



## **MEMORANDUM**

**TO:** Arthur Capper/Carrollsbury Team

**FROM:** Robert Schiesel, P.E.  
Michael Hurley

**DATE:** June 13, 2008

**SUBJECT:** Arthur Capper/Carrollsbury Square 882 & the Northern Portion of Square 769  
Traffic Statement

This memorandum is a statement of the transportation features of the proposed development on Square 882 and the northern portion of Square 769 in SE Washington, D.C. These squares are part of the Arthur Capper/Carrollsbury development, and received preliminary PUD approval in 2004. This traffic statement is part of an application for second stage approval for these squares.

This traffic statement includes a description of the transportation aspects of the proposed development on Square 882 and the northern portion of Square 769, a review of the original project traffic impact study, and discussion of impacts of the proposed development on the transportation network.

The Arthur Capper/Carrollsbury PUD application from 2003/2004 that gained the initial set of approvals contained a thorough Traffic Impact Study (TIS) prepared by O.R. George and Associates and reviewed by DDOT.

### ***Summary of Findings***

This traffic statement arrived at the following conclusions:

- Quality vehicular access exists to the site from multiple routes;
- The planned parking garage access points and private drives will operate at acceptable conditions;
- The amount and location of loading docks is appropriate, and truck turning movements can be accommodated in the private drives. Loading activity will not block public streets;
- The proposed development has quality bicycle and pedestrian access;
- The proposed development has quality transit access;
- The amount of parking is appropriate for development in a transit-oriented neighborhood;
- The overall amount of vehicular trips generated by the proposed development is less than from the

preliminary approvals; and

- The capacity analysis conclusions from the original Arthur Capper/Carrollsborg PUD Traffic Impact Study are still valid; the future roadway network is expected to operate within DDOT's acceptable Level of Service standards.

## ***Description of Proposed Development***

### *Vehicular Circulation & Access*

Figures 1 and 2 show an overview of the proposed development on Square 882 and the northern portion of Square 769. A new private drive within Square 882 will provide access for the residential parking garage, residential loading, and office building loading. Office workers in the Square 882 office building will park in garage accessed from the new 6<sup>th</sup> Street SE (private road) and 7<sup>th</sup> Street SE. This is the same access as provided in the preliminary approval.

Vehicular access to the northern portion of Square 769 will be from the new private drive for all parking and loading. This is slightly different than the access from the preliminary approval, as parking could also be accessed from a curb cut on 3<sup>rd</sup> Street SE, which has been removed in the second stage plans. This curb cut was removed to simplify the access plans, and to decrease the impact of the development to the public realm.

There are numerous ways to reach the site from area roadways. Figure 6 and 7 show the primary and secondary ingress and egress routes to the site, respectively. Additional circulatory routes to and from the site will be available once completion of the roadways changes from the 11<sup>th</sup> Street Bridges project are completed.

### *Private Drives/Loading*

The private drive proposed for Square 882 is anticipated to handle movement to and from the residential parking, residential loading activity, and office building loading activity. The private drive proposed for the northern portion of Square 769 is anticipated to handle movement to and from all parking and loading (residential and retail).

Since a significant amount of activity will take place in these drives, the turning movements for truck loading docks were evaluated using AutoTurn software. Figures 3 through 5 shows the results of this analysis, which demonstrates that trucks can be accommodated as planned. Truck movements can be performed without blocking any public streets and trucks will not be required to drive backwards in the private drives. For the private drive in Square 882, residential and office loading activity can occur at the same time.

The number of loading docks for the development is appropriate. The residential building on the northern portion of Square 769 would normally require a 55-foot loading dock, but does not provide one. This is because the amount of visits requiring a loading berth of this size to a residential building are very minimal, and designing the private drive to accommodate this movement and loading dock would significantly impact the public realm and pedestrian activity.

For the Square 882 office building, the applicant is seeking flexibility to reduce the number of loading docks from five to three 30-foot docks. Three 30-foot loading docks provide an appropriate amount and meets zoning requirements for the entire building.

There has been discussion of moving one or both of the office parking access on Square 882 to the private drive. This would have a negative impact on the vehicular access to the site, since it would add another movement to the private drive. The cumulative traffic patterns of the residential parking, residential loading and office loading, combined with office parking would create adverse conflicts.

#### *Pedestrian/Bicycle Circulation and Access*

Bicycle access to the site can be made through several roadways and paths included in the DC Bike Plan. 4<sup>th</sup> Street SE has bike lanes, and the 5<sup>th</sup>/6<sup>th</sup> Street SE corridor is planned to have bike lanes; these facilities will provide quality bicycle access to the north and south. Many of the east-west streets will have low volumes and will be good bicycling streets, such as L Street SE. In addition, Eye Street SE/SW (which has bicycle lanes) and the future Anacostia Riverwalk Trail will provide quality east-west connections. Bicycle parking will be provided in each of the parking garages, as well as on the streetscape in front of the proposed retail uses.

Pedestrian access will be greatly improved after construction of the proposed development. Ample sidewalks are proposed around the office building on Square 882, and appropriately sized, quality connections will be provided adjacent to the residential buildings on Square 882 and the northern portion of Square 769. The sidewalk widths meet or exceed the standards contained in the DDOT *Engineering and Design Manual*. The sidewalk in front of the proposed office building on Square 882 will have a clear, effective width of ten to fifteen feet. The sidewalk in front of the residential building on Square 882 is proposed to be 6 feet wide. The sidewalk in front of the residential building on Square 769 is proposed to be 10 feet wide on 3<sup>rd</sup> and L Streets, and 13 feet 8 inches wide on 2<sup>nd</sup> Street

The quality pedestrian circulation enhances the transit connections available to the site, including both the walk to and from the Navy Yard Metrorail station and to and from the numerous bus routes that serve the area.

## Parking

Table 1 shows the amount of parking proposed, and a comparison with the amount of parking included in the preliminary PUD approval.

**Table 1: Proposed Parking & Comparison with Preliminary Approval**

| Square/Component           | Preliminary Approval | Proposed Second Stage | Difference |
|----------------------------|----------------------|-----------------------|------------|
| 769 (Residential)          |                      |                       |            |
| Dwelling Units             | 107                  | 171                   | +64        |
| Parking Spaces             | 107                  | 152                   | +45        |
| Spaces/Unit                | 1.00                 | 0.89                  | -0.11      |
| 882 (Commercial)           |                      |                       |            |
| Building Square Footage    | 496,000              | 499,780               | +3,780     |
| Parking Spaces             | 400                  | 284                   | -116       |
| Spaces/1,000 SF            | 0.81                 | 0.57                  | -0.24      |
| 882 (Residential)          |                      |                       |            |
| Dwelling Units             | 75                   | 189                   | +114       |
| Parking Spaces             | 68                   | 172                   | +104       |
| Spaces/Unit                | 0.91                 | 0.91                  | 0.00       |
| <b>Total No. of Spaces</b> | <b>575</b>           | <b>608</b>            | <b>+33</b> |

The overall amount of parking proposed on Square 882 and the northern portion of Square 769 is 608 spaces; the preliminary plans showed a total of 575 parking spaces. Thus, the current plans incorporate a net increase of 33 spaces. The ratio of spaces to residential units has decreased from 0.96 to 0.90; the ratio of parking spaces to thousands of square feet of commercial space decreased from 0.81 to 0.57. This reflects the desire to not build too much parking for the development in a transit-oriented neighborhood, with quality access to Metrorail, Metrobus and other modes. Although the parking ratios proposed are lower than in the preliminary approval, there will be no detrimental impact as the supply will meet the expected demand. Access to and from the proposed development can still occur through various other modes, and nearby on-street parking can be controlled through the new performance parking meters or other means.

## Traffic Impact Study Review

### Trip Generation Comparison

Table 2 provides the results of a trip generation comparison of the proposed development with the preliminary approvals. The trip generation rates used are the same from the TIS from the original PUD application, and are based on standard rates from the Institute of Transportation Engineer's *Trip Generation* manual, with adjustments based on ridership survey data from WMATA, with one exception. The trip generation rates for the office component were reduced by an additional 30% compared to the rates from

the original PUD TIS to take into account the decrease in traffic generated due to the lower parking ratios provided for the office building (an additional 30% reduction in trips was taken due to the 30% reduction in parking compared to the original PUD application). The additional alternative mode reductions due to the lower amount of parking lead to more realistic trip generation calculations.

**Table 2: Trip Generation Comparison with Preliminary Approval**

| Land Use              | Amount     | AM   |     |       | PM  |      |       |
|-----------------------|------------|------|-----|-------|-----|------|-------|
|                       |            | In   | Out | Total | In  | Out  | Total |
| Preliminary Approval  |            |      |     |       |     |      |       |
| Square 882            |            |      |     |       |     |      |       |
| Townhomes             | 75 Units   | 8    | 23  | 31    | 26  | 15   | 41    |
| Retail                | 15,000 SF  | 1    | 1   | 2     | 3   | 3    | 6     |
| Office                | 481,000 SF | 332  | 43  | 375   | 72  | 356  | 428   |
| Square 769            |            |      |     |       |     |      |       |
| Apartments            | 107 Units  | 4    | 26  | 30    | 25  | 13   | 37    |
| Retail                | 3,000 SF   | 0    | 0   | 0     | 1   | 1    | 1     |
| Total                 |            | 345  | 93  | 438   | 127 | 388  | 513   |
| Proposed Second Stage |            |      |     |       |     |      |       |
| Square 882            |            |      |     |       |     |      |       |
| Apartments            | 189 Units  | 8    | 45  | 53    | 43  | 23   | 66    |
| Retail                | 15,000 SF  | 1    | 1   | 2     | 3   | 3    | 6     |
| Office                | 484,780 SF | 234  | 31  | 265   | 51  | 251  | 302   |
| Square 769            |            |      |     |       |     |      |       |
| Apartments            | 171 Units  | 7    | 41  | 48    | 40  | 21   | 60    |
| Retail                | 4,090 SF   | 0    | 0   | 0     | 1   | 1    | 2     |
| Total                 |            | 250  | 118 | 368   | 138 | 299  | 436   |
| Difference            |            | (95) | 25  | (70)  | 11  | (89) | (77)  |

The trip generation comparison shows that the amount of traffic is expected to decrease from what was shown in the original PUD TIS. This is because of the reduction in the overall amount of office based parking, and the change from townhomes to apartments in northern portion of Square 882. Office based parking generates more traffic than residential based parking. As destination trips, all vehicles that park in office parking lots are driven in or near the peak hour, but only a portion of vehicles parked in residential based lots are driven in or near the peak hour (for example, they may be vehicles owned by transit users).

### *Capacity Analysis Results*

The Traffic Impact Study conducted by O.R. George & Associates, Inc. in support of the PUD application evaluated the traffic impact of the entire PUD on the surrounding roadway network. Capacity analysis was conducted at 13 intersections in the vicinity of the PUD. The study concluded that the roadway network operated within DDOT's acceptable Level of Service standards and would continue to do so under

background conditions with and without the PUD development in the buildout year.

Background conditions reflected future conditions without PUD traffic. It accounted for annual background growth in addition to traffic generated by specific projects. Several of the major projects included as background development have not been completed today, including Southeast Federal Center (The Yards), Florida Rock, Maritime Plaza, and Waterside Mall.

Table 3 shows the results of the capacity analyses.

**Table 3: PUD Stage 1 Level of Service Analysis**

| Intersection                    | Existing Conditions |       |     |       | Background Conditions |       |     |       | Total Future Conditions |       |     |       |
|---------------------------------|---------------------|-------|-----|-------|-----------------------|-------|-----|-------|-------------------------|-------|-----|-------|
|                                 | AM                  |       | PM  |       | AM                    |       | PM  |       | AM                      |       | PM  |       |
|                                 | LOS                 | Delay | LOS | Delay | LOS                   | Delay | LOS | Delay | LOS                     | Delay | LOS | Delay |
| New Jersey @ I St.              | B                   | 11.5  | B   | 11.0  | B                     | 14.8  | C   | 16.0  | B                       | 15.0  | D   | 26.7  |
| New Jersey @ K St.              | B                   | 11.1  | B   | 11.0  | C                     | 15.5  | C   | 15.1  | C                       | 24.5  | C   | 22.8  |
| New Jersey @ M St.              | ---                 | ---   | --- | ---   | C                     | 28.9  | C   | 23.8  | D                       | 36.5  | C   | 12.4  |
| 3 <sup>rd</sup> St. @ M St.     | B                   | 17.3  | B   | 15.5  | A                     | 9.0   | B   | 10.3  | B                       | 18.6  | B   | 12.4  |
| 4 <sup>th</sup> St. @ M St.     | ---                 | ---   | --- | ---   | C                     | 27.3  | C   | 31.5  | C                       | 33.2  | D   | 44.6  |
| 5 <sup>th</sup> St. @ M St.     | ---                 | ---   | --- | ---   | ---                   | ---   | --- | ---   | ---                     | ---   | --- | ---   |
| 7 <sup>th</sup> St. @ M St.     | ---                 | ---   | --- | ---   | ---                   | ---   | --- | ---   | ---                     | ---   | --- | ---   |
| 8 <sup>th</sup> St. @ M St.     | B                   | 15.9  | B   | 15.0  | B                     | 19.4  | B   | 19.0  | C                       | 20.3  | B   | 19.9  |
| Virginia @ 8 <sup>th</sup> St   | B                   | 15.6  | C   | 23.2  | B                     | 17.3  | C   | 23.4  | B                       | 17.7  | D   | 42.0  |
| Virginia @ 7 <sup>th</sup> St   | B                   | 15.4  | B   | 15.5  | B                     | 16.4  | B   | 18.4  | B                       | 17.0  | B   | 19.1  |
| Virginia @ 5/6 <sup>th</sup> St | B                   | 19.2  | C   | 24.8  | C                     | 24.1  | C   | 28.3  | C                       | 27.5  | C   | 32.3  |
| Virginia @ 4 <sup>th</sup> St   | A                   | 8.2   | A   | 8.3   | A                     | 9.7   | A   | 8.8   | B                       | 10.2  | A   | 9.0   |
| Virginia @ 3 <sup>rd</sup> St   | C                   | 15.4  | B   | 12.3  | C                     | 20.2  | C   | 19.7  | C                       | 20.8  | D   | 26.0  |

Source: O.R. George & Associates March 2003

--- = Intersection is two-way stop sign controlled, and has no overall LOS or delay

Based on the trip generation comparison shown earlier, the capacity analysis results in Table 3 are still valid for the proposed development. Not only is the overall trip generation similar or less than that assumed in the study, the original TIS assumed a significant amount of background developments, and site access is similar.

### ***Impact of Ballpark Traffic***

The proposed development is located several blocks to the north and east of to the new Ballpark. Based on the 2008 Nationals Park Traffic Operations and Parking Plan (TOPP), the planned travel demand characteristics of Ballpark patrons and the operations of the Ballpark on game days (81) will not have a significant negative impact on Square 882/northern portion of Square 769 residents or office-workers. This is due to several reasons:

- *Travel demand characteristics*

The TOPP shows an average automobile mode split of 36 to 48% depending on the time of game and the relative attendance. Thus, the impacts of the Ballpark on roadways will be reduced significantly by the use of the Navy Yard Metrorail Station and people walking and biking to the Ballpark.

- *Parking facility locations*

The TOPP provides an overview of the parking strategy and locations, including the concept of spreading-out parking to disperse the impact at any one location.

- *Operations planning*

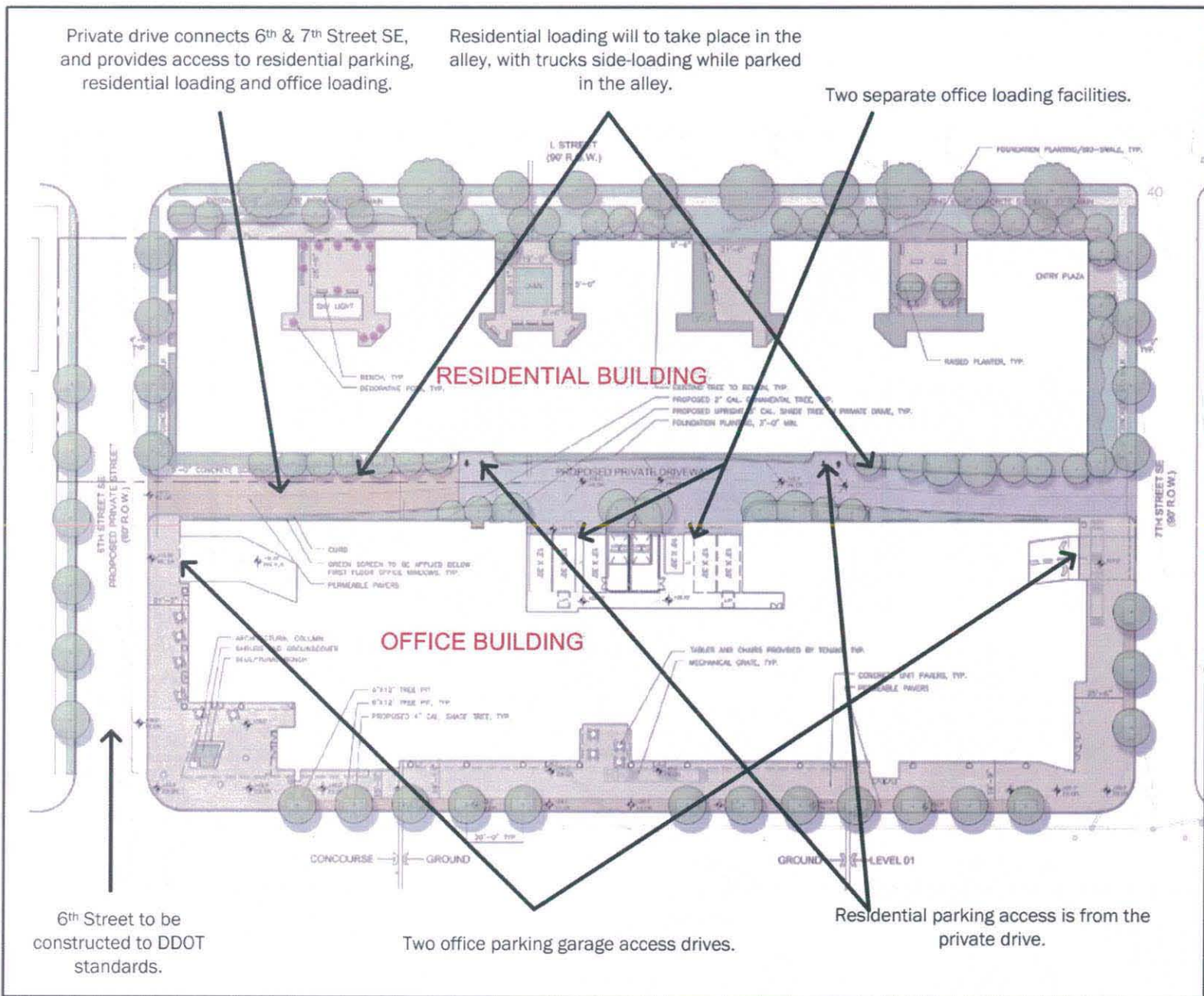
In order to accommodate the additional traffic on area roadways special traffic operations will be in place, including special signal timings, traffic control officers and turning restrictions. These game day measures should alleviate some of the congestion that would otherwise normally occur through the introduction of additional traffic to the roadway system.

It should also be noted that much of the Washington Nationals regular season schedule occurs during the summer months, when traffic on regional roadways is lighter than normal. The Washington Nationals play approximately 30% of their games on weekdays (not counting Fridays) during times when DC public schools are in session. Thus, the majority of game days will occur during times when commuter traffic is lower than 'typical' conditions (weekends, Fridays, and summer months).

## ***Conclusions***

This traffic statement arrived at the following conclusions:

- Quality vehicular access exists to the site from multiple routes;
- The planned parking garage access points and private drives will operate at acceptable conditions;
- The amount and location of loading docks is appropriate, and truck turning movements can be accommodated in the private drives. Loading activity will not block public streets;
- The proposed development has quality bicycle and pedestrian access;
- The proposed development has quality transit access;
- The amount of parking is appropriate for development in a transit-oriented neighborhood;
- The overall amount of vehicular trips generated by the proposed development is less than from the preliminary approvals; and
- The capacity analysis conclusions from the original Arthur Capper Carrollsburg PUD Traffic Impact Study are still valid; the future roadway network is expected to operate within DDOT's acceptable Level of Service standards.



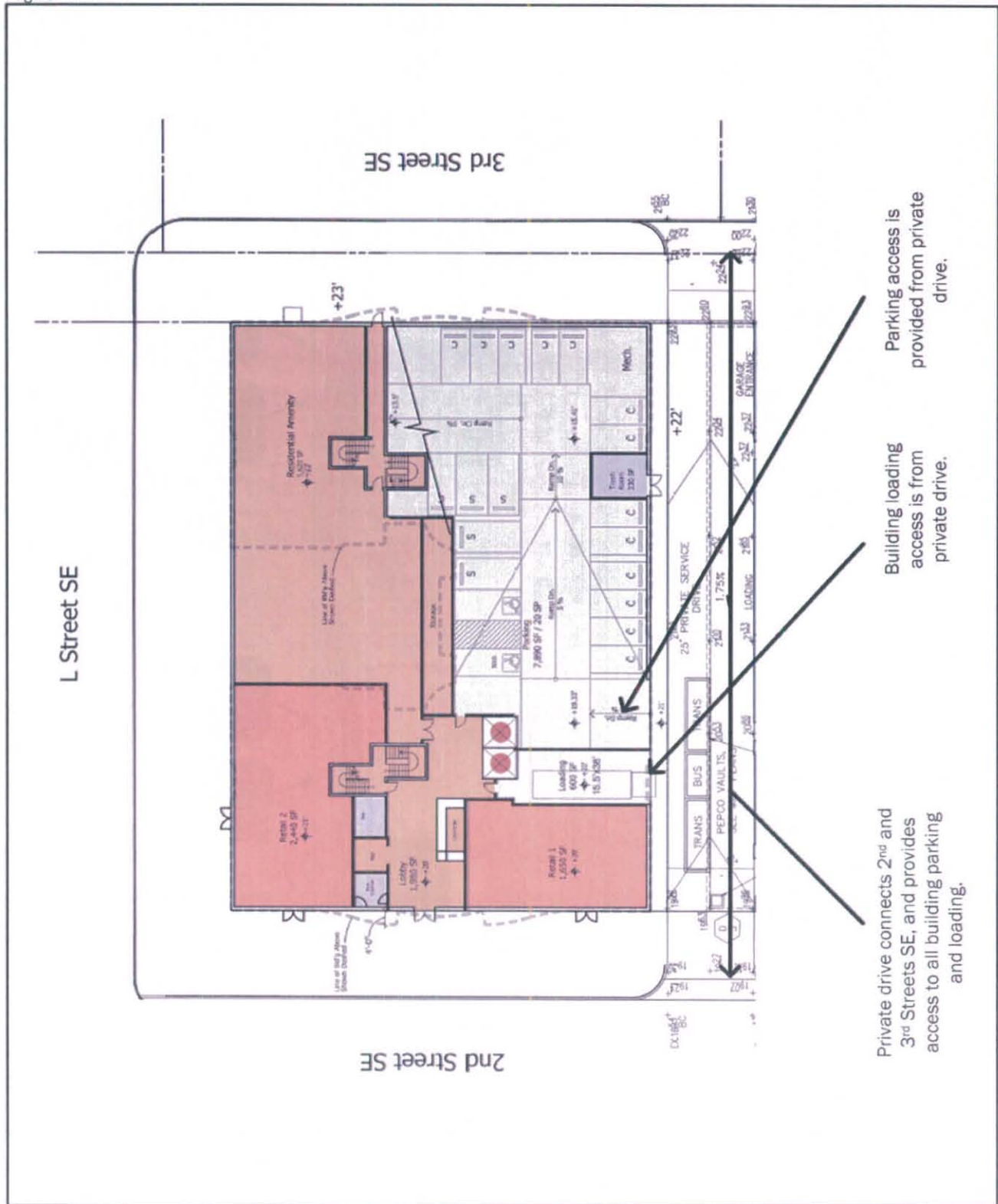


Figure 2: Overview of Northern Portion of Square 769

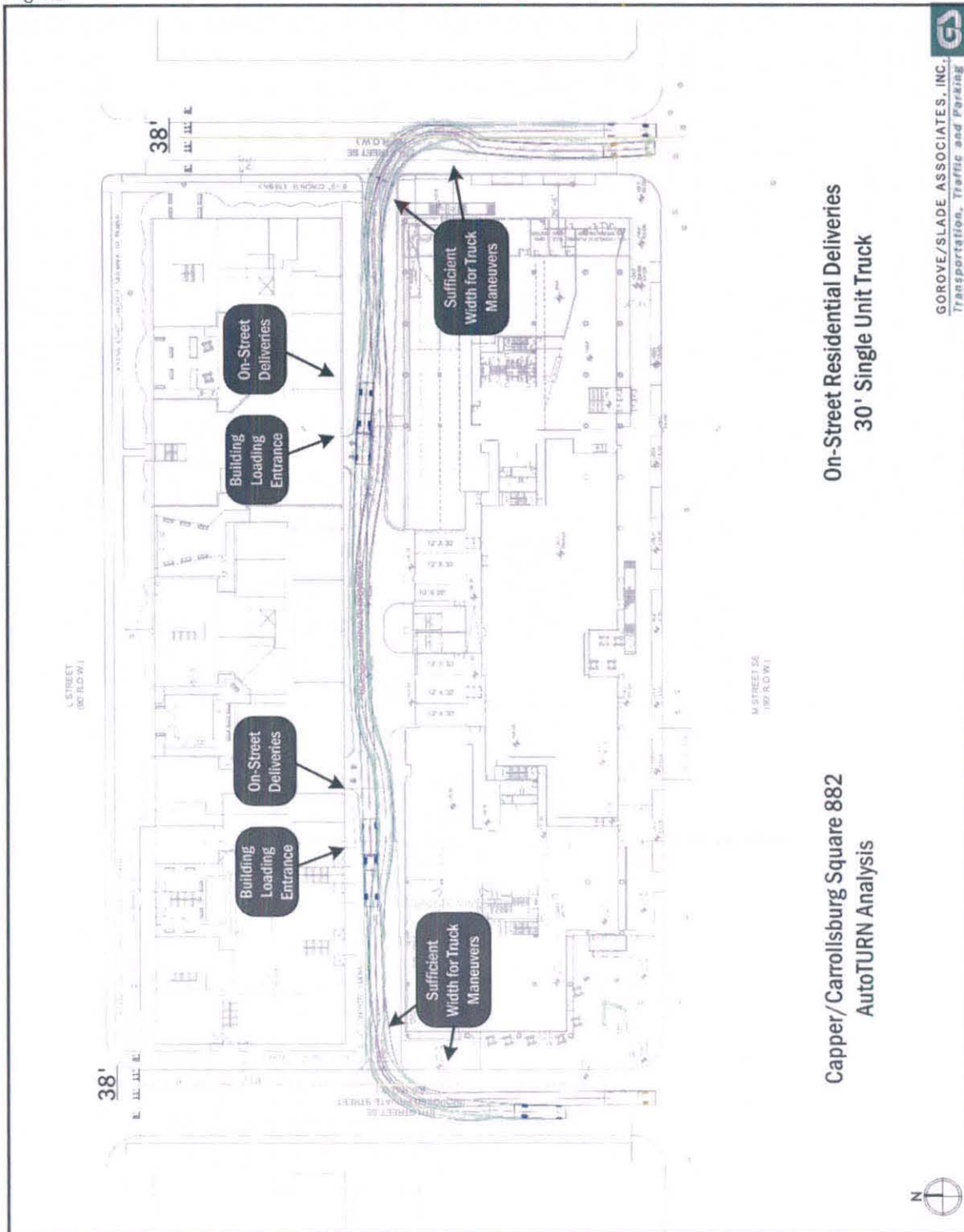


Figure 3: Square 882 Residential Loading

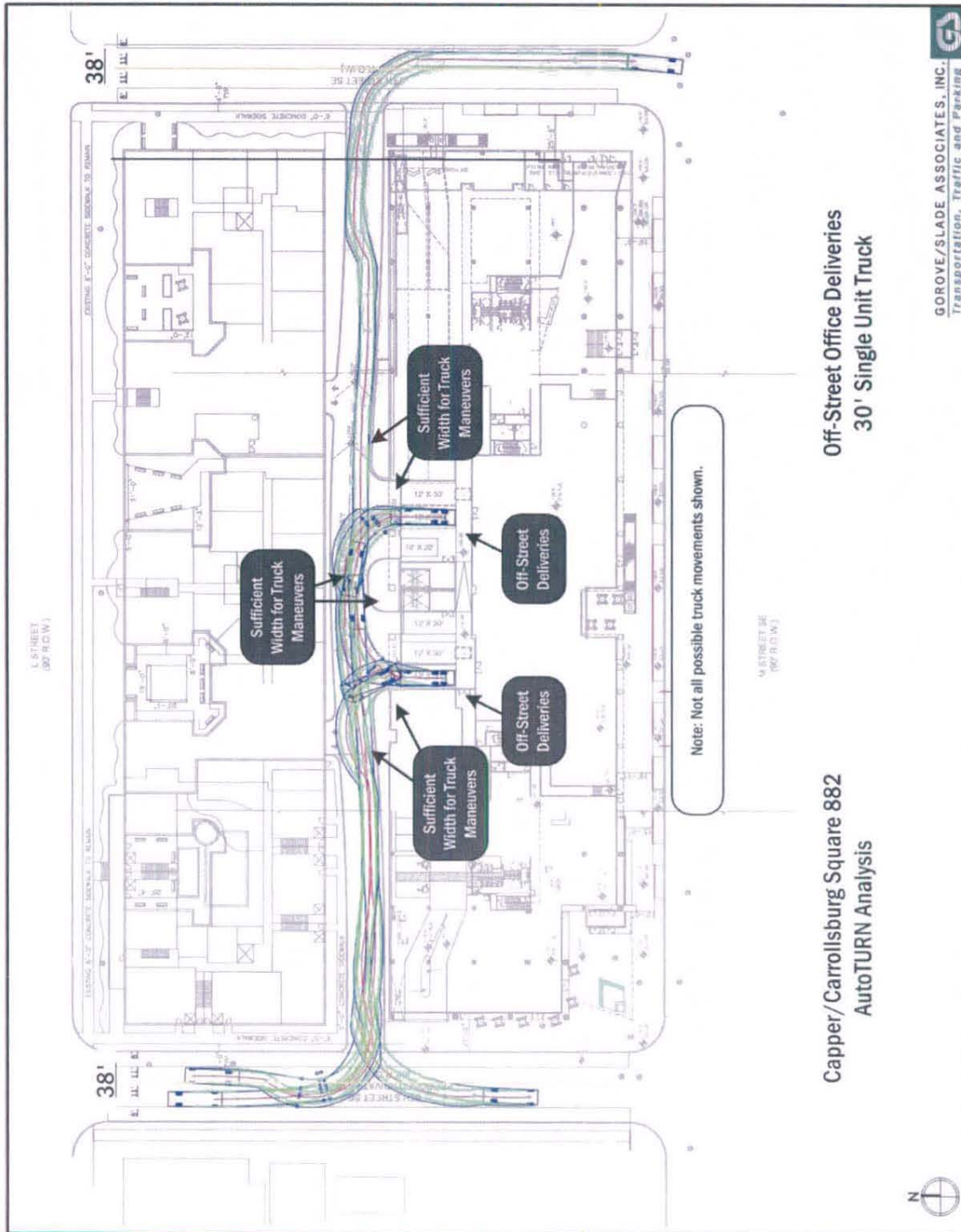
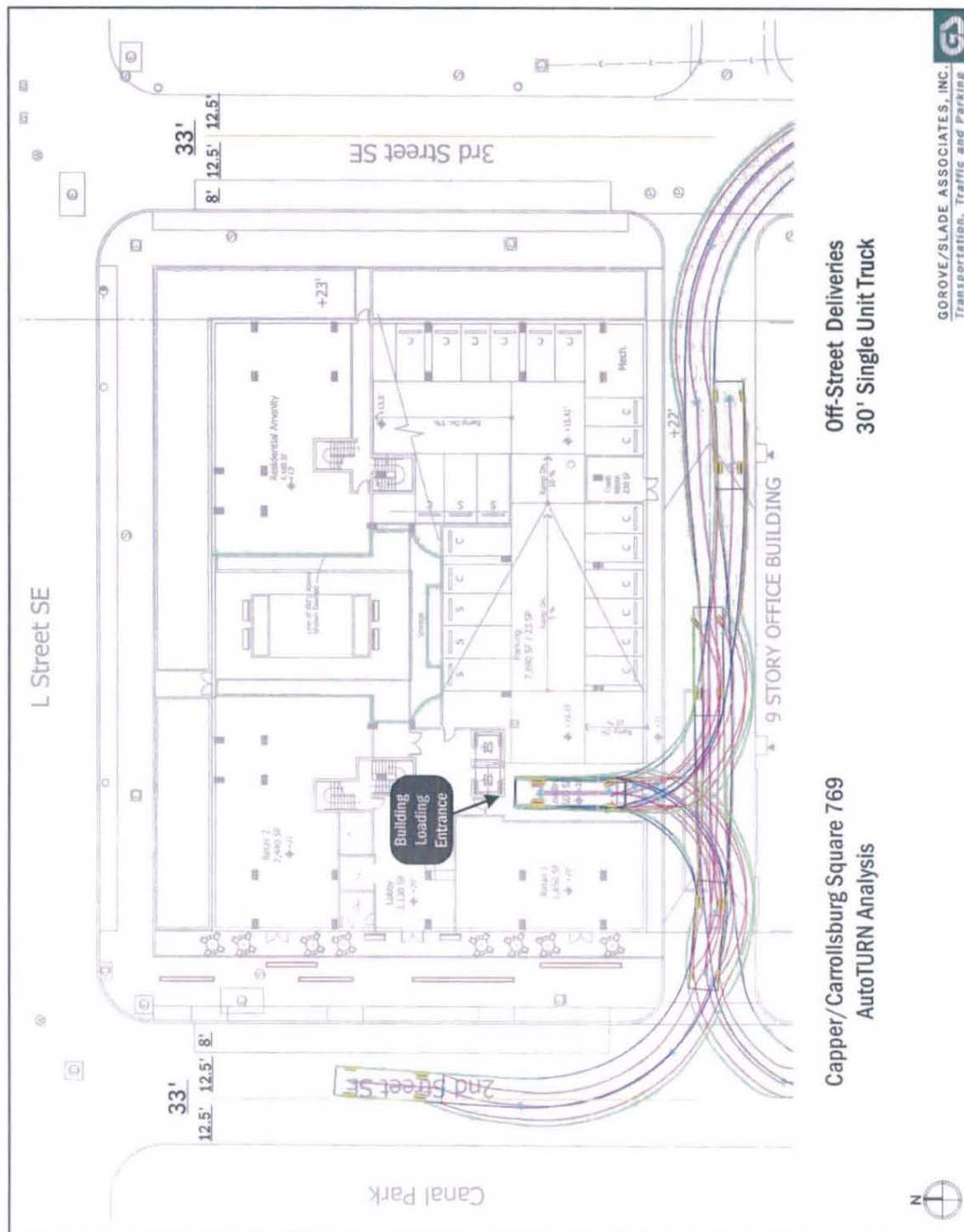


Figure 4: Square 882 Office Building Loading



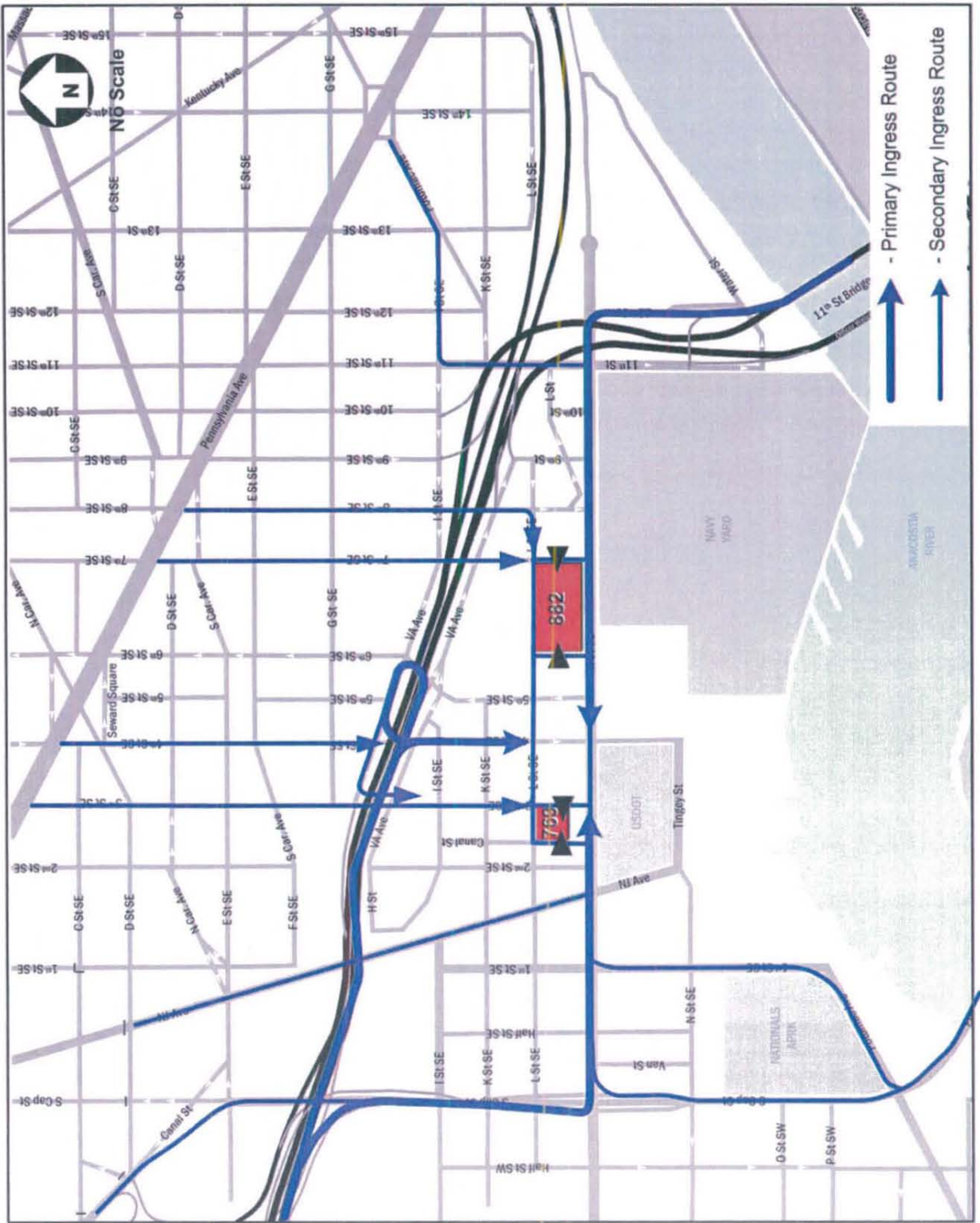


Figure 6: Site Ingress

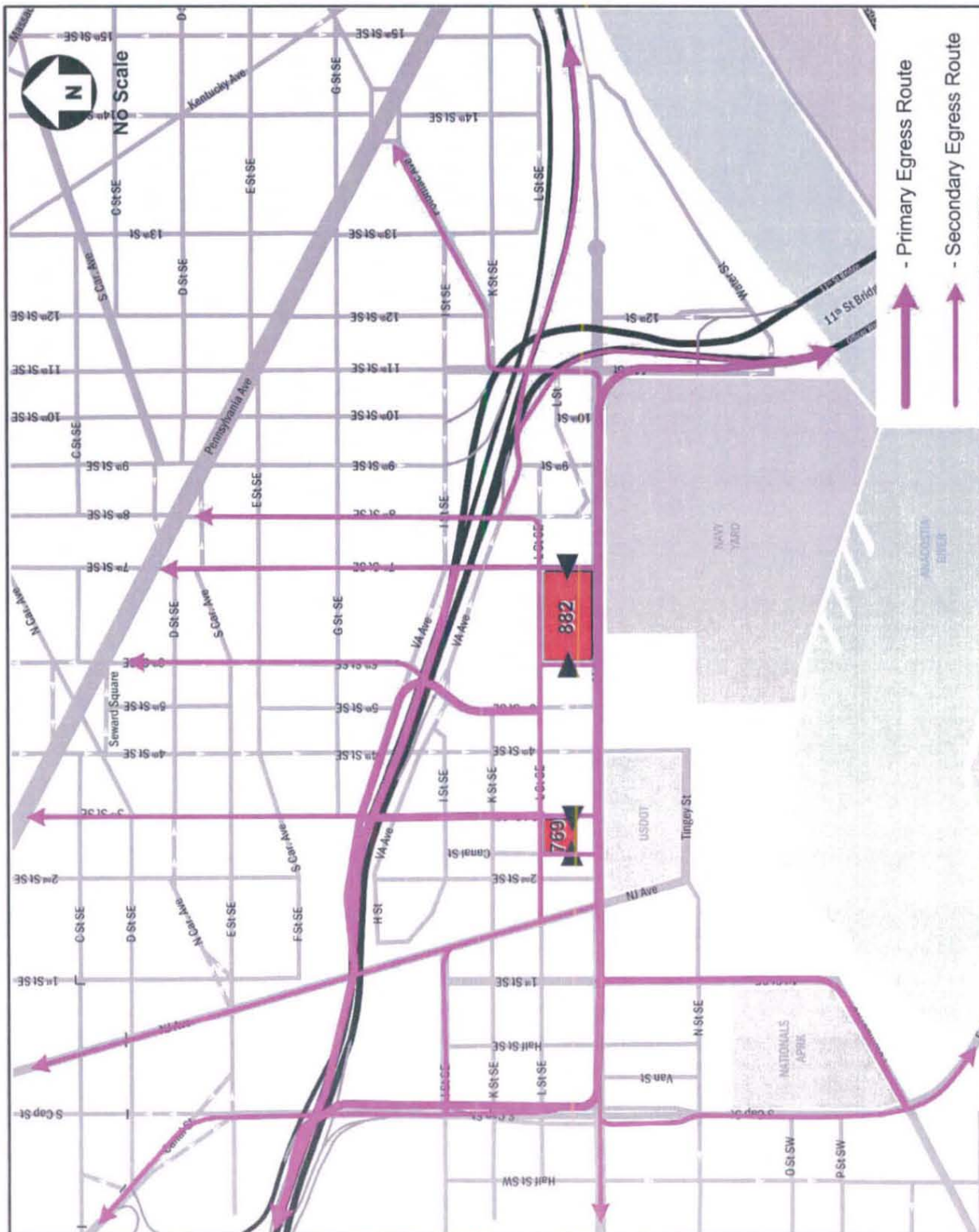


Figure 7: Site Egress