

Landmark Van Dorn Area Plan

Transportation Analysis and Transportation Plan

Burgess & Niple, Inc.

Nelson\Nygaard

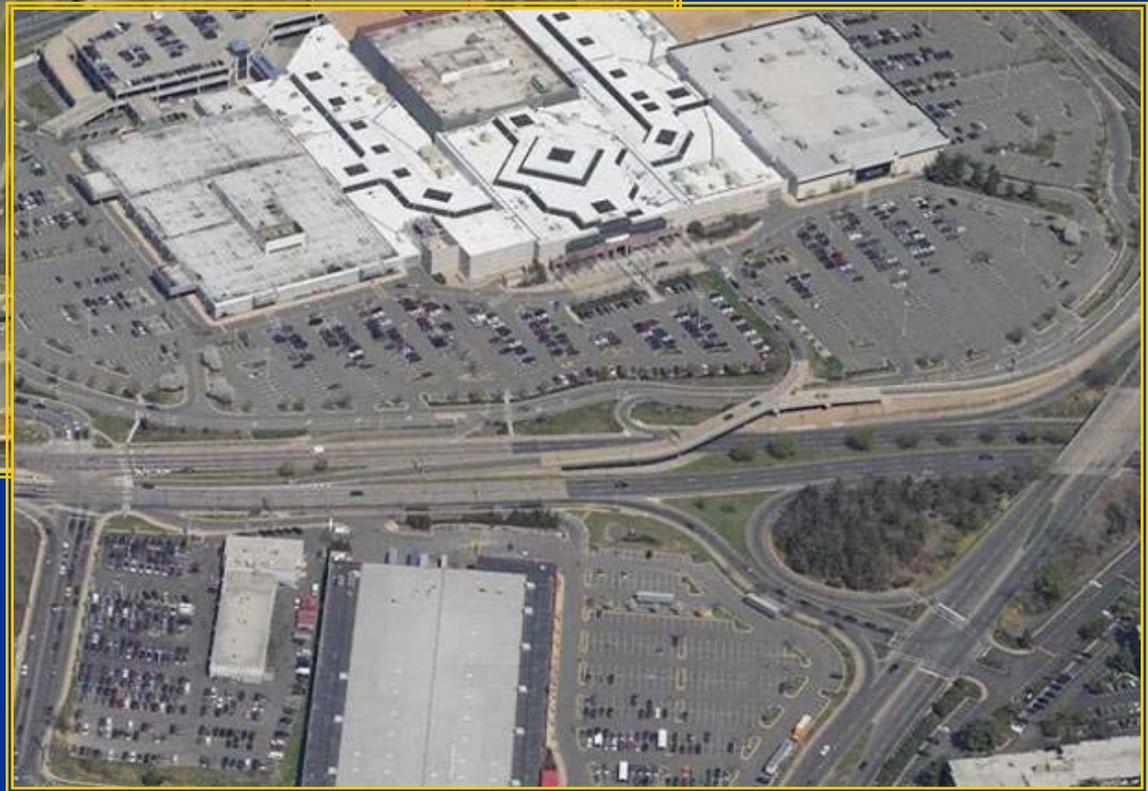
Agenda

- Background
- Transportation Plan
 - Components of Transportation Plan
 - Town Center Access Alternatives
- Street System Performance
- Transportation Demand Management
- Findings and Conclusions

Background: Existing Conditions

- Arterial grid concentrates traffic on Van Dorn Street
- Duke Street, the City's most important east-west arterial roadway
- Superblocks, no local grid
- Transit use 18% (commuters)
- Auto-dependent, pedestrian-hostile development pattern

Auto Dominated



September 15, 2008

City Transportation Master Plan

- Emphasis on choice, not on new roadways
- Three corridors with dedicated transit lanes
- Bicycle and pedestrian emphasis.
- Adopted April, 2008.

Transportation Master Plan Guiding Principles

Alexandria will:

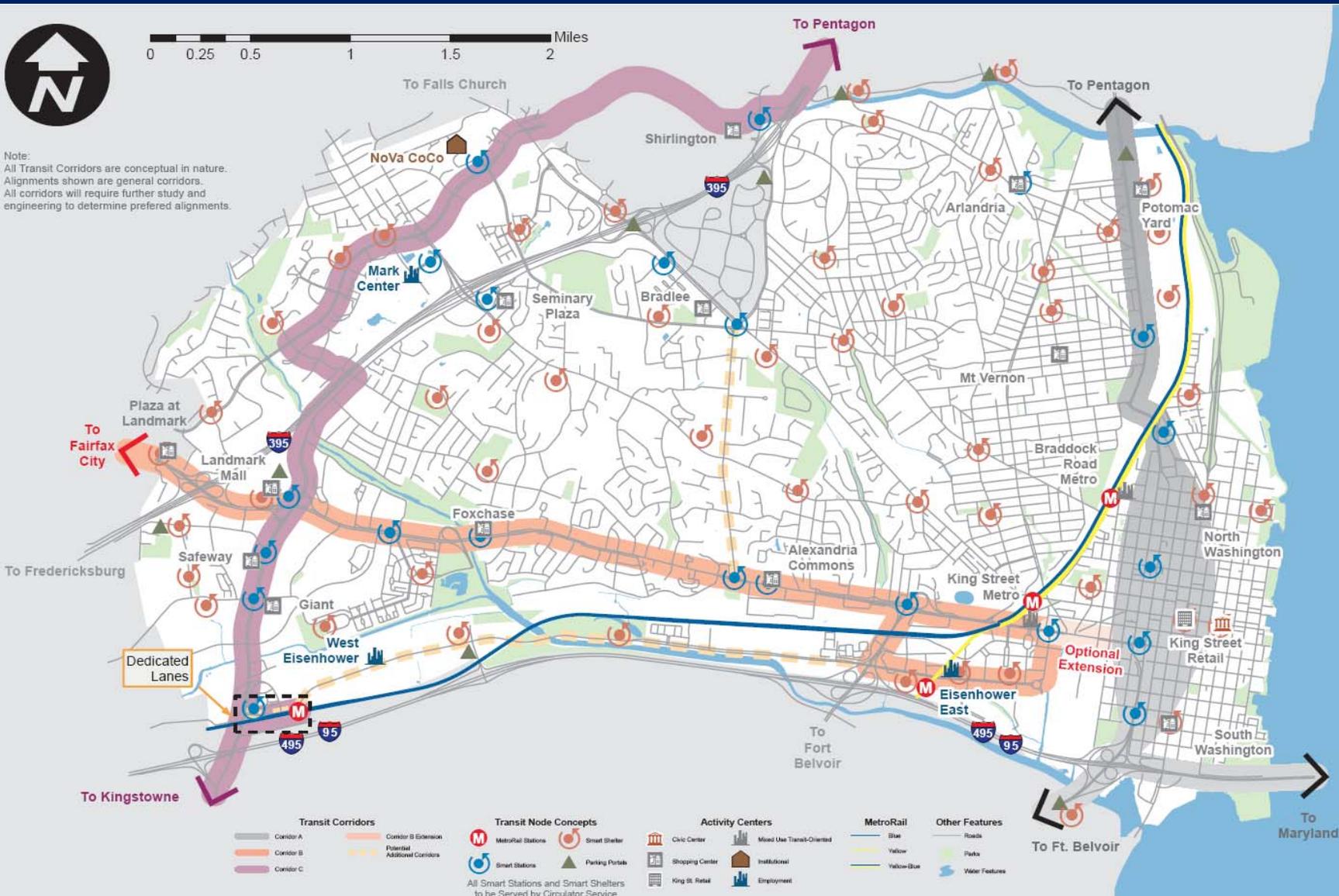
- Develop innovative local and regional transit options.
- Provide quality pedestrian and bicycle accommodations.
- Provide all its citizens, regardless of age or ability, with accessibility and mobility.
- Increase the use of communications technology in transportation systems.
- Further transportation policies that support livable urban land use and encourage neighborhood preservation, in accordance with the City Council Strategic Plan.
- Lead the region in promoting environmentally friendly transportation policies.
- Ensure accessible, reliable and safe transportation for older and disabled citizens.

<http://alexandriava.gov/tes/info/>

Future Transit Corridors



Note:
 All Transit Corridors are conceptual in nature.
 Alignments shown are general corridors.
 All corridors will require further study and
 engineering to determine preferred alignments.



Transit Corridors		Transit Node Concepts		Activity Centers		MetroRail		Other Features	
Corridor A	Corridor B Extension	MetroRail Stations	Smart Shelter	Civic Center	Mixed Use Transit-Oriented	Blue	Roads	Parks	Water Features
Corridor B	Potential Additional Corridors	Smart Stations	Parking Ports	Shopping Center	Institutional	Yellow			
Corridor C		Smart Stations	Parking Ports	King St. Retail	Employment	Green/Bus			

All Smart Stations and Smart Shelters to be Served by Circulator Service



Advisory Group Goals for Transportation (19 May)

- A more connected, urban grid system, with walkable blocks, to increase mobility for both pedestrians and vehicles.
- Increased transit ridership through reliable, convenient and coordinated transit services, with emphasis on effective transit service on Van Dorn Street between Landmark Mall and the Van Dorn Street Metro Station
- Provide safe, convenient and attractive pedestrian and bicycle access to all transit nodes, centers and stations
- Provide off-street, dedicated pedestrian and bicycle paths to connect transit, activity centers, neighborhoods, open space, and community facilities.

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Major Transportation Components of Framework Plan:

1. Grid of walkable local streets.
2. Primary and Secondary Transit Networks.
3. Transit center in or near West End Town Center.
4. Town Center access improvements.
5. Transformation of Van Dorn into a Multimodal Boulevard.
6. Multimodal bridge linking planning area to Metro.
7. Off street pedestrian and bicycle connections.
8. Transportation Demand Management and Right-Sized Parking.

1. Grid of walkable local streets.
2. Primary and Secondary Transit Networks.
3. Transit transfer center in or near West End Town Center.



4. Town Center access improvements.

5. Transformation of Van Dorn into a Multimodal Boulevard.

6. Multimodal bridge linking planning to Metro.



4. Town Center access improvements.
5. Transformation of Van Dorn into a Multimodal Boulevard.



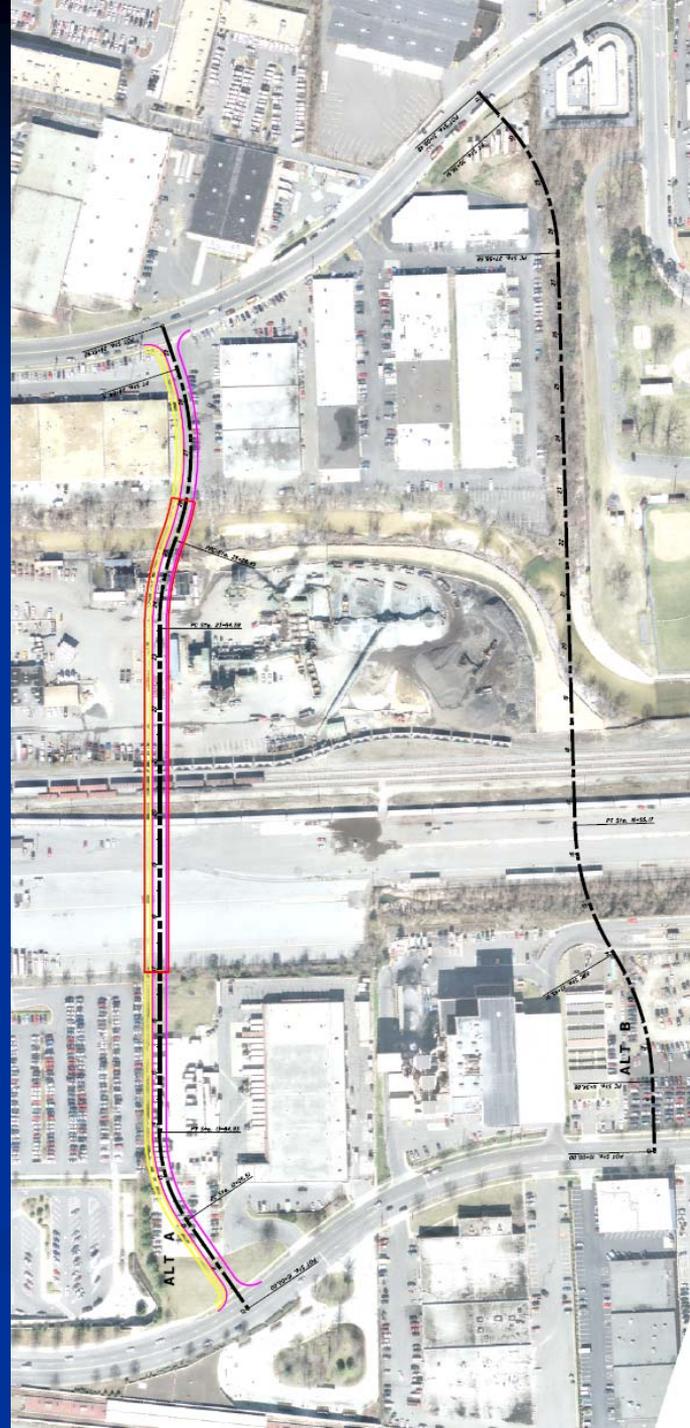
MAJOR TRANSIT STREETS AND BOULEVARDS

Provides transit services

Typically edged by a mix of uses

Often serves as the “Community’s Face” e.g. Connecticut Avenue, the 14th street corridor in DC, Canal street in New Orleans

4. Town Center access improvements.
5. Transformation of Van Dorn into a Multimodal Boulevard.
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7. Off street pedestrian and bicycle connections.
8. Transportation Demand Management and Right-Sized Parking.

Future Improvements

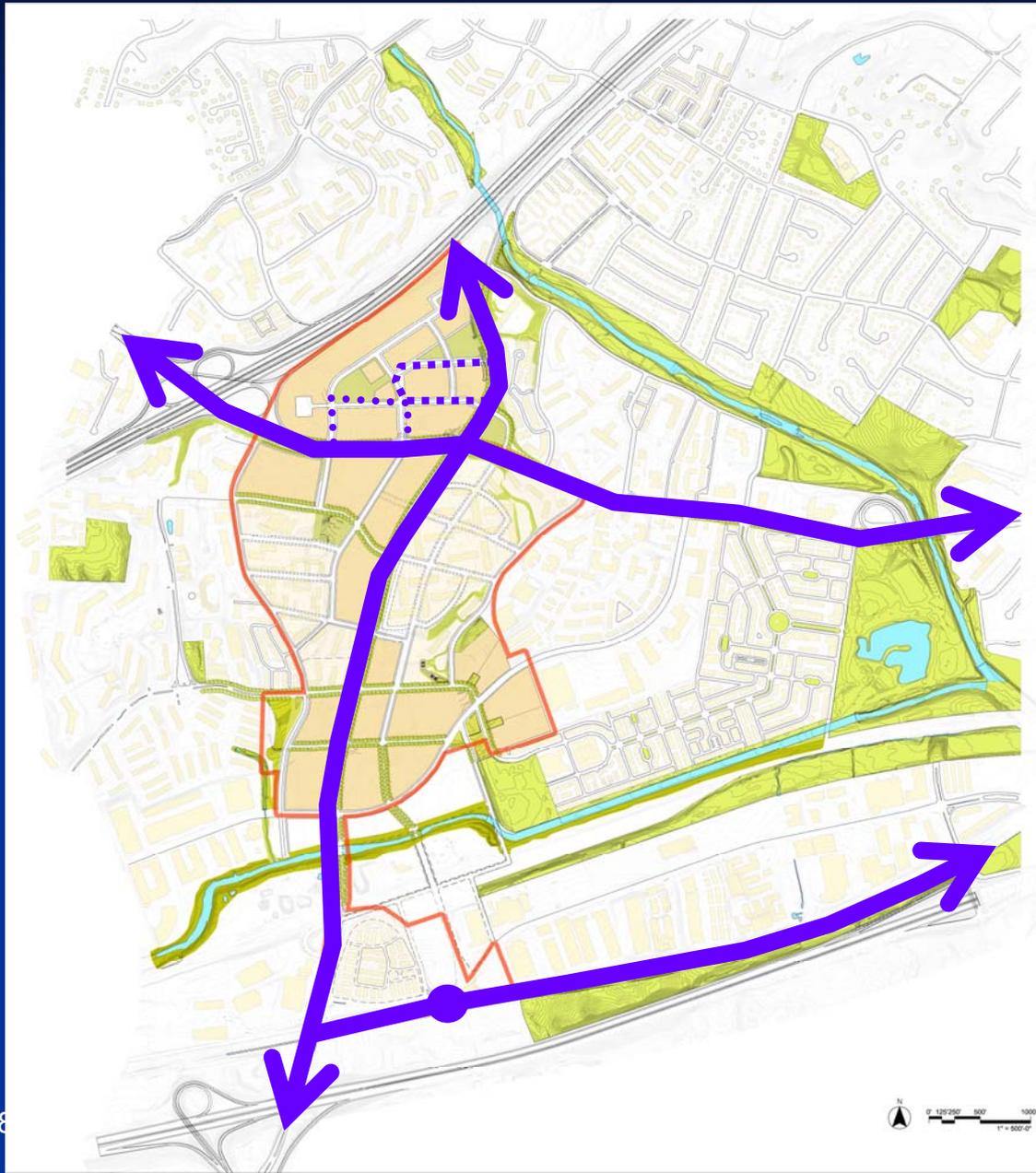
- Transit:
 - ✓ Bus or light rail on dedicated lanes or rail.
 - ✓ Smart shelters and stops



Transit: Primary Transit Network

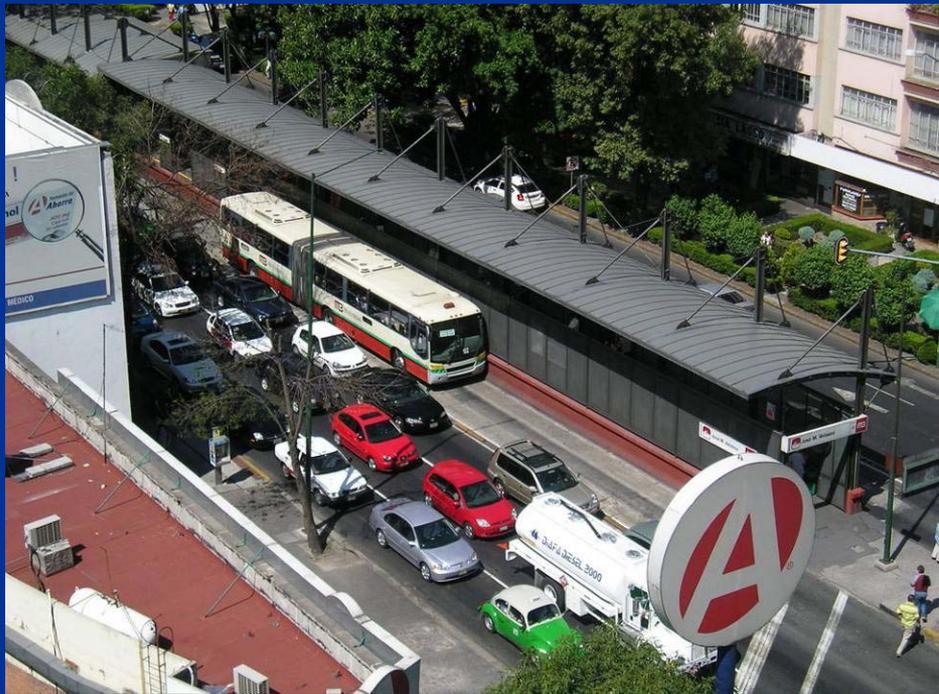
- Bus or Light Rail Transit and Metro
- Prioritizes transit and supports City's Transportation Plan
 - ✓ "Major Transit Streets and Boulevards"
- Characteristics of Well Performing PTN:
 - ✓ 16+ hours per day
 - ✓ 7 days per week
 - ✓ Frequent/No schedule needed
 - ✓ Serves as Metro-Mall Shuttle
 - ✓ Physical presence (stations and lanes)
 - ✓ Continuous customer information

Transit: Primary Transit Network

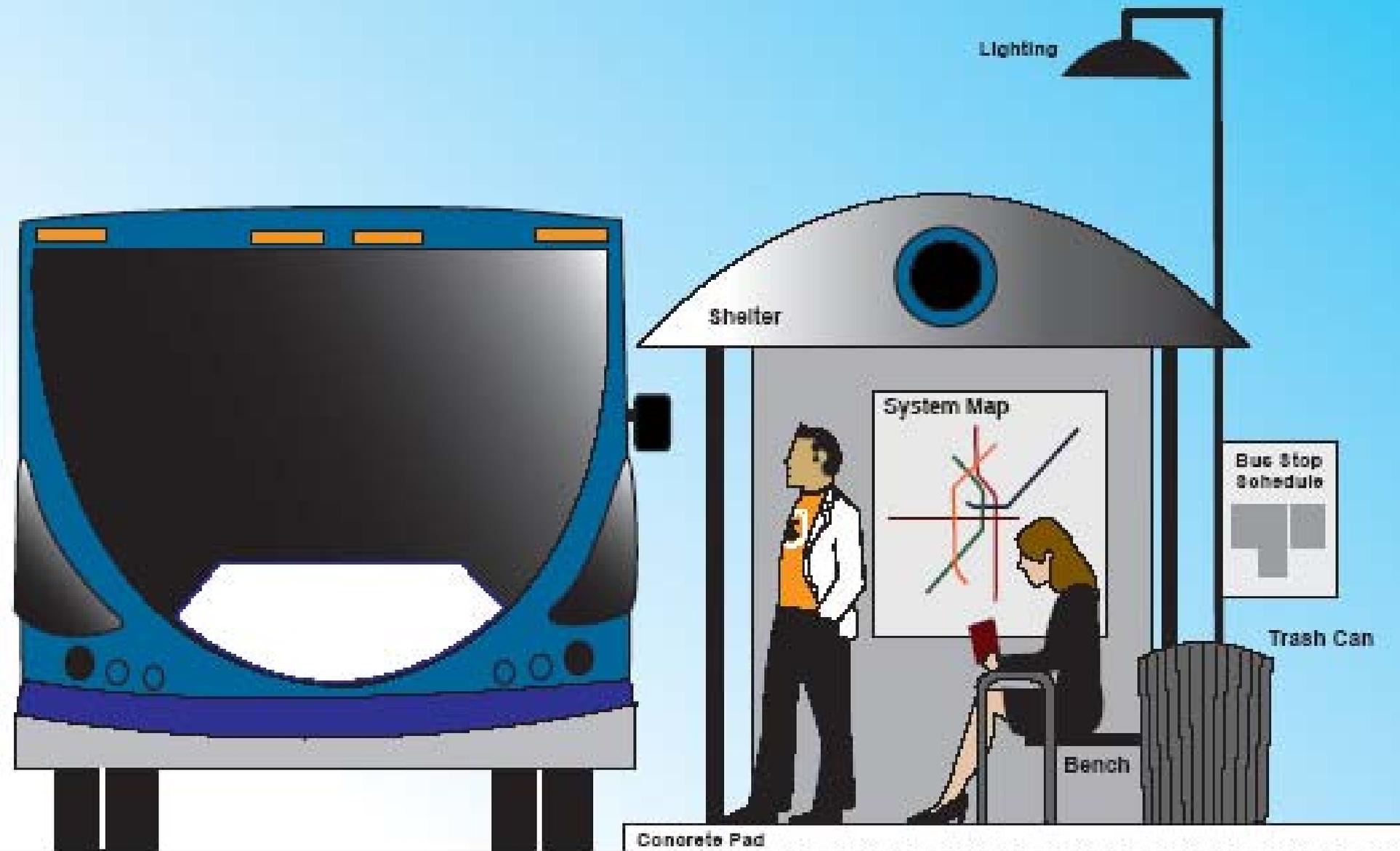


Transit: Primary Transit Network

Examples of Bus Rapid Transit and Light Rail Transit operating in dedicated lanes.



Transit Stop Amenities

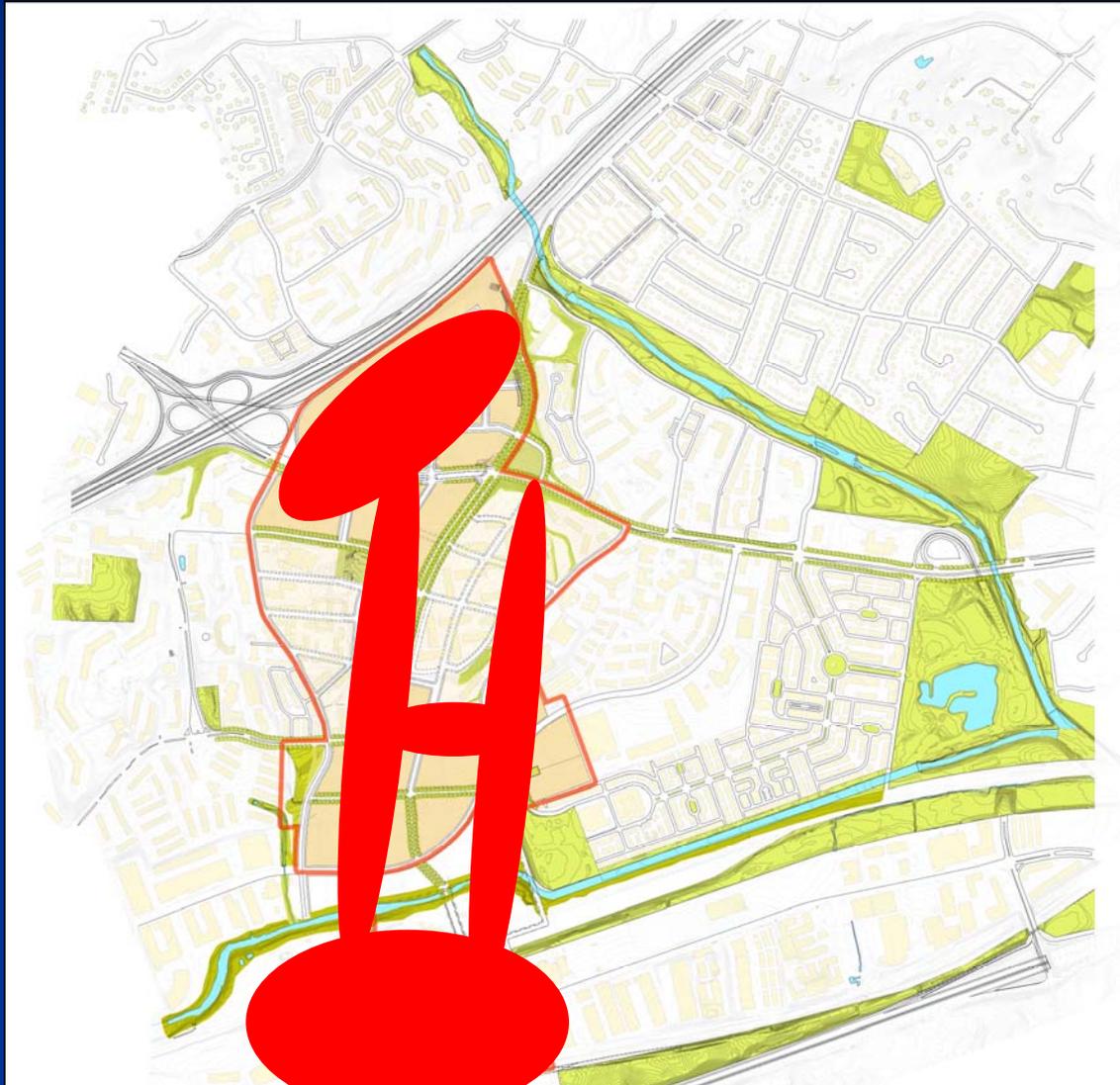


Transit: Secondary Transit Network

- Local routes and circulators
 - ✓ Complements PTN for overall effectiveness
 - ✓ “Major Residential Streets” and “Mixed Use Main Streets”
 - ✓ Supports walkability of local streets

- Characteristics
 - ✓ Scheduled to meet demand based on site/neighborhood land uses

Transit: Secondary Transit Network



Transit: Secondary Transit Network



Complete Pedestrian Network

- Sidewalks
 - 10' minimum, including landscape zone, pedestrian zone, and building frontage
- Crossings
 - Every 200-330 feet (2004 AASHTO Pedestrian Guide and 2006 ITE Context Sensitive Solutions)
- Crosswalks
 - On all legs of all intersections
 - As short as possible
 - Aligned with sidewalks
- Stop Lines
 - At all controlled intersections.
 - Located at least 5 feet from the crosswalk
- Medians
 - No more than 3 lanes of pedestrian crossing w/o a refuge
 - At least six feet wide with eight feet preferred



Bicycles

Capture Area:

- Pedestrian capture is ~ 0.25-0.5 miles
- Bike capture is 1-3 miles

How can we facilitate biking?

- Bicycle routes/lanes
- Secure/protected bike parking
- Taking bikes on board transit
- Shower facilities at/near final destination.
 - Included in development codes for new office buildings



Existing Bicycle Parking at
Van Dorn Metro



Bicycle Rack in Old Town²⁶

Transportation Demand Management

➤ Right Size Parking:

- ✓ Tailor off-street parking requirements to encourage use of the multi-modal transportation system and reduce use of single occupancy vehicles, where feasible
- ✓ Result of requiring fewer parking spaces can translate into available funding for desired amenities.
- ✓ Manage on-street parking using price, time, and by context
- ✓ Shared parking uses less land
- ✓ Unbundling cost of parking

Right Size Parking

	<u>Typical Minimum Requirements</u>	<u>'Tailored' Minimum Requirements</u>	<u>Abolish Minimum Requirements</u>	<u>Set Maximum Requirements</u>
Typical Tools	<ul style="list-style-type: none"> ■ Requirement > Average Demand ■ Hide all parking costs 	Adjust for: <ul style="list-style-type: none"> ■ Density ■ Transit ■ Mixed Use ■ 'Park Once' District ■ On-street spaces 	<ul style="list-style-type: none"> ■ Market decides ■ Garages funded by parking revenues ■ Manage on-street parking ■ Residential pkg permits allowed by vote 	<ul style="list-style-type: none"> ■ Limit parking to road capacity ■ Manage on-street parking ■ Market rate fees encouraged/required
Traffic	High	←	→	Low
Housing Costs	High	←	→	Low
Pollution	High	←	→	Low

Transportation Demand Management

- District-wide Transportation Management Plan
 - ✓ Would include all existing and future land uses in this Study Area
 - ✓ TMA Coordinator
 - ✓ On-going monitoring and evaluation
 - ✓ Effectiveness based on travel characteristics of residents and employees
 - ✓ Coordinator adjusts strategies based on results
 - ✓ Current City policy is to encourage TDM districts (recently implemented in the Braddock Road Plan)

Transportation Demand Management

➤ TDM Tools and Strategies

- ✓ Broker parking to maximize utilization between uses
- ✓ Create district-wide parking cash-out program
- ✓ Bulk purchases of transit passes
- ✓ Consolidate and operate circulators to coordinate schedules and maximize efficiency
- ✓ Coordinate carpooling and Guaranteed Ride Home
- ✓ Clearinghouse for travel information (transit, bike storage, carpool, Guaranteed Ride Home)

TMA Example

➤ Lloyd District TMA (Portland, OR)

✓ 2015 Modal Share Targets:

- 42% transit
- 33% drive alone
- 10% rideshare
- 5% walk
- 10% bike

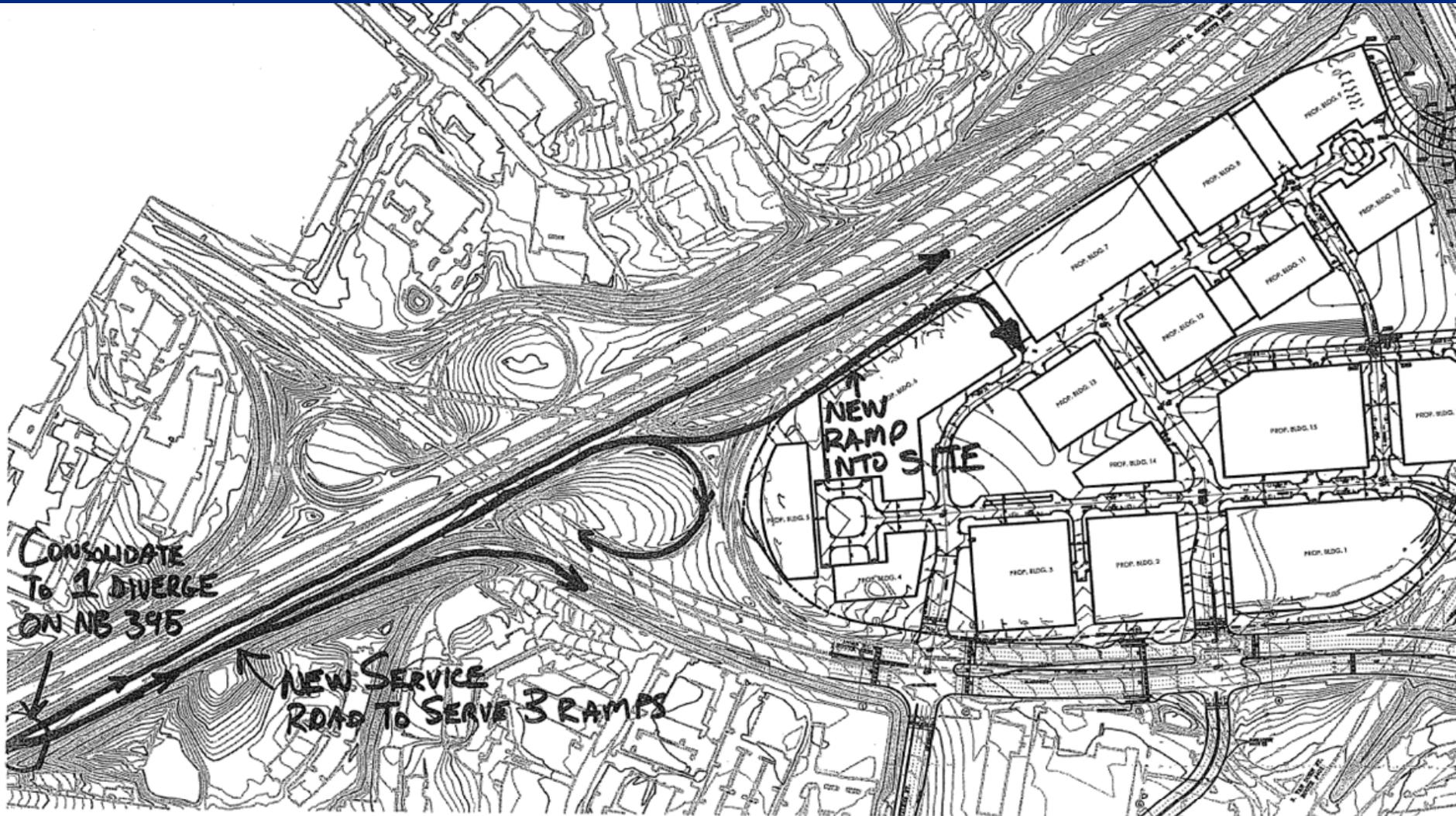
✓ Major Programs:

- LDTMA PASSport annual transit pass program
- Commuter Connection Transportation Store
- District bike locker program
- District pedestrian infrastructure fund
- Policy, advocacy, outreach, and educational events

Major Capital Projects of the Plan

- Dedicated Transit lanes on Duke and Van Dorn.
- Town Center Access Improvements
 - Duke Street Improvements
 - Possible direct connection to Interstate ramps
- Van Dorn Improvements.
- New multimodal bridge.

Possible Direct Connection to Interstate



Possible Direct Connection to Interstate



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Street System Performance

■ Original 2030 Vision:

- ❖ Improved transit options, an upgraded street grid and appropriate land uses will transform the area into a vibrant destination with traffic typical of a successful urban place.

Approach

Metro Washington Council of Governments Regional
Travel Demand Model.



Landmark - Van Dorn Sub Area.

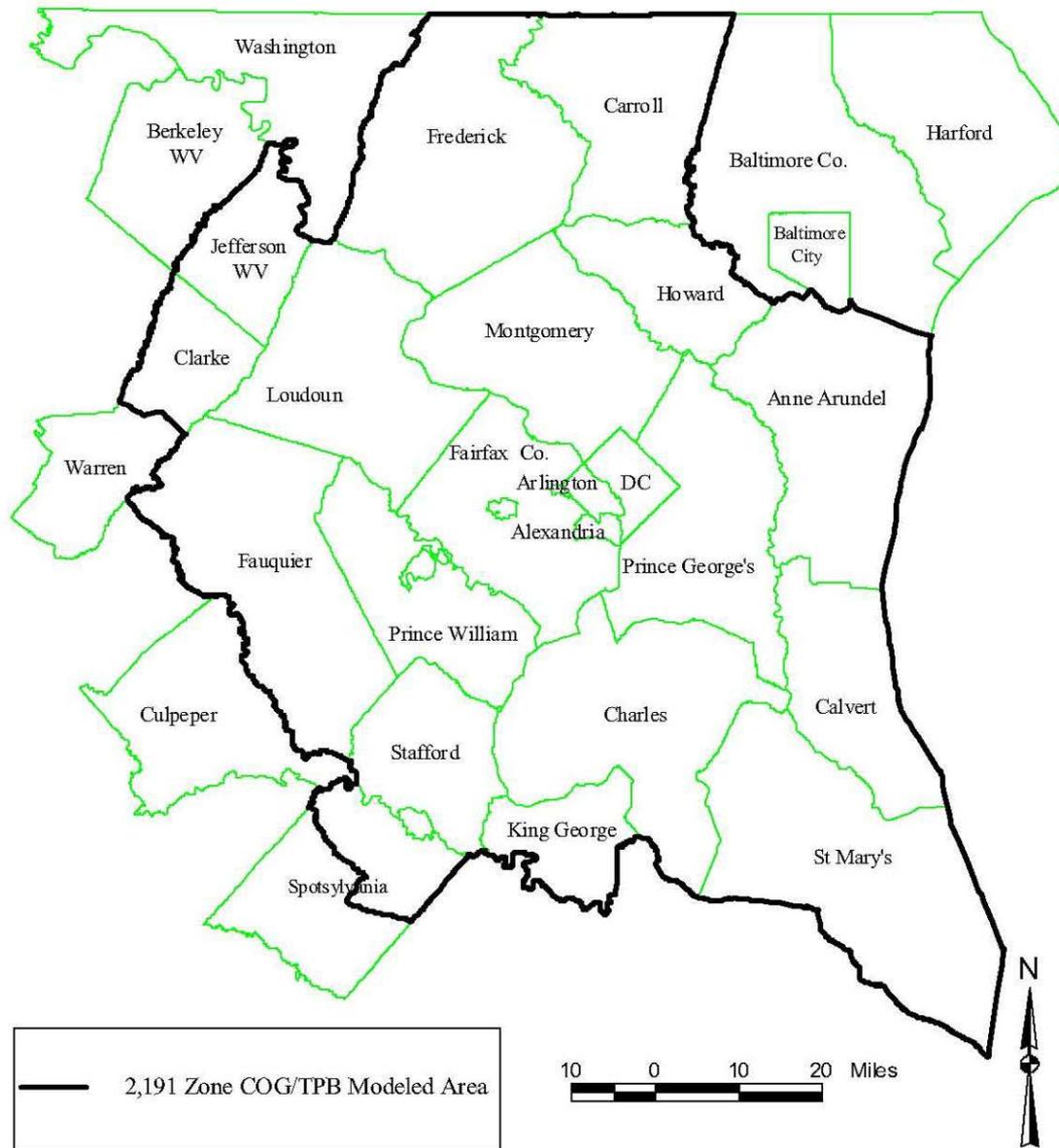
2030 With Existing Zoning and Street System

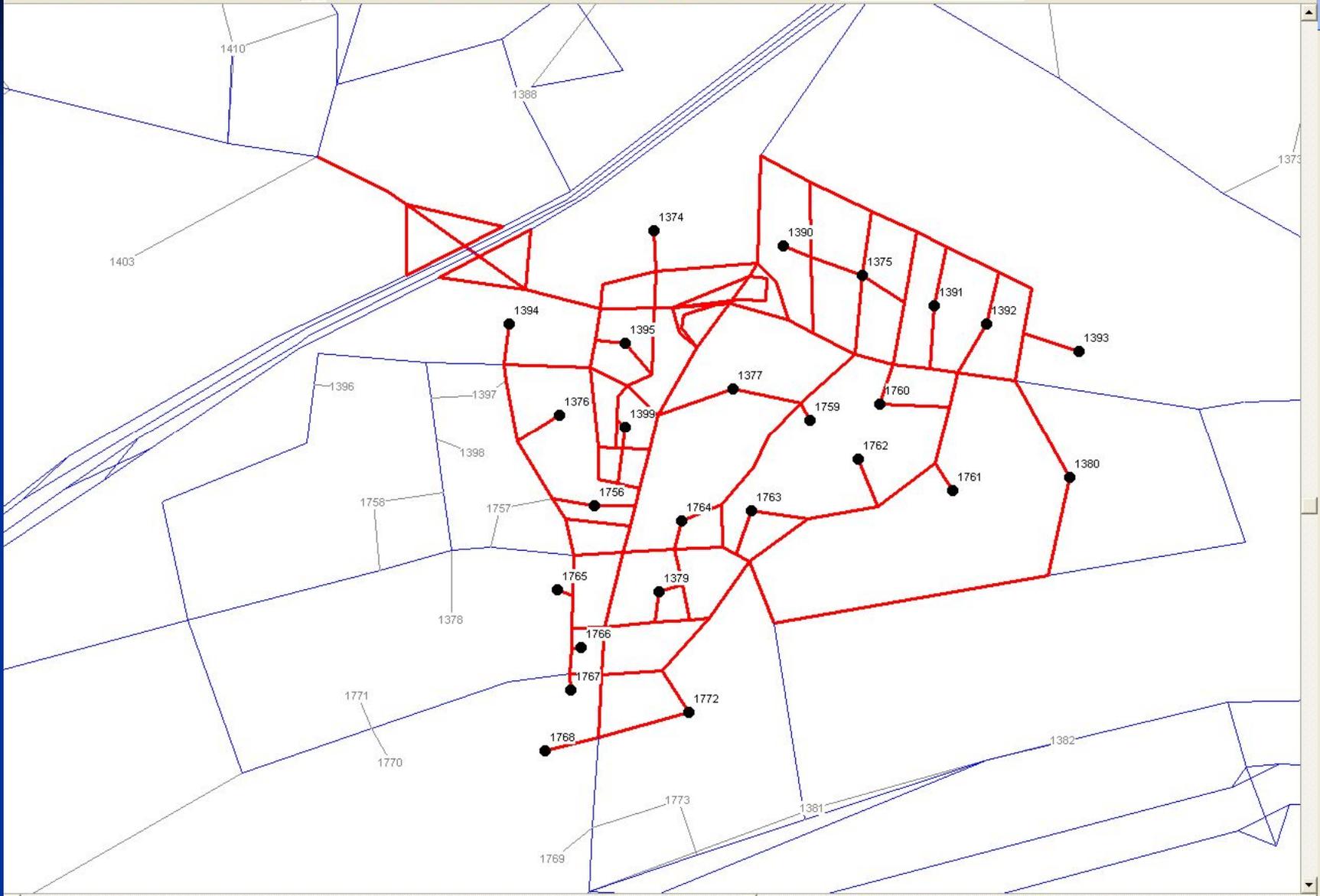
2030 Plan and BRT/LRT

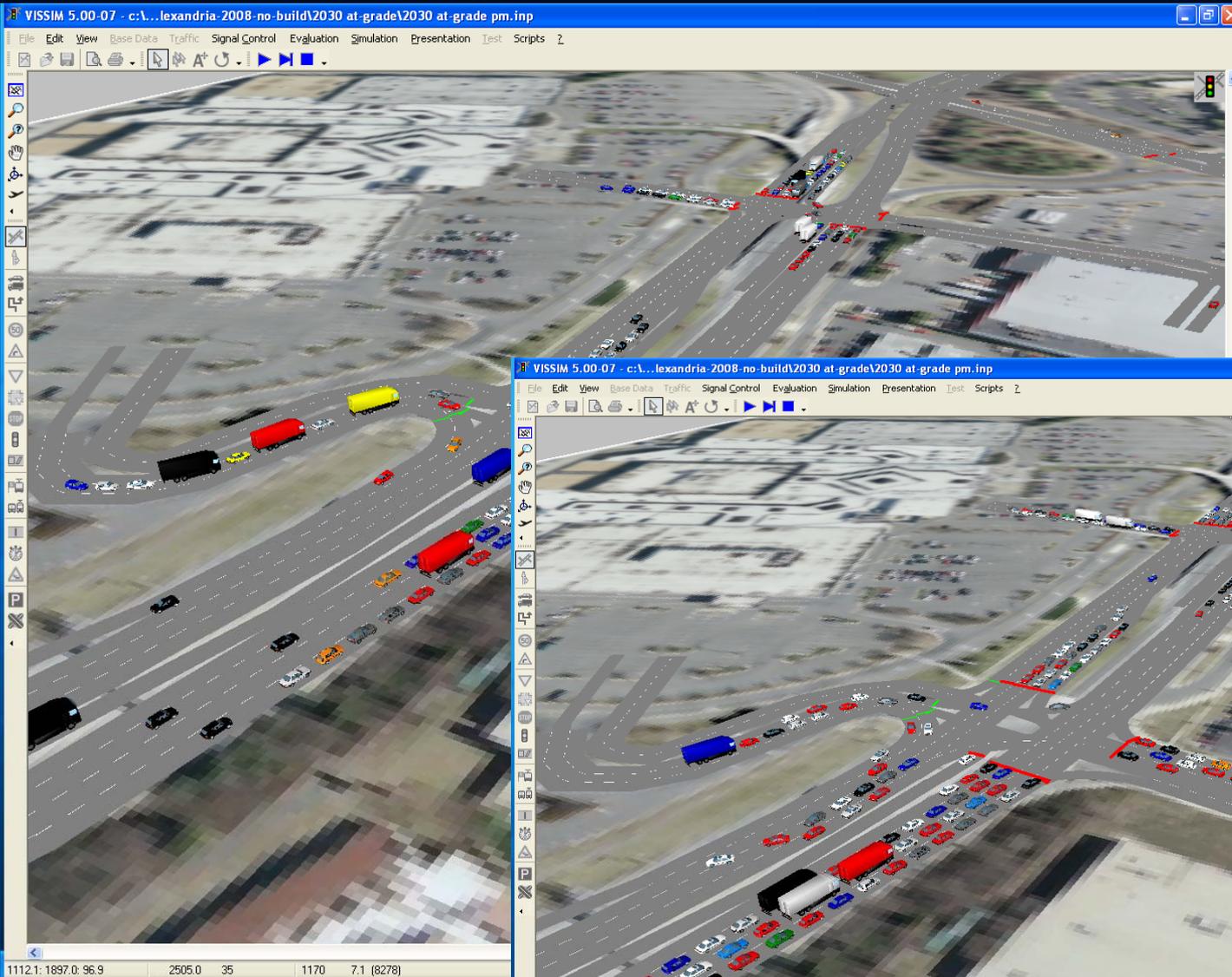


Micro-simulation of Study Area.

Figure 1-1 Modeled area: 2,191 TAZ, 22 jurisdictions

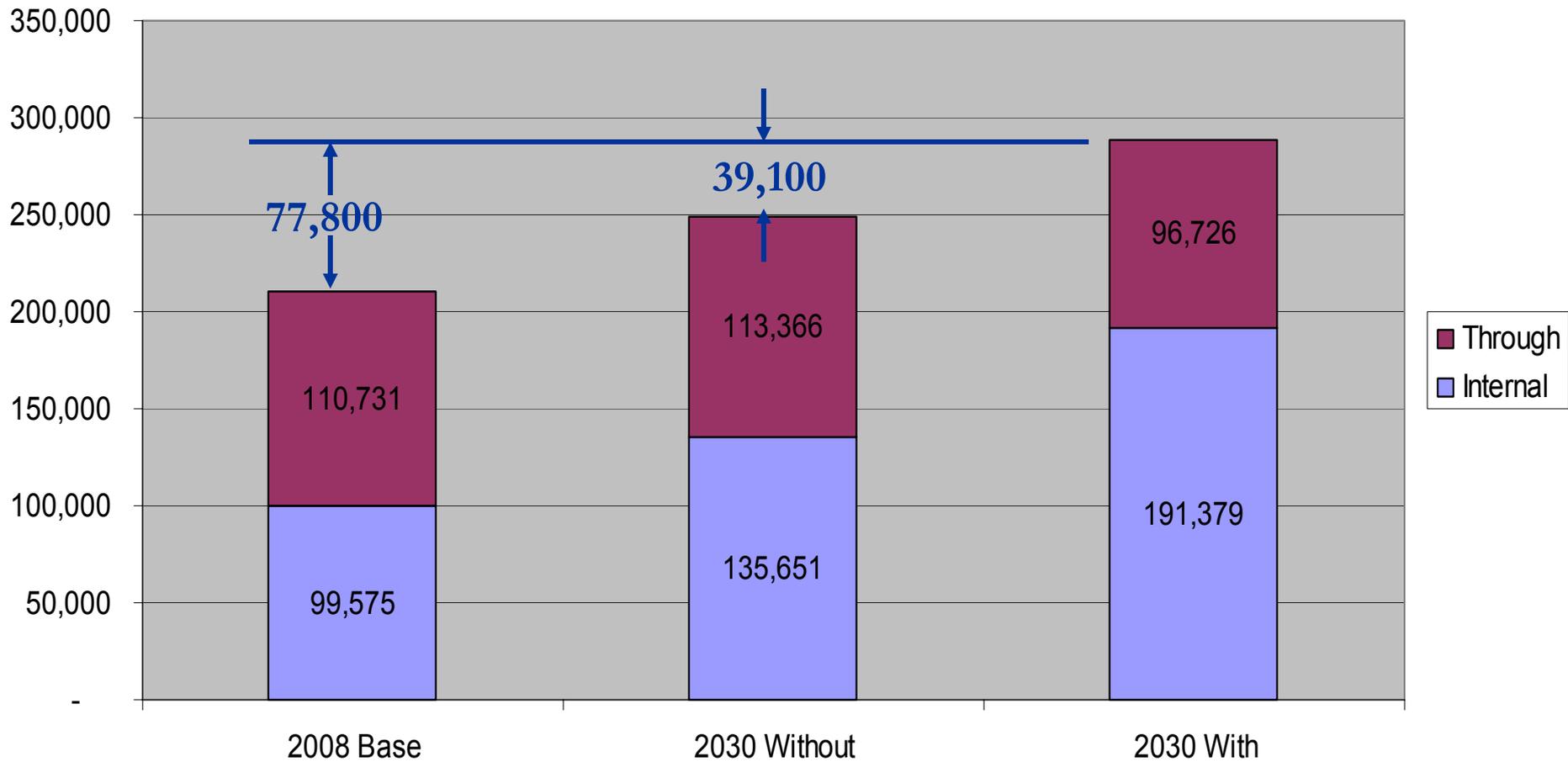




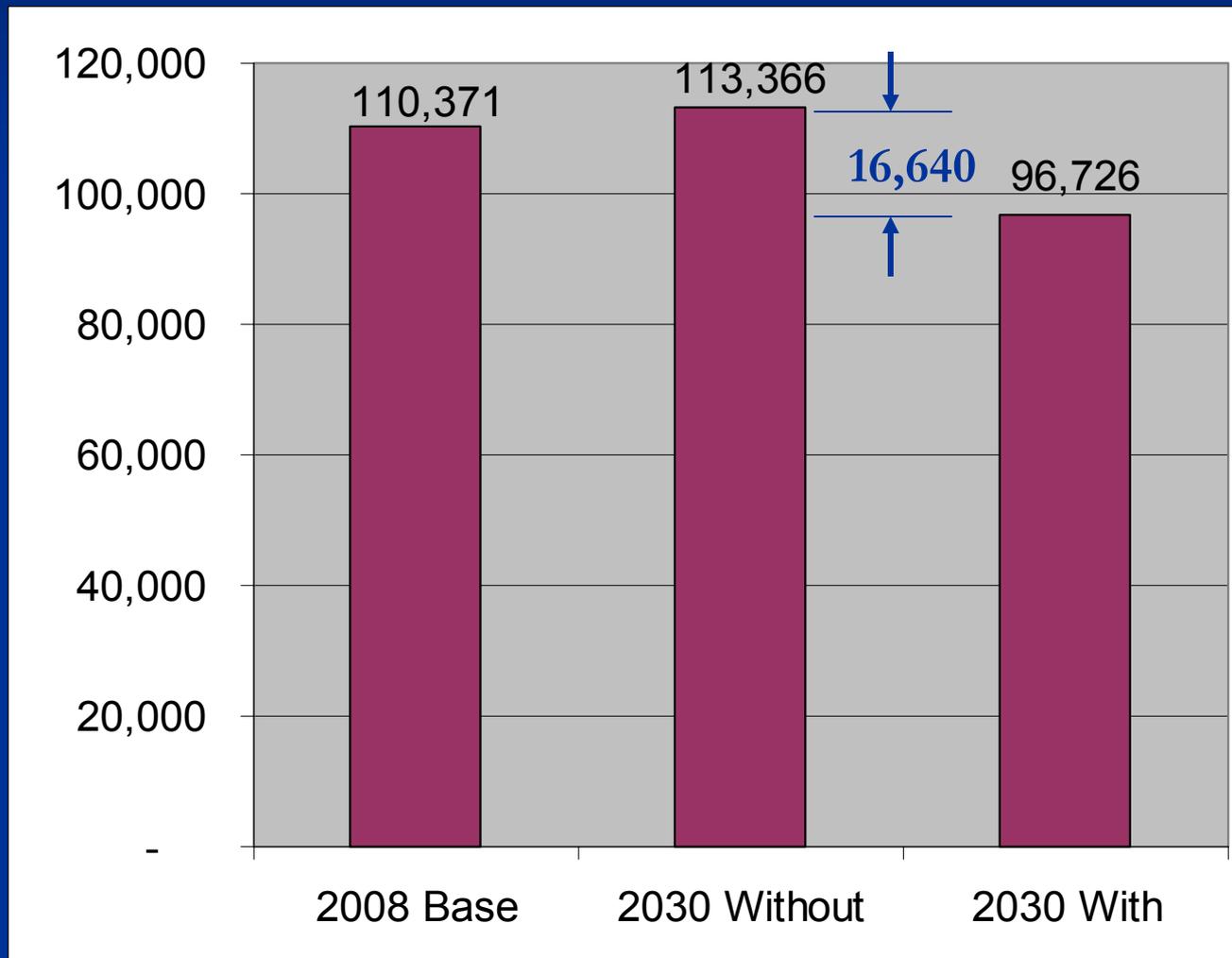


September 15, 2008

Growth in Vehicular Trips



Change in Through Vehicular Trips



Transit Share

- Increase in Commuter Transit Share:
 - 2008 Base: 19%
 - 2030 Current Zoning: 20%
 - 2030 Plan: 27%

Duke Street Arterial Analysis

PM Peak Hour

	<u>Existing</u>	<u>2030 Current Zoning</u>	<u>2030 Plan</u>
Travel Time EB	3:24	4:57	5:39
Travel Time WB	2:14	2:16	3:16
LOS EB	D	E	F
LOS WB	C	C	E

Van Dorn Street Arterial Analysis

PM Peak Hour

	<u>Existing</u>	<u>2030 Current Zoning</u>	<u>2030 Plan</u>
Travel Time NB	3:26	4:21	4:23
Travel Time SB	4:08	4:58	7:29
LOS NB	D	E	E
LOS SB	E	E	F

Duke & Walker PM

	<u>Existing</u>	<u>2030 Current Zoning</u>	<u>2030 Plan</u>
Volume	5,016	6,189	6,892
Average Speed	7	7	8
Average Delay	51	52	42
Intersection Cap %	75.6%	89.0%	90.6%

Van Dorn and Pickett PM

	<u>Existing</u>	<u>2030 Current Zoning</u>	<u>2030 Plan</u>
Volume	4,412	4,343	4,449
Average Speed	10	9	14
Average Delay	40	49	24
Intersection Cap %	99.2%	91.5%	93.9%

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Findings: 2030 Plan

- Volumes will be 16% greater for the Plan than for Existing Zoning.
- Through traffic will be reduced by over 16,000 vehicle trips.
- Transit will increase from 19% to 27%.
- Arterial average speeds decrease, however on both Duke and Van Dorn traffic continues to move.
- Only a few intersections have delays over 120 seconds.

Conclusions:

- With an increase in area trips, congestion will increase throughout the transportation network.
- A reduction in through trips and an increase in Transit and HOV and TDM measures reduce the impact.
- The forecasted system performance will be typical of that in successful urban areas.