.21	B	18.9	0.23	B	18.9	0.23	B
	WBL	80.7	0.89	F	97.1	0.96	F	104.0	0.99	F
	WBT	35.6	0.33	D	35.8	0.35	D	35.8	0.35	D
	WBR (Stop)	32.1	0.01	C	32.1	0.01	C	32.2	0.02	C
Park Avenue	NBLTR	31.0	0.76	C	33.8	0.82	C	34.2	0.83	C
	SBL	18.1	0.19	B	19.1	0.22	B	20.1	0.27	C
	SBT	18.1	0.40	B	18.5	0.42	B	18.6	0.43	B
	SBR	5.5	0.25	A	5.7	0.28	A	5.7	0.28	A
	Overall	27.8		C	30.2		C	31.0		C
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	21.4	0.12	C	21.6	0.12	C	25.6	0.14	C
	EBLT	8.3	0.35	A	8.6	0.37	A	12.6	0.42	B
	EBR							10.1	0.01	B
	WBT	5.0	0.19	A	5.1	0.20	A	7.1	0.23	A
Site Access Driveway	NBL							38.7	0.37	D
Lincoln Harbor Road	SBR	20.9	0.00	C	21.1	0.00	C	25.0	0.00	C
	Overall	7.9		A	8.1		A	11.6		B
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	20.4	0.70	C	22.2	0.74	C	22.3	0.74	C
	EBT	10.0	0.20	A	10.5	0.22	B	10.6	0.22	B
	WBTR	20.0	0.09	C	21.4	0.09	C	21.5	0.09	C
Waterfront Terrace	SBL	18.6	0.36	B	18.9	0.37	B	18.9	0.37	B
	SBR	27.4	0.75	C	28.7	0.77	C	28.7	0.77	C
	Overall	20.7		C	22.0		C	22.0		C
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	7.4	0.04	A	7.5	0.04	A	7.5	0.04	A
	WBL	8.0	0.05	A	8.1	0.05	A	8.1	0.05	A
Harbor Boulevard	NBLTR	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
Garage	SBLT	16.9	0.01	C	17.6	0.01	C	17.9	0.01	C
	SBR	8.9	0.00	A	8.9	0.00	A	8.9	0.00	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking lot	WBLR	34.1	0.01	C	34.1	0.01	C	34.1	0.01	C
JFK Boulevard	NBTR	1.8	0.18	A	1.8	0.19	A	1.8	0.20	A
	SBL	0.3	0.00	A	0.3	0.00	A	0.3	0.00	A
	SBT	0.7	0.40	A	0.7	0.43	A	0.7	0.43	A
	Overall	1.0		A	1.1		A	1.1		A
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	41.6	0.84	D	44.4	0.87	D	44.4	0.87	D
	WBR	23.0	0.21	C	22.7	0.22	C	22.7	0.22	C
JFK Boulevard	NBTR	12.2	0.37	B	13.1	0.40	B	13.1	0.41	B
	SBL	4.7	0.50	A	5.3	0.55	A	5.3	0.56	A
	SBT	5.2	0.44	A	5.6	0.47	A	5.6	0.48	A
	Overall	13.0		B	13.7		B	13.7		B
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	19.0	0.07	B	19.0	0.08	B	19.0	0.08	B
	EBR	4.6	0.80	A	6.2	0.85	A	6.8	0.86	A
JFK Boulevard	NBT	38.8	0.82	D	42.4	0.86	D	43.7	0.88	D
	NBR	3.0	0.06	A	2.8	0.06	A	2.7	0.06	A
	SBT	11.0	0.35	B	11.2	0.38	B	11.2	0.38	B
	Overall	14.5		B	16.2		B	16.9		B
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	35.8	0.40	D	36.1	0.42	D	36.0	0.43	D
	SBTR	13.1	0.27	B	13.3	0.29	B	13.4	0.29	B
	Overall	25.9		C	26.2		C	26.2		C

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 3

Weekday AM Construction Peak Hour - Off-Site Worker Parking (6:30 - 7:30 AM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
17. 16th Street and Willow Avenue (Signalized)										
16th Street	EBLTR	37.0	0.61	D	38.2	0.64	D	38.2	0.64	D
Willow Avenue	NBTR	6.2	0.42	A	6.3	0.45	A	6.3	0.45	A
	SBLT	11.3	0.38	B	11.5	0.40	B	13.0	0.44	B
	Overall	12.6		B	12.9		B	13.5		B
18. 16th Street and Park Avenue (Signalized)										
16th Street	EBLR	26.1	0.05	C	26.3	0.05	C	26.3	0.07	C
Park Avenue	NBT	5.3	0.54	A	5.7	0.58	A	5.7	0.58	A
	SBT	30.8	0.86	C	37.8	0.92	D	37.8	0.92	D
Park Avenue Service Road	SET	23.8	0.57	C	24.3	0.59	C	24.3	0.59	C
	Overall	17.5		B	20.2		C	20.2		C
19. 15th Street and Willow Avenue (Signalized)										
15th Street	EBLR	40.1	0.66	D	44.4	0.72	D	44.4	0.72	D
	WBL	25.3	0.14	C	25.5	0.15	C	25.5	0.15	C
	WBTR	26.4	0.25	C	26.6	0.26	C	26.6	0.26	C
Willow Avenue	NBLT	9.9	0.38	A	10.2	0.41	B	10.2	0.41	B
	SBTR	1.1	0.40	A	1.2	0.43	A	1.1	0.43	A
	Overall	11.7		B	12.3		B	12.3		B
20. 15th Street and Park Avenue (Signalized)										
15th Street	WBT	31.0	0.40	C	31.0	0.40	C	31.3	0.40	C
	WBR	20.9	0.31	C	21.3	0.39	C	21.3	0.39	C
Park Avenue	NBL	6.8	0.01	A	7.1	0.01	A	7.2	0.01	A
	NBTR	10.1	0.42	B	10.9	0.45	B	11.0	0.46	B
	SBL	3.8	0.35	A	4.2	0.38	A	4.4	0.44	A
	SBTR	4.2	0.38	A	4.5	0.41	A	4.5	0.41	A
	Overall	10.9		B	11.3		B	11.3		B

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 3

Weekday PM Construction Peak Hour - Off-Site Worker Parking (2:30 - 3:30 PM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
7. 19th Street and Willow Avenue (Signalized)										
19th Street	EBLTR	23.3	0.28	C	23.5	0.30	C	23.5	0.30	C
	WBL	69.8	0.95	E	90.4	1.03	F	91.5	1.03	F
	WBT	25.3	0.37	C	25.7	0.39	C	25.7	0.39	C
	WBR	4.6	0.05	A	4.6	0.06	A	4.6	0.06	A
Willow Avenue	NBLTR	57.1	0.91	E	66.0	0.97	E	75.0	1.01	E
	SBLTR	26.2	0.44	C	26.6	0.47	C	27.0	0.49	C
	Overall	41.8		D	47.9		D	51.6		D
8. 19th Street and Park Avenue (Signalized)										
19th Street	EBLTR	18.7	0.21	B	18.9	0.23	B	18.9	0.23	B
	WBL	109.4	1.01	F	134.9	1.09	F	142.2	1.12	F
	WBT	36.1	0.38	D	36.5	0.40	D	36.5	0.40	D
	WBR (Stop)	32.3	0.03	C	32.4	0.03	C	32.5	0.03	C
Park Avenue	NBLTR	29.8	0.73	C	34.2	0.82	C	34.7	0.82	C
	SBL	16.0	0.08	B	16.5	0.09	B	17.2	0.14	B
	SBT	22.5	0.62	C	23.5	0.65	C	23.8	0.66	C
	SBR	4.8	0.17	A	5.0	0.19	A	5.0	0.19	A
	Overall	30.9		C	34.6		C	35.5		D
9. 19th Street and Lincoln Harbor Road (Signalized)										
19th Street	EBL	21.3	0.04	C	21.5	0.05	C	25.5	0.05	C
	EBLT	8.3	0.32	A	8.6	0.34	A	12.6	0.40	B
	EBR							10.3	0.01	B
	WBT	5.1	0.22	A	5.1	0.24	A	7.1	0.25	A
Site Access Driveway	NBL							38.6	0.37	D
Lincoln Harbor Road	SBR	21.2	0.00	C	21.4	0.00	C	25.3	0.00	C
	Overall	7.3		A	7.5		A	10.8		B
10. 19th Street and Waterfront Terrace (Signalized)										
19th Street	EBL	20.5	0.69	C	22.8	0.74	C	22.9	0.74	C
	EBT	9.9	0.12	A	10.5	0.13	B	10.5	0.13	B
	WBTR	20.8	0.15	C	22.1	0.17	C	22.2	0.17	C
Waterfront Terrace	SBL	17.3	0.23	B	17.3	0.23	B	17.3	0.23	B
	SBR	27.3	0.76	C	28.1	0.77	C	28.3	0.78	C
	Overall	21.6		C	22.9		C	23.0		C
11. 19th Street and Harbor Boulevard (Unsignalized)										
19th Street	EBL	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A
	WBL	7.7	0.03	A	7.8	0.04	A	7.8	0.04	A
Harbor Boulevard	NBLTR	10.5	0.04	B	10.7	0.04	B	10.8	0.04	B
Garage	SBLT	11.5	0.02	B	11.7	0.02	B	11.8	0.02	B
	SBR	8.6	0.01	A	8.6	0.01	A	8.6	0.01	A
12. JFK Boulevard and NJ Transit Bus Parking Lot (Signalized)										
NJ Transit Bus Parking lot	WBLR	34.0	0.33	C	34.3	0.36	C	34.3	0.36	C
JFK Boulevard	NBTR	2.3	0.21	A	2.4	0.22	A	2.4	0.22	A
	SBL	0.5	0.01	A	0.5	0.01	A	0.5	0.01	A
	SBT	0.8	0.29	A	0.8	0.31	A	0.8	0.32	A
	Overall	1.8		A	1.8		A	1.8		A
13. JFK Boulevard and Baldwin Avenue (Signalized)										
Baldwin Avenue	WBL	33.3	0.71	C	34.2	0.74	C	34.2	0.74	C
	WBR	24.5	0.22	C	24.2	0.23	C	24.2	0.23	C
JFK Boulevard	NBTR	10.7	0.38	B	11.8	0.42	B	11.8	0.42	B
	SBL	4.6	0.54	A	5.4	0.59	A	5.4	0.59	A
	SBT	3.8	0.33	A	4.1	0.35	A	4.1	0.36	A
	Overall	11.1		B	11.7		B	11.6		B
14. JFK Boulevard and S. Marginal Highway (Signalized)										
S. Marginal Highway	EBL	20.3	0.29	C	20.4	0.31	C	20.7	0.35	C
	EBR	1.3	0.55	A	1.5	0.58	A	2.5	0.68	A
JFK Boulevard	NBT	33.7	0.69	C	35.1	0.72	D	36.1	0.75	D
	NBR	2.2	0.13	A	2.0	0.14	A	1.9	0.15	A
	SBT	10.4	0.31	B	10.3	0.33	B	10.5	0.35	B
	Overall	11.5		B	11.9		B	12.4		B
15. JFK Boulevard and N. Marginal Highway (Signalized)										
JFK Boulevard	NBL	35.9	0.34	D	35.8	0.36	D	36.0	0.38	D
	SBTR	13.0	0.27	B	13.3	0.29	B	13.4	0.30	B
	Overall	24.7		C	24.8		C	25.1		C

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Construction Impacts - Haul Route 3

Weekday PM Construction Peak Hour - Off-Site Worker Parking (2:30 - 3:30 PM)

Intersection	Movement	2016 Existing			2025 No Action Alternative			2025 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
17. 16th Street and Willow Avenue (Signalized)										
16th Street	EBLTR	37.2	0.63	D	38.8	0.67	D	38.8	0.67	D
Willow Avenue	NBTR	6.4	0.42	A	6.5	0.45	A	6.7	0.46	A
	SBLT	10.3	0.39	B	10.6	0.42	B	11.8	0.45	B
	Overall	12.3		B	12.7		B	13.2		B
18. 16th Street and Park Avenue (Signalized)										
16th Street	EBLR	26.3	0.06	C	26.4	0.07	C	26.4	0.17	C
Park Avenue	NBT	5.7	0.57	A	6.1	0.61	A	6.2	0.61	A
	SBT	23.5	0.83	C	28.1	0.89	C	56.4	1.02	E
Park Avenue Service Road	SET	27.8	0.58	C	28.7	0.61	C	22.6	0.50	C
	Overall	15.8		B	17.9		B	28.5		C
19. 15th Street and Willow Avenue (Signalized)										
15th Street	EBLR	56.9	0.83	E	72.4	0.92	E	93.5	1.00	F
	WBL	25.3	0.14	C	25.5	0.14	C	25.5	0.14	C
	WBTR	27.3	0.30	C	27.7	0.33	C	28.5	0.37	C
Willow Avenue	NBLT	9.3	0.31	A	9.4	0.33	A	9.4	0.33	A
	SBTR	1.5	0.43	A	1.7	0.46	A	1.0	0.46	A
	Overall	14.1		B	16.3		B	18.9		B
20. 15th Street and Park Avenue (Signalized)										
15th Street	WBT	36.6	0.68	D	38.2	0.70	D	44.5	0.78	D
	WBR	19.8	0.45	B	20.3	0.52	C	19.9	0.51	B
Park Avenue	NBL	8.6	0.02	A	8.9	0.03	A	9.7	0.03	A
	NBTR	13.0	0.49	B	14.1	0.53	B	15.2	0.54	B
	SBL	5.8	0.54	A	7.0	0.59	A	8.6	0.65	A
	SBTR	5.3	0.44	A	5.7	0.47	A	6.0	0.47	A
	Overall	12.9		B	13.7		B	15.1		B

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

Adverse

**INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Mitigation Results - Haul Route 3**

Weekday AM Construction Peak Hour - Off-Site Worker Parking (6:30 - 7:30 AM)

Intersection	Movement	2025 No Action Alternative			2025 Construction Condition			2025 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS

Hoboken Shaft Site Analysis Intersections

No Significant Adverse Impacts to Signalized Intersections during the Weekday AM Construction Peak Hour

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

INTERSECTION LEVELS OF SERVICE SUMMARY
Hoboken Staging Area - New Tunnel Construction (2025)
Mitigation Results - Haul Route 3

Weekday PM Construction Peak Hour - Off-Site Worker Parking (2:30 - 3:30 PM)

Intersection	Movement	2025 No Action Alternative			2025 Construction Condition			2025 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
Hoboken Shaft Site Analysis Intersections										
18. 16th Street and Park Avenue (Signalized)										
16th Street	EBLR	26.4	0.07	C	26.4	0.17	C	26.8	0.17	C
Park Avenue	NBT	6.1	0.61	A	6.2	0.61	A	6.1	0.61	A
	SBT	28.1	0.89	C	56.4	1.02	E	41.2	0.96	D
Park Avenue Service Road	SET	28.7	0.61	C	22.6	0.50	C	25.0	0.56	C
	Overall	17.9		B	28.5		C	22.9		C
19. 15th Street and Willow Avenue (Signalized)										
15th Street	EBLR	72.4	0.92	E	93.5	1.00	F	79.0	0.95	E
	WBL	25.5	0.14	C	25.5	0.14	C	24.6	0.14	C
	WBTR	27.7	0.33	C	28.5	0.37	C	27.4	0.36	C
Willow Avenue	NBLT	9.4	0.33	A	9.4	0.33	A	10.0	0.34	A
	SBTR	1.7	0.46	A	1.0	0.46	A	1.1	0.47	A
	Overall	16.3		B	18.9		B	17.1		B

Notes: Analysis results based on Synchro 9.2, build 914, revision 6 (9.2.914.6).

 Adverse Impact

New York: Twelfth Avenue Staging Area—
New Tunnel Construction (2024)



-  Project Site
-  Primary Study Area Traffic Analysis Intersection
-  Truck Routes



Traffic Analysis Intersections in New York:
Twelfth Avenue Staging Site and Truck Routes
Figure 5A-6

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts

Weekday AM Construction Peak Hour (6:30 - 7:30 AM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
21. Twelfth Avenue and West 26th Street (Signalized)										
Twelfth Avenue	NBTR	11.3	0.53	B	11.4	0.54	B	11.4	0.54	B
	SBL	75.9	0.35	E	72.7	0.36	E	72.8	0.37	E
	SBT	3.3	0.75	A	3.7	0.76	A	3.6	0.76	A
	Overall	8.9		A	9.0		A	9.1		A
22. Twelfth Avenue and West 29th Street (Signalized)										
West 29th Street	WBL	53.0	0.11	D	58.4	0.37	E	58.4	0.37	E
	WBR	63.6	0.50	E	300.0	1.48	F	393.6	1.70	F
Twelfth Avenue	NBT	6.8	0.50	A	7.6	0.61	A	7.7	0.61	A
	SBT	0.7	0.72	A	0.9	0.79	A	0.9	0.79	A
	Overall	5.2		A	22.1		C	30.4		C
23. Twelfth Avenue and West 30th Street (Signalized)										
Twelfth Avenue	NBTR	8.4	0.60	A	12.7	0.81	B	13.5	0.83	B
	SBL	75.7	0.69	E	96.1	0.93	F	-	-	-
	SBT	4.0	0.81	A	6.6	0.88	A	6.7	0.88	A
	Overall	8.1		A	12.6		B	13.0		B
24. Twelfth Avenue and West 34th Street (Signalized)										
West 34th Street	WBL	56.3	0.46	E	56.6	0.47	E	56.6	0.47	E
	WBR	33.4	0.33	C	40.8	0.59	D	40.8	0.59	D
Twelfth Avenue	NBT	32.6	0.71	C	30.3	0.82	C	30.3	0.82	C
	NBR	26.2	0.23	C	24.0	0.29	C	24.0	0.29	C
	SBL	88.2	0.55	F	84.6	0.63	F	84.6	0.63	F
	SBT	33.8	0.71	C	33.4	0.78	C	33.4	0.78	C
	Overall	36.8		D	35.8		D	35.8		D
25. Twelfth Avenue and Tow Pound Exit (Signalized)										
Tow Pound Exit	EBL	47.2	0.05	D	47.2	0.05	D	47.2	0.05	D
	EBR	47.5	0.06	D	47.5	0.06	D	47.5	0.06	D
Twelfth Avenue	NBT	16.0	0.55	B	17.9	0.66	B	18.0	0.66	B
	SBT	1.4	0.81	A	4.4	0.90	A	4.4	0.90	A
	Overall	8.2		A	10.9		B	11.0		B
26. Twelfth Avenue and Pier 79 Ferry (Signalized)										
Pier 79 Ferry	EBLR	55.3	0.21	E	55.7	0.22	E	55.7	0.22	E
Twelfth Avenue	NBL	79.8	0.07	E	74.6	0.07	E	75.2	0.07	E
	NBT	22.4	0.70	C	26.6	0.83	C	27.1	0.84	C
	SBTR	11.9	0.95	B	33.8	1.05	C	34.5	1.05	C
	Overall	17.0		B	30.7		C	31.2		C
27. Twelfth Avenue and West 40th Street (Signalized)										
West 40th Street	WBR	41.3	0.06	D	41.3	0.06	D	41.3	0.06	D
Twelfth Avenue	NBL	66.2	0.09	E	60.5	0.09	E	60.6	0.09	E
	NBTR	0.4	0.49	A	0.4	0.58	A	0.4	0.59	A
	SBT	22.8	0.84	C	29.1	0.93	C	29.3	0.93	C
	SBR	9.3	0.03	A	9.3	0.03	A	9.3	0.03	A
	Overall	14.2		B	17.4		B	17.4		B
28. Eleventh Avenue and West 26th Street (Signalized)										
West 26th Street	EBTR	29.9	0.44	C	31.5	0.51	C	31.5	0.51	C
Eleventh Avenue	SBLT	2.4	0.27	A	2.7	0.41	A	2.7	0.41	A
	Overall	7.5		A	7.0		A	7.0		A
29. Eleventh Avenue and West 27th Street (Signalized)										
West 27th Street	WBLT	22.1	0.23	C	23.3	0.31	C	23.3	0.31	C
Eleventh Avenue	SBTR	4.3	0.30	A	4.0	0.45	A	4.0	0.45	A
	Overall	6.4		A	6.1		A	6.1		A
30. Eleventh Avenue and West 28th Street (Signalized)										
West 28th Street	EBTR	18.5	0.16	B	19.5	0.24	B	19.5	0.24	B
Eleventh Avenue	SBL	6.8	0.19	A	6.0	0.34	A	6.0	0.34	A
	SBT	7.3	0.28	A	5.9	0.43	A	5.9	0.43	A
	Overall	8.2		A	7.1		A	7.1		A
31. Eleventh Avenue and West 29th Street (Signalized)										
West 29th Street	WBL	17.7	0.32	B	18.7	0.38	B	18.7	0.38	B
	WBT	15.3	0.14	B	18.5	0.39	B	18.5	0.39	B
Eleventh Avenue	SBT	5.7	0.31	A	4.8	0.50	A	5.0	0.50	A
	SBR	5.2	0.09	A	4.9	0.29	A	5.7	0.38	A
	Overall	8.4		A	8.3		A	8.4		A

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts

Weekday AM Construction Peak Hour (6:30 - 7:30 AM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
32. Eleventh Avenue and West 30th Street (Signalized)										
West 30th Street	EBT	16.0	0.23	B	-	-	-	-	-	-
	EBR	15.8	0.18	B	-	-	-	-	-	-
Eleventh Avenue	EBTR	-	-	-	17.9	0.42	B	18.1	0.43	B
	SBLT	7.9	0.41	A	16.4	0.74	B	17.3	0.75	B
	Overall	10.1		B	16.8		B	17.5		B
33. Eleventh Avenue and West 33rd Street (Signalized)										
West 33rd Street	WBL	-	-	-	22.6	0.83	C	22.6	0.83	D
Eleventh Avenue	SBTR	7.4	0.33	A	4.5	0.42	A	4.8	0.44	A
	Overall	7.4		A	10.0		A	10.0		A
34. Eleventh Avenue and West 34th Street (Signalized)										
West 34th Street	EBTR	29.2	0.52	C	-	-	-	-	-	-
	EBL	-	-	-	18.3	0.15	B	18.3	0.15	B
	EBT	-	-	-	35.3	0.66	D	35.3	0.66	D
	EBR	-	-	-	32.1	0.46	C	32.2	0.47	C
	WBL	39.2	0.66	D	22.7	0.32	C	29.9	0.45	C
	WBT	20.3	0.37	C	-	-	-	-	-	-
	WBTR	-	-	-	22.1	0.46	C	23.8	0.45	C
Eleventh Avenue	SBLTR	11.2	0.38	B	14.0	0.73	B	14.0	0.73	B
	Overall	21.0		C	19.6		B	20.3		C
35. Eleventh Avenue and West 40th Street (Signalized)										
West 40th Street	EBTR	33.8	0.50	C	37.1	0.60	D	39.5	0.65	D
Eleventh Avenue	NBR	7.0	0.11	A	7.3	0.12	A	7.2	0.12	A
	SBL	7.6	0.21	A	8.0	0.28	A	8.0	0.28	A
	SBTR	8.0	0.27	A	10.4	0.54	B	10.4	0.54	B
	Overall	10.1		B	11.4		B	11.7		B
36. Tenth Avenue and West 26th Street (Signalized)										
West 26th Street	EBLT	31.6	0.36	C	33.4	0.49	C	33.4	0.49	C
Tenth Avenue	NBTR	12.2	0.33	B	13.5	0.47	B	13.5	0.47	B
	Overall	15.1		B	16.5		B	16.5		B
37. Tenth Avenue and West 30th Street (Signalized)										
West 30th Street	EBLT	23.1	0.52	C	228.3	1.42	F	235.3	1.44	F
Tenth Avenue	NBTR	4.3	0.27	A	4.9	0.41	A	4.9	0.41	A
	Overall	8.8		A	86.7		F	89.7		F
38. Tenth Avenue and West 33rd Street (Signalized)										
West 33rd Street	WBTR	29.6	0.52	C	27.7	0.55	C	27.7	0.55	C
Tenth Avenue	NBLT	-	-	-	22.9	0.83	C	23.0	0.83	C
	NBT	15.3	0.46	B	-	-	-	-	-	-
	Overall	18.2		B	24.1		C	24.2		C
39. Tenth Avenue and West 34th Street (Signalized)										
West 34 Street	EBLT	33.6	0.55	C	37.7	0.72	D	38.4	0.74	D
	WBT	21.5	0.41	C	23.6	0.51	C	24.3	0.55	C
	WBR	24.5	0.46	C	24.5	0.47	C	24.5	0.47	C
Tenth Avenue	NBL	-	-	-	2.6	0.11	A	2.7	0.12	A
	NBT	-	-	-	3.4	0.54	A	3.3	0.53	A
	NBLT	6.8	0.38	A	-	-	-	-	-	-
	NBR	5.2	0.12	A	3.0	0.22	A	3.0	0.22	A
	Overall	15.8		B	13.7		B	14.0		B
40. Dyer Avenue and West 34th Street (Signalized)										
West 34th Street	EBT	18.3	0.23	B	19.5	0.34	B	19.7	0.34	B
	WBT	11.6	0.24	B	11.8	0.26	B	11.8	0.27	B
	WBR	9.0	0.18	A	9.1	0.19	A	9.1	0.19	A
Dyer Avenue	SBL	43.6	0.76	D	65.4	0.95	E	65.4	0.95	E
	SBR	83.4	0.96	F	228.0	1.37	F	283.0	1.50	F
	Overall	30.1		C	58.7		E	69.6		E
41. Dyer Avenue and West 35th Street (Signalized)										
West 35th Street	WBLTR	23.5	0.25	C	29.8	0.60	C	29.8	0.60	C
Dyer Avenue	NBLT	6.2	0.18	A	6.3	0.19	A	6.3	0.19	A
	SBTR	54.0	0.64	D	56.1	0.80	E	56.6	0.82	E
	Overall	42.1		D	43.3		D	43.9		D
42. Dyer Avenue SB and West 36th Street (Signalized)										
West 36th Street	EBTR	23.7	0.17	C	23.7	0.18	C	23.7	0.18	C
Dyer Avenue	SBL	34.1	0.65	C	41.3	0.78	D	42.2	0.80	D
	SBLT	30.1	0.69	C	35.0	0.83	C	35.8	0.84	D
	SBR	11.1	0.37	B	11.6	0.42	B	11.6	0.42	B
	Overall	26.7		C	31.1		C	31.8		C

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts
Weekday AM Construction Peak Hour (6:30 - 7:30 AM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition			
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	
43. Dyer Avenue NB and West 36th Street (Signalized)											
West 36th Street	EBLT	0.8	0.29	A	1.8	0.40	A	1.8	0.40	A	
Dyer Avenue	NBT	41.7	0.47	D	42.6	0.59	D	42.6	0.59	D	
	Overall	10.8		B	10.8		B	10.8		B	

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).
 - = Not Applicable due to lane closure or modifications to lane use for given analysis condition.
 dr = lane group operates as a De Facto Right Turn.
 dl = De Facto Left Turn.

 Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts
Weekday AM Commuter Peak Hour (7:45 - 8:45 AM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
21. Twelfth Avenue and West 26th Street (Signalized)										
Twelfth Avenue	NBTR	12.5	0.61	B	12.6	0.62	B	12.6	0.62	B
	SBL	81.8	0.53	F	78.1	0.54	E	78.1	0.54	E
	SBT	3.4	0.70	A	3.6	0.71	A	3.6	0.71	A
	Overall	10.7		B	10.7		B	10.7		B
22. Twelfth Avenue and West 29th Street (Signalized)										
West 29th Street	WBL	55.6	0.22	E	64.3	0.51	E	64.3	0.51	E
	WBR	85.6	0.80	F	411.6	1.74	F	482.9	1.90	F
Twelfth Avenue	NBT	7.2	0.59	A	8.3	0.68	A	8.3	0.68	A
	SBT	0.8	0.69	A	0.9	0.76	A	0.9	0.76	A
	Overall	7.3		A	31.2		C	37.6		D
23. Twelfth Avenue and West 30th Street (Signalized)										
Twelfth Avenue	NBTR	9.8	0.72	A	15.3	0.91	B	15.5	0.91	B
	SBL	82.6	0.76	F	113.4	1.00	F	113.4	1.00	F
	SBT	3.1	0.77	A	4.8	0.84	A	4.8	0.84	A
	Overall	8.9		A	14.0		B	14.2		B
24. Twelfth Avenue and West 34th Street (Signalized)										
West 34th Street	WBL	58.6	0.53	E	59.1	0.55	E	59.1	0.55	E
	WBR	43.7	0.66	D	98.5	1.05	F	98.5	1.05	F
Twelfth Avenue	NBT	35.6	0.82	D	33.2	0.88	C	33.3	0.88	C
	NBR	26.5	0.25	C	25.4	0.30	C	25.4	0.30	C
	SBL	89.7	0.60	F	86.6	0.68	F	86.6	0.68	F
	SBT	32.8	0.68	C	32.6	0.76	C	32.6	0.76	C
	Overall	38.4		D	41.7		D	41.7		D
25. Twelfth Avenue and Tow Pound Exit (Signalized)										
Tow Pound Exit	EBL	47.4	0.07	D	47.4	0.07	D	47.4	0.07	D
	EBR	47.7	0.06	D	47.7	0.06	D	47.7	0.06	D
Twelfth Avenue	NBT	18.9	0.68	B	18.8	0.76	B	19.0	0.77	B
	SBT	1.0	0.79	A	3.1	0.88	A	3.1	0.88	A
	Overall	10.3		B	11.3		B	11.4		B
26. Twelfth Avenue and Pier 79 Ferry (Signalized)										
Pier 79 Ferry	EBLR	55.9	0.23	E	56.4	0.24	E	56.4	0.24	E
Twelfth Avenue	NBL	77.8	0.10	E	73.5	0.10	E	73.7	0.10	E
	NBT	23.7	0.86	C	32.6	0.97	C	33.2	0.97	C
	SBTR	11.2	0.94	B	31.7	1.04	C	31.7	1.04	C
	Overall	17.8		B	32.4		C	32.7		C
27. Twelfth Avenue and West 40th Street (Signalized)										
West 40th Street	WBR	40.8	0.03	D	40.8	0.03	D	40.8	0.03	D
Twelfth Avenue	NBL	59.6	0.26	E	56.9	0.26	E	56.9	0.26	E
	NBTR	5.6	0.88	A	12.3	0.98	B	13.4	0.99	B
	SBT	22.7	0.84	C	29.4	0.93	C	29.4	0.93	C
	SBR	9.6	0.07	A	9.6	0.07	A	9.6	0.07	A
	Overall	14.2		B	20.5		C	21.1		C
28. Eleventh Avenue and West 26th Street (Signalized)										
West 26th Street	EBTR	41.0	0.74	D	46.3	0.81	D	46.3	0.81	D
Eleventh Avenue	SBLT	4.7	0.41	A	4.8	0.53	A	4.8	0.53	A
	Overall	11.4		B	11.5		B	11.5		B
29. Eleventh Avenue and West 27th Street (Signalized)										
West 27th Street	WBLT	32.5	0.67	C	37.3	0.76	D	37.3	0.76	D
Eleventh Avenue	SBTR	3.3	0.42	A	2.9	0.55	A	2.8	0.55	A
	Overall	9.1		A	9.0		A	9.0		A
30. Eleventh Avenue and West 28th Street (Signalized)										
West 28th Street	EBT	19.4	0.23	B	20.4	0.31	C	20.4	0.31	C
Eleventh Avenue	SBL	3.9	0.26	A	4.3	0.42	A	4.3	0.42	A
	SBT	4.4	0.44	A	4.2	0.58	A	4.2	0.58	A
	Overall	5.7		A	5.7		A	5.7		A
31. Eleventh Avenue and West 29th Street (Signalized)										
West 29th Street	WBL	16.5	0.24	B	17.1	0.29	B	17.1	0.29	B
	WBT	16.7	0.27	B	20.0	0.49	B	20.0	0.49	B
Eleventh Avenue	SBT	4.6	0.52	A	4.6	0.71	A	4.7	0.71	A
	SBR	3.7	0.10	A	4.5	0.36	A	5.2	0.43	A
	Overall	7.0		A	7.7		A	7.8		A

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts
Weekday AM Commuter Peak Hour (7:45 - 8:45 AM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
32. Eleventh Avenue and West 30th Street (Signalized)										
West 30th Street	EBT	16.1	0.22	B	-	-	-	-	-	-
	EBR	16.3	0.22	B	-	-	-	-	-	-
	EBTR	-	-	-	18.1	0.43	B	18.3	0.4	B
Eleventh Avenue	SBLT	5.5	0.62	A	16.0	0.88	B	16.5	0.89	B
	Overall	7.4		A	16.5		B	16.9		B
33. Eleventh Avenue and West 33rd Street (Signalized)										
West 33rd Street	WBL	-	-	-	27.1	0.87	C	27.1	0.87	C
Eleventh Avenue	SBTR	6.0	0.55	A	3.3	0.55	A	3.5	0.56	A
	Overall	6.0		A	9.2		A	9.2		A
34. Eleventh Avenue and West 34th Street (Signalized)										
West 34th Street	EBTR	30.8	0.59	C	-	-	-	-	-	-
	EBL	-	-	-	18.2	0.14	B	18.2	0.14	B
	EBT	-	-	-	44.0	0.81	D	44.0	0.81	D
	EBR	-	-	-	34.5	0.50	C	34.5	0.50	C
	WBL	37.4	0.66	D	18.3	0.17	B	20.8	0.25	C
	WBT	19.7	0.42	B	-	-	-	-	-	-
	WBTR	-	-	-	19.5	0.51	B	20.3	0.51	C
Eleventh Avenue	SBLTR	15.7	0.69	B	36.0	1.01	D	36.0	1.01	D
	Overall	21.0		C	33.9		C	34.0		C
35. Eleventh Avenue and West 40th Street (Signalized)										
West 40th Street	EBTR	33.9	0.53	C	36.8	0.61	D	39.0	0.66	D
Eleventh Avenue	NBR	8.7	0.35	A	8.9	0.35	A	8.8	0.35	A
	SBL	7.3	0.16	A	7.6	0.22	A	7.6	0.22	A
	SBTR	8.9	0.40	A	11.5	0.62	B	11.5	0.62	B
	Overall	10.6		B	12.0		B	12.3		B
36. Tenth Avenue and West 26th Street (Signalized)										
West 26th Street	EBLT	46.6	0.78	D	62.5	0.95	E	62.5	0.95	E
Tenth Avenue	NBTR	13.5	0.46	B	15.2	0.60	B	15.2	0.60	B
	Overall	20.2		C	24.4		C	24.4		C
37. Tenth Avenue and West 30th Street (Signalized)										
West 30th Street	EBLT	27.3	0.46	C	247.2	1.46	F	251.3	1.47	F
Tenth Avenue	NBTR	4.7	0.33	A	5.2	0.48	A	5.2	0.48	A
	Overall	8.7		A	84.8		F	86.4		F
38. Tenth Avenue and West 33rd Street (Signalized)										
West 33rd Street	WBTR	31.4	0.56	C	27.1	0.51	C	27.1	0.51	C
Tenth Avenue	NBLT	-	-	-	74.0	1.10	E	74.8	1.10	E
	NBT	19.3	0.70	B	-	-	-	-	-	-
	Overall	20.9		C	64.7		E	65.3		E
39. Tenth Avenue and West 34th Street (Signalized)										
West 34 Street	EBLT	36.1	0.59	D	38.4	0.75	D	38.7	0.75	D
	WBT	21.0	0.38	C	22.5	0.46	C	23.0	0.47	C
	WBR	26.9	0.52	C	28.6	0.59	C	28.6	0.59	C
Tenth Avenue	NBL	-	-	-	1.7	0.13	A	1.8	0.13	A
	NBT	-	-	-	2.2	0.64	A	2.2	0.64	A
	NBLT	4.6	0.51	A	-	-	-	-	-	-
	NBR	3.6	0.16	A	1.9	0.27	A	1.9	0.27	A
	Overall	13.9		B	12.3		B	12.4		B
40. Dyer Avenue and West 34th Street (Signalized)										
West 34th Street	EBT	18.7	0.28	B	19.6	0.36	B	19.6	0.36	B
	WBT	11.6	0.24	B	11.8	0.27	B	11.8	0.27	B
	WBR	8.4	0.10	A	8.5	0.12	A	8.5	0.12	A
Dyer Avenue	SBL	52.6	0.86	D	89.2	1.05	F	89.1	1.05	F
	SBR	69.3	0.88	E	183.2	1.27	F	213.8	1.34	F
	Overall	31.1		C	57.8		E	63.3		E
41. Dyer Avenue and West 35th Street (Signalized)										
West 35th Street	WBLTR	25.4	0.38	C	35.0	0.74	C	35.0	0.74	C
Dyer Avenue	NBLT	5.8	0.10	A	5.9	0.12	A	5.9	0.12	A
	SBTR	54.8	0.70	D	57.8	0.87dr	E	58.3	0.86	E
	Overall	44.6		D	47.4		D	47.8		D

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts
Weekday AM Commuter Peak Hour (7:45 - 8:45 AM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
42. Dyer Avenue SB and West 36th Street (Signalized)										
West 36th Street	EBTR	25.1	0.30	C	25.2	0.31	C	25.2	0.31	C
Dyer Avenue	SBL	34.0	0.65	C	41.4	0.79	D	42.3	0.80	D
	SBLT	30.6	0.70	C	36.2	0.85	D	36.7	0.86	D
	SBR	12.1	0.45	B	12.7	0.49	B	12.7	0.49	B
	Overall	26.5		C	31.1		C	31.5		C
43. Dyer Avenue NB and West 36th Street (Signalized)										
West 36th Street	EBLT	0.7	0.30	A	1.9	0.42	A	1.9	0.42	A
Dyer Avenue	NBT	34.6	0.30	C	36.8	0.39	D	36.8	0.39	D
	Overall	6.1		A	7.2		A	7.2		A
Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77). - = Not Applicable due to lane closure or modifications to lane use for given analysis condition. dr = lane group operates as a De Facto Right Turn. dl = lane group operates as a De Facto Left Turn										

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts

Weekday Midday Commuter Peak Hour (12:45 - 1:45 PM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
21. Twelfth Avenue and West 26th Street (Signalized)										
Twelfth Avenue	NBTR	10.0	0.50	A	10.1	0.51	B	10.1	0.51	B
	SBL	51.4	0.52	D	49.0	0.53	D	49.0	0.53	D
	SBT	3.0	0.57	A	3.0	0.58	A	3.0	0.58	A
	Overall	8.9		A	8.8		A	8.8		A
22. Twelfth Avenue and West 29th Street (Signalized)										
West 29th Street	WBL	38.2	0.09	D	43.8	0.38	D	43.8	0.38	D
	WBR	47.3	0.51	D	175.0	1.23	F	211.0	1.32	F
Twelfth Avenue	NBT	6.3	0.49	A	7.0	0.59	A	7.0	0.59	A
	SBT	0.6	0.60	A	0.7	0.67	A	0.7	0.67	A
	Overall	5.3		A	18.0		B	21.8		C
23. Twelfth Avenue and West 30th Street (Signalized)										
Twelfth Avenue	NBTR	9.1	0.61	A	12.2	0.80	B	12.3	0.80	B
	SBL	58.5	0.72	E	102.6	1.03	F	102.6	1.0	F
	SBT	13.4	0.70	B	12.9	0.78	B	12.9	0.78	B
	Overall	13.2		B	16.9		B	16.9		B
24. Twelfth Avenue and West 34th Street (Signalized)										
West 34th Street	WBL	40.4	0.39	D	41.1	0.43	D	41.1	0.43	D
	WBR	38.2	0.73	D	119.5	1.14	F	119.5	1.14	F
Twelfth Avenue	NBT	35.9	0.70	D	42.7	0.77	D	42.5	0.77	D
	NBR	29.7	0.32	C	35.2	0.37	D	34.9	0.37	C
	SBL	57.7	0.68	E	57.7	0.74	E	57.7	0.74	E
	SBT	17.9	0.63	B	17.9	0.72	B	17.9	0.72	B
	Overall	29.9		C	41.4		D	41.3		D
25. Twelfth Avenue and Tow Pound Exit (Signalized)										
Tow Pound Exit	EBL	41.8	0.07	D	41.8	0.07	D	41.8	0.07	D
	EBR	42.0	0.08	D	42.0	0.08	D	42.0	0.08	D
Twelfth Avenue	NBT	3.6	0.52	A	6.6	0.61	A	6.6	0.62	A
	SBT	0.6	0.65	A	1.4	0.74	A	1.4	0.74	A
	Overall	2.4		A	4.3		A	4.3		A
26. Twelfth Avenue and Pier 79 Ferry (Signalized)										
Pier 79 Ferry	EBLR	42.8	0.11	D	43.0	0.12	D	43.0	0.12	D
Twelfth Avenue	NBL	71.6	0.10	E	70.4	0.10	E	70.0	0.10	E
	NBT	11.8	0.66	B	10.9	0.77	B	10.9	0.77	B
	SBTR	17.6	0.84	B	25.2	0.95	C	25.2	0.95	C
	Overall	15.1		B	18.4		B	18.4		B
27. Twelfth Avenue and West 40th Street (Signalized)										
West 40th Street	WBR	33.6	0.04	C	33.6	0.04	C	33.6	0.04	C
Twelfth Avenue	NBL	46.2	0.14	D	46.1	0.14	D	46.0	0.14	D
	NBTR	11.6	0.62	B	11.9	0.72	B	12.0	0.73	B
	SBT	15.3	0.70	B	17.9	0.80	B	17.9	0.80	B
	SBR	8.3	0.08	A	8.3	0.08	A	8.3	0.08	A
	Overall	13.9		B	15.2		B	15.2		B
28. Eleventh Avenue and West 26th Street (Signalized)										
West 26th Street	EBTR	33.8	0.62	C	35.6	0.67	D	35.6	0.67	D
Eleventh Avenue	SBLT	4.3	0.34	A	4.6	0.52	A	4.6	0.52	A
	Overall	11.0		B	10.0		A	10.0		A
29. Eleventh Avenue and West 27th Street (Signalized)										
West 27th Street	WBLT	25.6	0.46	C	28.5	0.59	C	28.5	0.59	C
Eleventh Avenue	SBTR	4.0	0.33	A	3.1	0.49	A	3.1	0.49	A
	Overall	8.5		A	7.8		A	7.8		A
30. Eleventh Avenue and West 28th Street (Signalized)										
West 28th Street	EBT	21.4	0.36	C	22.3	0.41	C	22.3	0.41	C
Eleventh Avenue	SBL	5.5	0.34	A	9.2	0.67	A	9.2	0.67	A
	SBT	4.7	0.37	A	4.8	0.57	A	4.8	0.57	A
	Overall	7.0		A	7.4		A	7.4		A
31. Eleventh Avenue and West 29th Street (Signalized)										
West 29th Street	WBL	16.1	0.21	B	17.3	0.30	B	17.3	0.30	B
	WBT	16.0	0.21	B	19.1	0.43	B	19.1	0.43	B
Eleventh Avenue	SBT	5.0	0.42	A	4.1	0.69	A	4.2	0.69	A
	SBR	4.6	0.10	A	4.3	0.43	A	4.8	0.49	A
	Overall	7.2		A	7.0		A	7.1		A

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts

Weekday Midday Commuter Peak Hour (12:45 - 1:45 PM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
32. Eleventh Avenue and West 30th Street (Signalized)										
West 30th Street	EBT	16.4	0.26	B	-	-	-	-	-	B
	EBR	16.9	0.26	B	-	-	-	-	-	C
Eleventh Avenue	EBTR	-	-	-	19.0	0.49	B	19.2	0.5	C
	SBLT	3.8	0.56	A	21.3	0.97	C	22.7	0.98	C
	Overall	6.8		A	20.9		C	21.9		C
33. Eleventh Avenue and West 33rd Street (Signalized)										
West 33rd Street	WBL	-	-	-	51.9	1.00	D	51.9	1.00	D
Eleventh Avenue	SBTR	5.7	0.51	A	3.1	0.63	A	3.4	0.64	A
Overall		5.7		A	15.1		B	15.3		B
34. Eleventh Avenue and West 34th Street (Signalized)										
West 34th Street	EBTR	31.4	0.62	C	-	-	-	-	-	-
	EBL	-	-	-	19.7	0.26	B	19.7	0.26	B
	EBT	-	-	-	34.7	0.64	C	34.7	0.64	C
	EBR	-	-	-	40.6	0.62	D	40.6	0.62	D
	WBL	17.9	0.43	B	8.7	0.05	A	9.4	0.11	A
	WBT	15.1	0.42	B	-	-	-	-	-	-
	WBTR	-	-	-	10.9	0.53	B	12.0	0.53	B
Eleventh Avenue	SBLTR	16.8	0.70	B	96.2	1.16	F	79.6	1.12	E
Overall		19.5		B	72.6		E	61.2		E
35. Eleventh Avenue and West 40th Street (Signalized)										
West 40th Street	EBTR	39.9	0.68	D	46.7	0.78	D	51.4	0.83	D
Eleventh Avenue	NBR	8.0	0.25	A	9.3	0.26	A	9.1	0.26	A
	SBL	8.2	0.31	A	8.7	0.37	A	8.7	0.37	A
	SBTR	8.8	0.38	A	11.5	0.62	B	11.5	0.62	B
Overall		11.4		B	13.2		B	13.8		B
36. Tenth Avenue and West 26th Street (Signalized)										
West 26th Street	EBLT	46.3	0.73	D	71.6	0.99	E	71.6	0.99	E
Tenth Avenue	NBTR	13.9	0.50	B	15.8	0.64	B	15.8	0.64	B
Overall		20.4		C	27.4		C	27.4		C
37. Tenth Avenue and West 30th Street (Signalized)										
West 30th Street	EBLT	31.1	0.55	C	42.9	0.92	D	43.1	0.93	D
Tenth Avenue	NBTR	4.7	0.40	A	4.7	0.52	A	4.7	0.52	A
Overall		10.0		A	18.6		B	18.7		B
38. Tenth Avenue and West 33rd Street (Signalized)										
West 33rd Street	WBTR	33.3	0.60	C	28.3	0.58	C	28.6	0.59	C
Tenth Avenue	NBLT	-	-	-	100.7	1.16	F	101.5	1.16	F
	NBT	17.9	0.63	B	-	-	-	-	-	-
Overall		20.0		B	86.2		F	86.9		F
39. Tenth Avenue and West 34th Street (Signalized)										
West 34 Street	EBLT	55.0	0.76	D	53.2	1.01dl	D	54.0	1.03dl	D
	WBT	18.8	0.44	B	20.5	0.54	C	21.0	0.54	C
	WBR	35.5	0.70	D	53.2	0.87	D	56.7	0.89	E
Tenth Avenue	NBL	-	-	-	2.0	0.05	A	2.2	0.08	A
	NBT	-	-	-	3.0	0.74	A	3.3	0.74	A
	NBLT	5.2	0.50	A	-	-	-	-	-	-
	NBR	4.3	0.23	A	2.2	0.34	A	2.4	0.34	A
Overall		18.4		B	15.2		B	15.7		B
40. Dyer Avenue and West 34th Street (Signalized)										
West 34th Street	EBT	21.4	0.26	C	19.9	0.32	B	20.0	0.32	B
	WBT	12.0	0.28	B	12.5	0.33	B	12.5	0.33	B
	WBR	9.2	0.21	A	9.6	0.24	A	9.6	0.24	A
Dyer Avenue	SBL	14.8	0.47	B	23.5	0.53	C	24.7	0.53	C
	SBR	24.8	0.56	C	38.2	0.71	D	46.2	0.79	D
Overall		16.0		B	18.5		B	19.6		B
41. Dyer Avenue and West 35th Street (Signalized)										
West 35th Street	WBLTR	26.8	0.46	C	37.7	0.79	D	37.7	0.79	D
Dyer Avenue	NBLT	6.4	0.20	A	6.7	0.24	A	6.7	0.24	A
	SBTR	50.3	0.36	D	51.2	0.45	D	51.5	0.46	D
Overall		33.9		C	37.9		D	38.2		D
42. Dyer Avenue SB and West 36th Street (Signalized)										
West 36th Street	EBTR	25.4	0.32	C	25.5	0.34	C	25.5	0.34	C
Dyer Avenue	SBL	29.3	0.37	C	30.7	0.44	C	30.9	0.44	C
	SBLT	28.2	0.40	C	29.2	0.48	C	29.3	0.49	C
	SBR	9.3	0.22	A	9.5	0.24	A	9.5	0.24	A
Overall		24.4		C	25.4		C	25.5		C

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts
Weekday Midday Commuter Peak Hour (12:45 - 1:45 PM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition			
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	
43. Dyer Avenue NB and West 36th Street (Signalized)											
West 36th Street	EBLT	0.5	0.20	A	2.2	0.31	A	2.2	0.31	A	
Dyer Avenue	NBT	34.8	0.54	C	40.8	0.63	D	40.7	0.63	D	
	Overall	13.6		B	14.4		B	14.3		B	

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).
 - = Not Applicable due to lane closure or modifications to lane use for given analysis condition.
 dr = lane group operates as a De Facto Right Turn.
 dl = lane group operates as a De Facto Left Turn

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts

Weekday PM Construction Peak Hour (2:30 - 3:30 PM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
21. Twelfth Avenue and West 26th Street (Signalized)										
Twelfth Avenue	NBTR	9.6	0.59	A	9.7	0.59	A	9.7	0.60	A
	SBL	49.6	0.47	D	42.3	0.48	D	42.7	0.50	D
	SBT	5.4	0.71	A	10.1	0.71	B	10.1	0.72	B
	Overall	8.6		A	10.7		B	10.8		B
22. Twelfth Avenue and West 29th Street (Signalized)										
West 29th Street	WBL	43.5	0.11	D	77.4	0.73	E	80.3	0.77	F
	WBR	54.4	0.54	D	566.0	2.08	F	685.5	2.35	F
Twelfth Avenue	NBT	8.2	0.65	A	3.4	0.68	A	3.5	0.68	A
	SBT	8.3	0.80	A	1.3	0.79	A	1.3	0.79	A
	Overall	10.2		B	43.2		D	56.9		E
23. Twelfth Avenue and West 30th Street (Signalized)										
Twelfth Avenue	NBTR	8.3	0.74	A	27.9	0.97	C	31.7	0.99	C
	SBL	86.2	0.84	F	167.3	1.17	F	-	-	-
	SBT	31.9	0.79	C	33.6	0.88	C	33.6	0.88	C
	Overall	21.7		C	35.4		D	37.4		D
24. Twelfth Avenue and West 34th Street (Signalized)										
West 34th Street	WBL	54.5	0.34	D	56.2	0.42	E	56.3	0.42	E
	WBR	103.9	1.03	F	219.2	1.34	F	220.2	1.34	F
Twelfth Avenue	NBT	17.0	0.66	B	15.1	0.79	B	15.0	0.79	B
	NBR	7.4	0.21	A	5.7	0.24	A	5.7	0.24	A
	SBL	105.8	1.03	F	122.3	1.09	F	123.6	1.10	F
	SBT	1.9	0.76	A	4.2	0.85	A	4.2	0.85	A
	Overall	21.4		C	32.2		C	32.3		C
25. Twelfth Avenue and Tow Pound Exit (Signalized)										
Tow Pound Exit	EBL	59.2	0.07	E	59.2	0.07	E	59.2	0.07	E
	EBR	61.5	0.16	E	61.5	0.16	E	61.5	0.16	E
Twelfth Avenue	NBT	0.9	0.58	A	0.9	0.68	A	1.0	0.68	A
	SBT	2.3	0.76	A	5.2	0.85	A	5.3	0.85	A
	Overall	2.0		A	3.4		A	3.5		A
26. Twelfth Avenue and Pier 79 Ferry (Signalized)										
Pier 79 Ferry	EBLR	58.8	0.14	E	59.7	0.17	E	59.7	0.17	E
Twelfth Avenue	NBL	80.5	0.21	F	77.1	0.22	E	78.5	0.22	E
	NBT	3.9	0.66	A	7.0	0.76	A	7.3	0.76	A
	SBTR	8.6	0.89	A	16.8	1.00	B	17.2	1.00	B
	Overall	6.7		A	12.3		B	12.6		B
27. Twelfth Avenue and West 40th Street (Signalized)										
West 40th Street	WBR	52.8	0.27	D	52.9	0.27	D	52.9	0.27	D
Twelfth Avenue	NBL	46.1	0.12	D	50.3	0.12	D	49.9	0.12	D
	NBTR	4.4	0.64	A	5.9	0.74	A	6.0	0.75	A
	SBT	16.4	0.80	B	21.2	0.90	C	21.3	0.90	C
	SBR	6.3	0.01	A	6.3	0.01	A	6.3	0.01	A
	Overall	11.3		B	14.3		B	14.3		B
28. Eleventh Avenue and West 26th Street (Signalized)										
West 26th Street	EBTR	29.5	0.44	C	30.5	0.49	C	30.5	0.49	C
Eleventh Avenue	SBLT	7.1	0.22	A	5.6	0.40	A	5.5	0.40	A
	Overall	12.7		B	9.8		A	9.8		A
29. Eleventh Avenue and West 27th Street (Signalized)										
West 27th Street	WBLT	26.0	0.48	C	28.4	0.58	C	28.4	0.58	C
Eleventh Avenue	SBTR	5.7	0.22	A	4.2	0.41	A	4.2	0.41	A
	Overall	12.0		B	9.6		A	9.6		A
30. Eleventh Avenue and West 28th Street (Signalized)										
West 28th Street	EBTR	20.4	0.31	C	20.8	0.33	C	20.8	0.33	C
Eleventh Avenue	SBL	10.6	0.24	B	9.7	0.49	A	9.7	0.49	A
	SBT	9.4	0.20	A	7.3	0.40	A	7.3	0.40	A
	Overall	11.9		B	9.5		A	9.5		A
31. Eleventh Avenue and West 29th Street (Signalized)										
West 29th Street	WBL	17.2	0.29	B	19.3	0.43	B	19.3	0.43	B
	WBT	17.0	0.29	B	23.1	0.61	C	23.1	0.61	C
Eleventh Avenue	SBT	6.5	0.22	A	4.1	0.48	A	4.6	0.48	A
	SBR	6.3	0.08	A	5.5	0.45	A	7.6	0.57	A
	Overall	10.7		B	10.0		A	10.4		B

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts

Weekday PM Construction Peak Hour (2:30 - 3:30 PM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
32. Eleventh Avenue and West 30th Street (Signalized)										
West 30th Street	EBT	16.6	0.27	B	-	-	-	-	-	-
	EBR	16.0	0.19	B	-	-	-	-	-	-
Eleventh Avenue	EBTR	-	-	-	17.8	0.41	B	-	-	-
	SBLT	5.1	0.32	A	13.1	0.76	B	13.8	0.78	B
	Overall	9.1		A	14.3		B	14.9		B
33. Eleventh Avenue and West 33rd Street (Signalized)										
West 33rd Street	WBL	-	-	-	30.2	0.85	C	32	0.85	D
Eleventh Avenue	SBTR	4.8	0.26	A	2.4	0.47	A	2.8	0.49	A
	Overall	4.8		A	10.1		B	10.7		B
34. Eleventh Avenue and West 34th Street (Signalized)										
West 34th Street	EBTR	28.4	0.48	C	-	-	-	-	-	-
	EBL	-	-	-	22.2	0.37	C	22.2	0.37	C
	EBT	-	-	-	31.3	0.53	C	31.3	0.53	C
	EBR	-	-	-	28.9	0.30	C	29.0	0.31	C
	WBL	15.0	0.38	B	15.2	0.27	B	16.5	0.37	B
	WBT	18.4	0.47	B	-	-	-	-	-	-
	WBTR	-	-	-	21.6	0.63	C	25.6	0.76	C
Eleventh Avenue	SBLTR	14.3	0.43	B	23.3	0.89	C	23.3	0.89	C
	Overall	18.5		B	23.4		C	24.3		C
35. Eleventh Avenue and West 40th Street (Signalized)										
West 40th Street	EBTR	38.9	0.63	D	46.0	0.75	D	51.1	0.80	D
Eleventh Avenue	NBR	7.0	0.10	A	12.7	0.21	B	13.6	0.21	B
	SBL	7.9	0.27	A	8.6	0.35	A	8.6	0.35	A
	SBTR	7.6	0.22	A	9.8	0.48	A	9.8	0.48	A
	Overall	11.2		B	12.6		B	13.3		B
36. Tenth Avenue and West 26th Street (Signalized)										
West 26th Street	EBLT	45.1	0.71	D	63.8	0.93	E	63.8	0.93	E
Tenth Avenue	NBTR	14.2	0.53	B	15.9	0.65	B	15.9	0.65	B
	Overall	19.2		B	24.3		C	24.3		C
37. Tenth Avenue and West 30th Street (Signalized)										
West 30th Street	EBLT	26.7	0.62	C	113.1	1.16	F	121.7	1.18	F
Tenth Avenue	NBTR	6.0	0.96dr	A	5.9	0.96dr	A	5.9	0.96dr	A
	Overall	9.4		A	43.9		D	47.3		D
38. Tenth Avenue and West 33rd Street (Signalized)										
West 33rd Street	WBTR	30.0	0.51	C	26.9	0.49	C	27.3	0.52	C
Tenth Avenue	NBLT	-	-	-	196.9	1.38	F	199.7	1.39	F
	NBT	18.9	0.68	B	-	-	-	-	-	-
	Overall	20.3		C	171.0		F	173.6		F
39. Tenth Avenue and West 34th Street (Signalized)										
West 34 Street	EBLT	55.7	0.68	E	43.1	0.60	D	43.3	0.61	D
	WBT	16.3	0.49	B	17.4	0.66	B	18.2	0.68	B
	WBR	31.3	0.71	C	50.3	0.92	D	56.4	0.95	E
Tenth Avenue	NBL	-	-	-	1.7	0.35	A	2.2	0.36	A
	NBT	-	-	-	19.2	1.03	B	20.1	1.03	C
	NBLT	4.5	0.51	A	-	-	-	-	-	-
	NBR	3.8	0.23	A	1.8	0.41	A	2.3	0.43	A
	Overall	16.7		B	21.2		C	22.3		C
40. Dyer Avenue and West 34th Street (Signalized)										
West 34th Street	EBT	19.5	0.23	B	14.5	0.31	B	14.6	0.32	B
	WBT	12.6	0.35	B	14.3	0.49	B	14.4	0.50	B
	WBR	9.0	0.18	A	11.6	0.41	B	11.6	0.41	B
Dyer Avenue	SBL	5.4	0.24	A	7.2	0.29	A	8.1	0.29	A
	SBR	8.2	0.31	A	12.7	0.41	B	19.1	0.51	B
	Overall	13.4		B	13.3		B	13.7		B
41. Dyer Avenue and West 35th Street (Signalized)										
West 35th Street	WBLTR	28.6	0.54	C	45.3	0.88	D	45.3	0.88	D
Dyer Avenue	NBLT	5.9	0.17	A	7.1	0.38	A	7.1	0.38	A
	SBTR	47.9	0.21	D	48.5	0.28	D	49.2	0.29	D
	Overall	30.3		C	35.0		C	35.4		D
42. Dyer Avenue SB and West 36th Street (Signalized)										
West 36th Street	EBTR	26.9	0.44	C	27.1	0.45	C	27.1	0.45	C
Dyer Avenue	SBL	27.7	0.27	C	28.8	0.33	C	29.1	0.35	C
	SBLT	26.7	0.27	C	27.4	0.34	C	27.5	0.35	C
	SBR	9.0	0.18	A	9.2	0.21	A	9.2	0.21	A
	Overall	24.2		C	24.7		C	24.8		C

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts

Weekday PM Construction Peak Hour (2:30 - 3:30 PM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition			
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	
43. Dyer Avenue NB and West 36th Street (Signalized)											
West 36th Street	EBLT	0.5	0.22	A	2.1	0.37	A	2.0	0.37	A	
Dyer Avenue	NBT	31.9	0.63	C	121.0	1.14	F	121.0	1.14	F	
	Overall	13.7		B	52.4		D	52.4		D	

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).
 - = Not Applicable due to lane closure or modifications to lane use for given analysis condition.
 dr = lane group operates as a De Facto Right Turn.
 dl = De Facto Left Turn.

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts

Weekday PM Commuter Peak Hour (3:45 - 4:45 PM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
21. Twelfth Avenue and West 26th Street (Signalized)										
Twelfth Avenue	NBTR	11.7	0.71	B	11.9	0.72	B	11.9	0.72	B
	SBL	50.2	0.65	D	46.3	0.66	D	46.3	0.66	D
	SBT	6.3	0.74	A	11.5	0.75	B	11.5	0.75	B
	Overall	10.5		B	12.8		B	12.8		B
22. Twelfth Avenue and West 29th Street (Signalized)										
West 29th Street	WBL	43.8	0.12	D	83.1	0.79	F	83.1	0.79	F
	WBR	53.0	0.51	D	530.2	2.00	F	584.7	2.13	F
Twelfth Avenue	NBT	10.7	0.81	B	4.9	0.82	A	4.9	0.82	A
	SBT	9.4	0.90	A	3.7	0.87	A	3.7	0.87	A
	Overall	11.6		B	38.3		D	43.7		D
23. Twelfth Avenue and West 30th Street (Signalized)										
Twelfth Avenue	NBTR	8.3	0.87	A	57.7	1.08	E	59.4	1.08	E
	SBL	110.5	0.99	F	223.7	1.32	F	223.7	1.32	F
	SBT	33.5	0.87	C	39.3	0.97	D	39.3	0.97	D
	Overall	23.0		C	56.1		E	57.0		E
24. Twelfth Avenue and West 34th Street (Signalized)										
West 34th Street	WBL	54.0	0.32	D	55.6	0.40	E	55.6	0.40	E
	WBR	87.2	0.97	F	323.2	1.58	F	323.2	1.58	F
Twelfth Avenue	NBT	18.5	0.79	B	18.1	0.91	B	18.3	0.91	B
	NBR	5.8	0.21	A	4.9	0.24	A	4.9	0.24	A
	SBL	104.6	1.04	F	122.8	1.10	F	122.8	1.10	F
	SBT	3.2	0.81	A	7.9	0.90	A	7.9	0.90	A
	Overall	20.4		C	45.1		D	45.1		D
25. Twelfth Avenue and Tow Pound Exit (Signalized)										
Tow Pound Exit	EBL	64.3	0.32	E	64.4	0.32	E	64.4	0.32	E
	EBR	62.7	0.20	E	62.7	0.20	E	62.7	0.20	E
Twelfth Avenue	NBT	0.9	0.66	A	2.4	0.77	A	2.5	0.77	A
	SBT	5.0	0.84	A	10.3	0.93	B	10.3	0.93	B
	Overall	3.9		A	7.1		A	7.1		A
26. Twelfth Avenue and Pier 79 Ferry (Signalized)										
Pier 79 Ferry	EBLR	62.2	0.28	E	63.4	0.31	E	63.4	0.31	E
Twelfth Avenue	NBL	73.1	0.18	E	78.4	0.19	E	79.2	0.19	E
	NBT	8.1	0.76	A	11.7	0.88	B	11.8	0.89	B
	SBTR	15.1	0.99	B	53.2	1.10	D	53.2	1.10	D
	Overall	12.1		B	32.3		C	32.3		C
27. Twelfth Avenue and West 40th Street (Signalized)										
West 40th Street	WBR	49.5	0.11	D	49.5	0.11	D	49.5	0.11	D
Twelfth Avenue	NBL	51.6	0.28	D	55.3	0.28	E	55.3	0.28	E
	NBTR	6.0	0.72	A	5.5	0.84	A	5.5	0.85	A
	SBT	21.4	0.90	C	36.0	1.00	D	36.0	1.00	D
	SBR	6.7	0.08	A	6.8	0.09	A	6.8	0.09	A
	Overall	14.5		B	21.2		C	21.2		C
28. Eleventh Avenue and West 26th Street (Signalized)										
West 26th Street	EBTR	32.5	0.58	C	34.0	0.63	C	34.0	0.63	C
Eleventh Avenue	SBLT	4.9	0.25	A	4.6	0.44	A	4.6	0.44	A
	Overall	12.5		B	10.3		B	10.3		B
29. Eleventh Avenue and West 27th Street (Signalized)										
West 27th Street	WBLT	25.6	0.46	C	27.9	0.57	C	27.9	0.57	C
Eleventh Avenue	SBTR	4.5	0.24	A	3.2	0.43	A	3.2	0.43	A
	Overall	10.3		B	8.3		A	8.3		A
30. Eleventh Avenue and West 28th Street (Signalized)										
West 28th Street	EBT	20.0	0.28	B	20.3	0.30	C	20.3	0.30	C
Eleventh Avenue	SBL	8.0	0.29	A	8.9	0.56	A	8.9	0.56	A
	SBT	6.7	0.26	A	5.9	0.48	A	5.9	0.48	A
	Overall	8.9		A	7.9		A	7.9		A
31. Eleventh Avenue and West 29th Street (Signalized)										
West 29th Street	WBL	17.0	0.28	B	19.3	0.42	B	19.3	0.42	B
	WBT	16.5	0.25	B	21.3	0.55	C	21.3	0.55	C
Eleventh Avenue	SBT	7.9	0.30	A	5.6	0.59	A	5.8	0.59	A
	SBR	7.4	0.09	A	7.8	0.53	A	9.0	0.59	A
	Overall	10.5		B	9.8		A	10.0		A

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts

Weekday PM Commuter Peak Hour (3:45 - 4:45 PM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
32. Eleventh Avenue and West 30th Street (Signalized)										
West 30th Street	EBT	17.7	0.36	B	-	-	-	-	-	-
	EBR	17.3	0.29	B	-	-	-	-	-	-
Eleventh Avenue	EBTR	-	-	-	19.4	0.52	B	19.6	0.53	B
	SBLT	4.7	0.34	A	13.0	0.77	B	13.4	0.78	B
	Overall	9.9		A	14.8		B	15.1		B
33. Eleventh Avenue and West 33rd Street (Signalized)										
West 33rd Street	WBL	-	-	-	30.3	0.85	C	31.2	0.85	C
Eleventh Avenue	SBTR	4.0	0.28	A	2.7	0.48	A	2.8	0.49	A
Overall		4.0		A	10.1		B	10.3		B
34. Eleventh Avenue and West 34th Street (Signalized)										
West 34th Street	EBTR	29.6	0.55	C	-	-	-	-	-	-
	EBL	-	-	-	26.0	0.49	C	26.0	0.49	C
	EBT	-	-	-	34.3	0.63	C	34.3	0.63	C
	EBR	-	-	-	28.2	0.29	C	28.2	0.29	C
	WBL	17.6	0.33	B	17.5	0.20	B	17.9	0.26	B
	WBT	20.8	0.43	C	-	-	-	-	-	-
	WBTR	-	-	-	30.6	0.86	C	30.7	0.86	C
Eleventh Avenue	SBLTR	11.0	0.44	B	18.1	0.85	B	18.1	0.85	B
Overall		18.3		B	23.6		C	23.6		C
35. Eleventh Avenue and West 40th Street (Signalized)										
West 40th Street	EBTR	32.2	0.44	C	35.4	0.55	D	37.1	0.59	D
Eleventh Avenue	NBR	7.7	0.21	A	12.4	0.30	B	12.4	0.30	B
	SBL	9.5	0.45	A	10.2	0.52	B	10.2	0.52	B
	SBTR	8.3	0.32	A	10.4	0.54	B	10.4	0.54	B
Overall		10.0		A	11.7		B	11.9		B
36. Tenth Avenue and West 26th Street (Signalized)										
West 26th Street	EBLT	44.2	0.59	D	48.6	0.79	D	48.6	0.79	D
Tenth Avenue	NBTR	15.0	0.59	B	17.4	0.73	B	17.4	0.73	B
Overall		19.3		B	22.2		C	22.2		C
37. Tenth Avenue and West 30th Street (Signalized)										
West 30th Street	EBLT	28.5	0.66	C	124.4	1.19	F	126.6	1.19	F
Tenth Avenue	NBTR	4.9	0.55	A	5.0	0.65	A	5.0	0.65	A
Overall		9.0		A	47.6		D	48.5		D
38. Tenth Avenue and West 33rd Street (Signalized)										
West 33rd Street	WBTR	29.9	0.51	C	26.8	0.49	C	27.3	0.51	C
Tenth Avenue	NBLT	-	-	-	246.2	1.49	F	246.6	1.49	F
	NBT	20.5	0.76	C	-	-	-	-	-	-
Overall		21.6		C	216.2		F	216.6		F
39. Tenth Avenue and West 34th Street (Signalized)										
West 34 Street	EBLT	63.1	1.01dl	E	48.5	0.85dl	D	48.7	0.88dl	D
	WBT	22.6	0.68	C	24.0	0.80	C	24.7	0.81	C
	WBR	47.5	0.87	D	82.9	1.06	F	88.9	1.07	F
Tenth Avenue	NBL	-	-	-	1.5	0.32	A	1.9	0.33	A
	NBT	-	-	-	54.9	1.11	D	55.6	1.11	E
	NBLT	3.9	0.56	A	-	-	-	-	-	-
	NBR	3.3	0.23	A	1.6	0.43	A	2.0	0.43	A
Overall		19.8		B	45.7		D	46.6		D
40. Dyer Avenue and West 34th Street (Signalized)										
West 34th Street	EBT	20.3	0.26	C	15.8	0.34	B	15.9	0.34	B
	WBT	13.0	0.39	B	14.6	0.51	B	14.6	0.51	B
	WBR	8.6	0.14	A	10.8	0.36	B	10.8	0.36	B
Dyer Avenue	SBL	18.4	0.43	B	26.0	0.48	C	27.1	0.48	C
	SBR	23.3	0.44	C	32.8	0.55	C	36.5	0.63	D
Overall		16.2		B	16.8		B	17.3		B
41. Dyer Avenue and West 35th Street (Signalized)										
West 35th Street	WBLTR	26.3	0.42	C	35.8	0.75	D	35.8	0.75	D
Dyer Avenue	NBLT	6.7	0.16	A	8.7	0.40	A	8.7	0.40	A
	SBTR	53.5	0.41	D	53.7	0.49	D	53.9	0.50	D
Overall		38.6		D	36.3		D	36.6		D
42. Dyer Avenue SB and West 36th Street (Signalized)										
West 36th Street	EBTR	27.4	0.48	C	27.6	0.49	C	27.6	0.49	C
Dyer Avenue	SBL	31.3	0.46	C	33.0	0.53	C	33.5	0.55	C
	SBLT	29.2	0.49	C	30.4	0.57	C	30.6	0.58	C
	SBR	9.7	0.26	A	10.0	0.29	A	10.0	0.29	A
Overall		25.9		C	26.8		C	26.9		C

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Construction Impacts

Weekday PM Commuter Peak Hour (3:45 - 4:45 PM)

Intersection	Movement	2016 Existing			2024 No Action Alternative			2024 Construction Condition			
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	
43. Dyer Avenue NB and West 36th Street (Signalized)											
West 36th Street	EBLT	0.6	0.34	A	3.1	0.49	A	3.1	0.49	A	
Dyer Avenue	NBT	28.6	0.52	C	86.0	1.03	F	86.0	1.03	F	
	Overall	8.0		A	29.4		C	29.4		C	

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).
 - = Not Applicable due to lane closure or modifications to lane use for given analysis condition.
 dr = lane group operates as a De Facto Right Turn.
 dl = lane group operates as a De Facto Left Turn

 Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Mitigation Results

Weekday AM Construction Peak Hour (6:30 - 7:30 AM)

Intersection	Movement	2021 No Action Alternative			2024 Construction Condition			2024 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
22. Twelfth Avenue and West 29th Street (Signalized)										
West 29th Street	WBL	58.4	0.37	E	58.4	0.37	E	53.8	0.32	D
	WBR	300.0	1.48	F	393.6	1.70	F	290.0	1.47	F
Twelfth Avenue	NBT	7.6	0.61	A	7.7	0.61	A	9.3	0.63	A
	SBT	0.9	0.79	A	0.9	0.79	A	1.1	0.82	A
	Overall	22.1		C	30.4		C	24.5		C
37. Tenth Avenue and West 30th Street (Signalized)										
West 30th Street	EBLT	228.3	1.42	F	235.3	1.44	F	214.6	1.39	F
Tenth Avenue	NBTR	4.9	0.41	A	4.9	0.41	A	5.4	0.42	A
	Overall	86.7		F	89.7		F	82.4		F
40. Dyer Avenue and West 34th Street (Signalized)										
West 34th Street	EBT	19.5	0.34	B	19.7	0.34	B	19.7	0.34	B
	WBT	11.8	0.26	B	11.8	0.27	B	11.8	0.27	B
	WBR	9.1	0.19	A	9.1	0.19	A	9.1	0.19	A
Dyer Avenue	SBL	65.4	0.95	E	65.4	0.95	E	49.8	0.84	D
	SBR	228.0	1.37	F	283.0	1.50	F	207.1	1.33	F
	Overall	58.7		E	69.6		E	53.9		D

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Mitigation Results

Weekday Commuter AM Peak Hour (7:45 - 8:45 AM)

Intersection	Movement	2024 No Action Alternative			2024 Construction Condition			2024 Construction Condition With Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
22. Twelfth Avenue and West 29th Street (Signalized)										
West 29th Street	WBL	64.3	0.51	E	64.3	0.51	E	59.4	0.46	E
	WBR	411.6	1.74	F	482.9	1.90	F	389.6	1.69	F
Twelfth Avenue	NBT	8.3	0.68	A	8.3	0.68	A	9.6	0.70	A
	SBT	0.9	0.76	A	0.9	0.76	A	1.1	0.78	A
	Overall	31.2		C	37.6		D	32.0		C
37. Tenth Avenue and West 30th Street (Signalized)										
West 30th Street	EBLT	247.2	1.46	F	251.3	1.47	F	229.9	1.42	F
Tenth Avenue	NBTR	5.2	0.48	A	5.2	0.48	A	5.7	0.49	A
	Overall	84.8		F	86.4		F	79.7		E
40. Dyer Avenue and West 34th Street (Signalized)										
West 34th Street	EBT	19.6	0.36	B	19.6	0.36	B	19.6	0.36	B
	WBT	11.8	0.27	B	11.8	0.27	B	11.8	0.27	B
	WBR	8.5	0.12	A	8.5	0.12	A	8.5	0.12	A
Dyer Avenue	SBL	89.2	1.05	F	89.1	1.05	F	69.5	0.99	E
	SBR	183.2	1.27	F	213.8	1.34	F	178.6	1.26	F
	Overall	57.8		E	63.3		E	109.5		F

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Mitigation Results

Weekday Commuter MD Peak Hour (12:45 - 1:45 PM)

Intersection	Movement	2024 No Action Alternative			2024 Construction Condition			2024 Construction Condition With Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
22. Twelfth Avenue and West 29th Street (Signalized)										
West 29th Street	WBL	43.8	0.38	D	43.8	0.38	D	41.4	0.35	D
	WBR	175.0	1.23	F	211.0	1.32	F	169.2	1.22	F
Twelfth Avenue	NBTR	7.0	0.59	A	7.0	0.59	A	7.9	0.60	A
	SBT	0.7	0.67	A	0.7	0.67	A	0.7	0.68	A
	Overall	18.0		B	21.8		C	18.8		B
40. Dyer Avenue and West 34th Street (Signalized)										
West 34th Street	EBT	19.9	0.32	B	20.0	0.32	B	20.0	0.32	B
	WBT	12.5	0.33	B	12.5	0.33	B	12.5	0.33	B
Dyer Avenue	WBR	9.6	0.24	A	9.6	0.24	A	9.6	0.24	A
	SBL	23.5	0.53	C	24.7	0.53	C	23.7	0.50	C
	SBR	38.2	0.71	D	46.2	0.79	D	40.7	0.74	D
	Overall	18.5		B	19.6		B	18.9		B

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Mitigation Results

Weekday PM Construction Peak Hour (2:30 - 3:30 PM)

Intersection	Movement	2024 No Action Alternative			2024 Construction Condition			2024 Construction Condition with Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
22. Twelfth Avenue and West 29th Street (Signalized)										
West 29th Street	WBL	77.4	0.73	E	80.3	0.77	F	69.3	0.67	E
	WBR	566.0	2.08	F	685.5	2.35	F	562.2	2.08	F
Twelfth Avenue	NBT	3.4	0.68	A	3.5	0.68	A	5.1	0.70	A
	SBT	1.3	0.79	A	1.3	0.79	A	2.2	0.81	A
	Overall	43.2		D	56.9		E	48.3		D
35. Eleventh Avenue and West 40th Street (Signalized)										
West 40th Street	EBTR	46.0	0.75	D	51.1	0.80	D	46.9	0.77	D
Eleventh Avenue	NBR	12.7	0.21	B	13.6	0.21	B	14.9	0.21	B
	SBL	8.6	0.35	A	8.6	0.35	A	9.1	0.35	A
	SBTR	9.8	0.48	A	9.8	0.48	A	10.4	0.49	B
	Overall	12.6		B	13.3		B	13.5		B
37. Tenth Avenue and West 30th Street (Signalized)										
West 30th Street	EBLT	113.1	1.16	F	121.7	1.18	F	103.4	1.14	F
Tenth Avenue	NBTR	5.9	0.96dr	A	5.9	0.96dr	A	6.4	0.98dr	A
	Overall	43.9		D	47.3		D	41.2		D
39. Tenth Avenue and West 34th Street (Signalized)										
West 34 Street	EBLT	43.1	0.60	D	43.3	0.61	D	42.0	0.59	D
	WBTR	17.4	0.66	B	18.2	0.68	B	17.0	0.65	B
	WBR	50.3	0.92	D	56.4	0.95	E	47.3	0.91	D
Tenth Avenue	NBL	1.7	0.35	A	2.2	0.36	A	2.2	0.37	A
	NBT	19.2	1.03	B	20.1	1.03	C	28.9	1.05	C
	NBLT	-	-	-	-	-	-	-	-	-
	NBR	1.8	0.41	A	2.3	0.43	A	2.3	0.44	A
	Overall	21.2		C	22.3		C	26.4		C

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

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Adverse Impact

INTERSECTION LEVELS OF SERVICE SUMMARY
Twelfth Avenue Staging Area - New Tunnel Construction (2024)
Mitigation Results

Weekday Commuter PM Peak Hour (3:45 - 4:45 PM)

Intersection	Movement	2024 No Action Alternative			2024 Construction Condition			2024 Construction Condition With Mitigation		
		Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS	Delay (sec/veh)	v/c ratio	LOS
22. Twelfth Avenue and West 29th Street (Signalized)										
West 29th Street	WBL	83.1	0.79	F	83.1	0.79	F	74.5	0.72	E
	WBR	530.2	2.00	F	584.7	2.13	F	506.4	1.96	F
Twelfth Avenue	NBTR	4.9	0.82	A	4.9	0.82	A	6.4	0.83	A
	SBT	3.7	0.87	A	3.7	0.87	A	4.4	0.89	A
	Overall	38.3		D	43.7		D	39.5		D
39. Tenth Avenue and West 34th Street (Signalized)										
West 34 Street	EBLT	48.5	0.85dl	D	48.7	0.88dl	D	Unmitigated		
	WBTR	24.0	0.80	C	24.7	0.81	C			
	WBR	82.9	1.06	F	88.9	1.07	F			
Tenth Avenue	NBL	1.5	0.32	A	1.9	0.33	A			
	NBT	54.9	1.11	D	55.6	1.11	E			
	NBLT	-	-	-	-	-	-			
	NBR	1.6	0.43	A	2.0	0.43	A			
	Overall	45.7		D	46.6		D			

Notes: Analysis results based on Synchro 8.0, build 806, revision 77 (8.0.806.77).

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 Adverse Impact



 Project Site

 Pedestrian Analysis Elements



Pedestrian Analysis Locations in New York:
Twelfth Avenue Staging Site
Figure 5A-7

Hudson Tunnel Pedestrian Analysis
2016 Existing Conditions: Sidewalk Analysis

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday AM Peak Hour						
Tenth Avenue between 31st and 33rd Street	East	11.5	1,046	0.67	116.2	B
Twelfth Avenue between 29th and 30th Street	East	2.5	10	0.50	1980.0	A
30th Street between 12th and Eleventh Avenue	South	7.5	18	0.64	4224.0	A
Weekday Midday Peak Hour						
Tenth Avenue between 31st and 33rd Street	East	11.5	661	0.87	239.5	B
Twelfth Avenue between 29th and 30th Street	East	2.5	10	0.63	2494.8	A
30th Street between 12th and Eleventh Avenue	South	7.5	17	0.61	4262.8	A
Weekday PM Peak Hour						
Tenth Avenue between 31st and 33rd Street	East	11.5	911	0.97	193.7	B
Twelfth Avenue between 29th and 30th Street	East	2.5	30	0.94	1240.8	A
30th Street between 12th and Eleventh Avenue	South	7.5	39	0.75	2284.6	A
Note: SFP = square feet per pedestrian						

Hudson Tunnel Pedestrian Analysis
2016 Existing Conditions: Corner Analysis

Location	Corner	Weekday AM Peak Hour		Weekday Midday Peak Hour		Weekday PM Peak Hour	
		SFP	LOS	SFP	LOS	SFP	LOS
Tenth Avenue and 31st Street	Northeast	94.9	A	207.8	A	141.9	A
Tenth Avenue and 33rd Street	Southeast	71.5	A	102.9	A	103.3	A
Eleventh Avenue and 30th Street	Northwest	228.1	A	284.3	A	223.2	A
	Southwest	160.8	A	147.8	A	114.7	A
Twelfth Avenue and 29th Street	Northeast	3038.4	A	1808.5	A	1527.9	A
Twelfth Avenue and 30th Street	Northeast	1976.2	A	1271.9	A	704.0	A
	Southeast	2050.4	A	1029.1	A	548.8	A

Note: SFP = square feet per pedestrian

**Hudson Tunnel Pedestrian Analysis
2016 Existing Conditions: Crosswalk Analysis**

Location	Crosswalk	Crosswalk Length (ft)	Crosswalk Width (ft)	Two-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour						
Tenth Avenue and 31st Street	North	70	12	83	97.9	A
Tenth Avenue and 33rd Street	South	70	12	438	37.3	C
Weekday Midday Peak Hour						
Tenth Avenue and 31st Street	North	70	12	15	452.4	A
Tenth Avenue and 33rd Street	South	70	12	196	76.7	A
Weekday PM Peak Hour						
Tenth Avenue and 31st Street	North	70	12	58	226.1	A
Tenth Avenue and 33rd Street	South	70	12	204	106.1	A
Note: SFP = square feet per pedestrian						

**Hudson Tunnel Pedestrian Analysis
2024 No Action Alternative: Sidewalk Analysis**

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday AM Peak Hour						
Tenth Avenue between 31st and 33rd Street	East	11.5	504	0.67	241.9	B
Twelfth Avenue between 29th and 30th Street	East	2.5	14	0.50	1414.2	A
30th Street between 12th and Eleventh Avenue	South	7.5	309	0.64	245.8	B
Weekday Midday Peak Hour						
Tenth Avenue between 31st and 33rd Street	East	11.5	728	0.87	217.4	B
Twelfth Avenue between 29th and 30th Street	East	2.5	26	0.63	959.5	A
30th Street between 12th and Eleventh Avenue	South	7.5	664	0.61	108.6	B
Weekday PM Peak Hour						
Tenth Avenue between 31st and 33rd Street	East	11.5	542	0.97	325.8	B
Twelfth Avenue between 29th and 30th Street	East	2.5	37	0.94	1006.0	A
30th Street between 12th and Eleventh Avenue	South	7.5	548	0.75	162.3	B
Note: SFP = square feet per pedestrian						

**Hudson Tunnel Pedestrian Analysis
2024 No Action Alternative: Corner Analysis**

Location	Corner	Weekday AM Peak Hour		Weekday Midday Peak Hour		Weekday PM Peak Hour	
		SFP	LOS	SFP	LOS	SFP	LOS
Tenth Avenue and 31st Street	Northeast	154.1	A	42.3	C	107.1	A
Tenth Avenue and 33rd Street	Southeast	30.3	C	5.4	F	27.0	C
Eleventh Avenue and 30th Street	Northwest	101.9	A	71.1	A	83.7	A
	Southwest	57.2	B	15.1	D	46.5	B
Twelfth Avenue and 29th Street	Northeast	2652.7	A	1105.4	A	1288.0	A
Twelfth Avenue and 30th Street	Northeast	362.7	A	224.8	A	261.7	A
	Southeast	513.4	A	146.5	A	222.4	A

Note: SFP = square feet per pedestrian

**Hudson Tunnel Pedestrian Analysis
2024 No Action Conditions: Crosswalk Analysis**

Location	Crosswalk	Crosswalk Length (ft)	Crosswalk Width (ft)	Two-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour						
Tenth Avenue and 31st Street	North	70	12	164	38.4	C
Tenth Avenue and 33rd Street	South	70	12	1,303	11.6	E
Weekday Midday Peak Hour						
Tenth Avenue and 31st Street	North	70	12	613	5.3	F
Tenth Avenue and 33rd Street	South	70	12	2,981	3.5	F
Weekday PM Peak Hour						
Tenth Avenue and 31st Street	North	70	12	315	11.1	E
Tenth Avenue and 33rd Street	South	70	12	2,033	8.8	E
Note: SFP = square feet per pedestrian						

**Hudson Tunnel Pedestrian Analysis
2024 Construction Condition: Sidewalk Analysis**

Location	Sidewalk	No Action Condition				Construction Condition			
		Effective Width (ft)	Two-way Peak Hour Volume	SFP	Platoon LOS	Effective Width (ft)	Two-way Peak Hour Volume	SFP	Platoon LOS
Weekday AM Peak Hour									
Tenth Avenue between West 31st and West 33rd Street	East	11.5	504	241.9	B	8.0	504	168.1	B
Twelfth Avenue between West 29th and West 30th Street	East	2.5	14	1414.2	A	3.0	14	1697.1	A
West 30th Street between Twelfth Avenue and Eleventh Avenue	South	7.5	309	245.8	B	3.0	344	87.8	C
Weekday Midday Peak Hour									
Tenth Avenue between West 31st and West 33rd Street	East	11.5	728	217.4	B	8.0	728	151.1	B
Twelfth Avenue between West 29th and West 30th Street	East	2.5	26	959.5	A	3.0	26	1151.4	A
West 30th Street between Twelfth Avenue and Eleventh Avenue	South	7.5	664	108.6	B	3.0	798	34.8	D
Weekday PM Peak Hour									
Tenth Avenue between West 31st and West 33rd Street	East	11.5	542	325.8	B	8.0	542	226.5	B
Twelfth Avenue between West 29th and West 30th Street	East	2.5	37	1006.0	A	3.0	37	1207.2	A
West 30th Street between Twelfth Avenue and Eleventh Avenue	South	7.5	548	162.3	B	3.0	619	56.6	C
Note: SFP = square feet per pedestrian									

**Hudson Tunnel Pedestrian Analysis
2024 Construction Condition: Corner Analysis**

Location	Corner	Weekday AM Peak Hour				Weekday Midday Peak Hour				Weekday PM Peak Hour			
		No Action Condition		Construction Condition		No Action Condition		Construction Condition		No Action Condition		Construction Condition	
		SFP	LOS	SFP	LOS	SFP	LOS	SFP	LOS	SFP	LOS	SFP	LOS
Tenth Avenue and West 31st Street	Northeast	154.1	A	154.1	A	42.3	C	42.3	C	107.1	A	107.1	A
Tenth Avenue and West 33rd Street	Southeast	30.3	C	30.3	C	5.4	F	5.4	F	27.0	C	27.0	C
Eleventh Avenue and West 30th Street	Northwest	101.9	A	109.2	A	71.1	A	78.1	A	83.7	A	88.5	A
	Southwest	57.2	B	56.8	B	15.1	D	15.4	D	46.5	B	46.1	B
Twelfth Avenue and West 29th Street	Northeast	2652.7	A	2652.7	A	1105.4	A	1105.4	A	1288.0	A	1288.0	A
Twelfth Avenue and West 30th Street	Northeast	362.7	A	1129.9	A	224.8	A	940.4	A	261.7	A	559.0	A
	Southeast	513.4	A	593.6	A	146.5	A	157.1	A	222.4	A	234.0	A

Note: SFP = square feet per pedestrian

**Hudson Tunnel Pedestrian Analysis
2024 Construction Condition: Crosswalk Analysis**

Location	Crosswalk	Crosswalk Length (ft)	Crosswalk Width (ft)	No Action Condition			Construction Condition		
				Two-way Peak Hour Volume	SFP	LOS	Two-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour									
Tenth Avenue and West 31st Street	North	70	12	164	38.4	C	164	38.4	C
Tenth Avenue and West 33rd Street	South	70	12	1,303	11.6	E	1,303	11.6	E
Weekday Midday Peak Hour									
Tenth Avenue and West 31st Street	North	70	12	613	5.3	F	613	5.3	F
Tenth Avenue and West 33rd Street	South	70	12	2,981	3.5	F	2,981	3.5	F
Weekday PM Peak Hour									
Tenth Avenue and West 31st Street	North	70	12	315	11.1	E	315	11.1	E
Tenth Avenue and West 33rd Street	South	70	12	2,033	8.8	E	2,033	8.8	E
Note: SFP = square feet per pedestrian									