

*“Access Management”*

The traffic flow and property access plan elements are components of a concept often referred to as *access management*. Access management is the systematic control of the location, spacing, design, and operation of driveways, median openings, and side-street connections to a roadway. The purpose of access management is to provide controlled vehicular access to properties while maintaining the safety and throughput efficiency of the roadway system. Effective access management can:

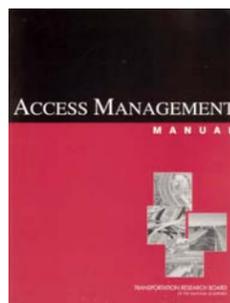
- Reduce crashes as much as 50%. (Left turns typically account for almost half of all accidents on an arterial with little or no access management)
- Increase roadway capacity by 23%-45%.
- Reduce travel time and delay as much as 40% to 60%.
- Preserve both the transportation and economic viability of a corridor.

*Economic Impacts*

A number of studies have been conducted regarding the economic impacts of access management, and specifically the restriction of left turns through use of medians or c-curbing. Studies have looked at business impacts, overall business activities, and business owner perceptions.

Economic effects of access management on specific businesses are dependent on the type of business. In general, the results of the studies indicate that left turn restrictions have little overall adverse impact on business activity, so long as alternate turning routes are well-designed and conveniently located. Destination businesses are less impacted than businesses heavily dependent on automobile-oriented pass-by traffic. However, as road volumes increases, left-turns become more prohibitive even without the implementation of access management.

Generally, business owners were more pessimistic of access management prior to implementation. After implementation, a high percentage of both business owners and motorists had a favorable opinion of the roadway improvements. Motorists thought the improved roadways were safer and traffic flow had improved.

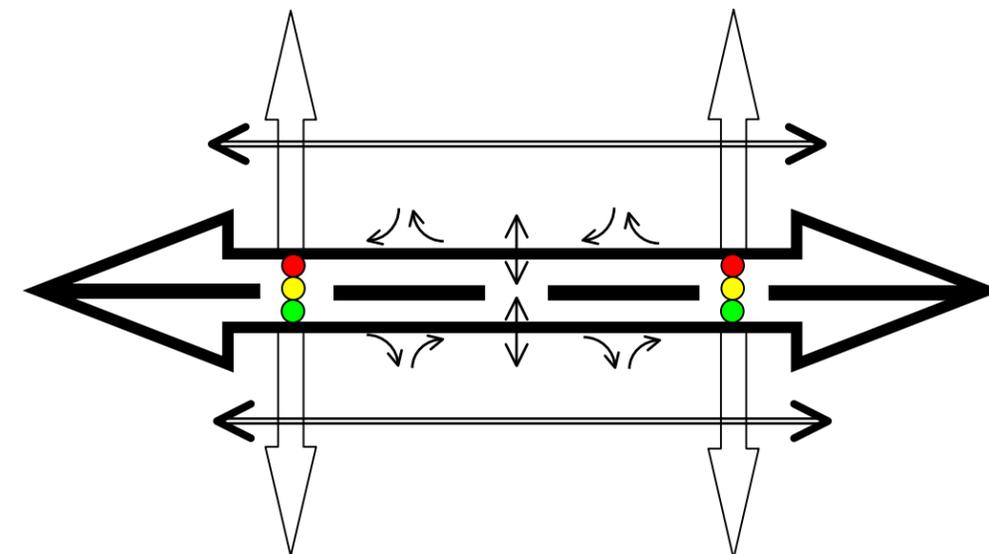


(source: Access Management Manual Transportation Research Board, 2003)

*“Concept Block Diagram”*

This diagram pictorially illustrates the traffic flow and property access plan elements of the NE 3<sup>rd</sup>-4<sup>th</sup> Corridor Improvement recommendations as described here and on the facing page:

- Center median on NE 4<sup>th</sup> Street to manage access and left turns; center median on NE 3<sup>rd</sup> Street for speed control and safety.
- Signalized intersections spaced every 1/4 mile for major north-south avenues to access NE 4<sup>th</sup> Street. (Monterey-Edmonds-Jefferson-Monroe-Queen-Union-Bremerton-Duvall-Hoquiam-Jericho-Nile-Rosario- 156<sup>th</sup> Ave SE)  
1/8 mile signal spacing will exist between Bremerton-Duvall and Hoquiam-Jericho.
- An unsignalized median break midway between traffic signals for minor streets or large parcel driveways.
- Right in-right out access at all other locations, due to the center median.
- Local streets parallel to NE 4<sup>th</sup> Street to service local east-west trips, and to provide neighborhood access to major north-south avenues in order to access NE 4<sup>th</sup> Street at signalized intersections.



## 5 Recommendations

The NE 3<sup>rd</sup>-4<sup>th</sup> Corridor Improvement recommendations comprise two basic categories: (1) the recommended NE 3<sup>rd</sup>-4<sup>th</sup> and associated improvements themselves, and (2) recommended actions needed to ensure proper and effective coordination with other City and state projects.

### 5.1 NE 3<sup>rd</sup>-4<sup>th</sup> Improvements

The primary element of the NE 3<sup>rd</sup>-4<sup>th</sup> Corridor Improvements Concept Plan is to construct and install physical improvements along the NE 3<sup>rd</sup>-4<sup>th</sup> Corridor that maintain and improve traffic flow, property access, transit operations, pedestrian and bicycle safety and convenience, and corridor aesthetics.

#### 5.2 Plan Elements: Traffic Flow and Property Access

Maintain smooth traffic flow throughout the NE 3<sup>rd</sup>-4<sup>th</sup> corridor and maintain access to all adjacent properties:

1. Center Median: Install a raised center median with breaks for sidestreets, cross-streets, selected driveways, emergency services access, and u-turns (see “Access Management” and “Concept Block Diagram” on facing page). The center median provides access management, safety, speed control, and beautification.
2. Local Streets: Construct local streets as needed to provide alternate access for properties whose left turn access is limited by the raised median
3. Intersection Improvements: Revise channelization for more efficient operation or widen select key intersection to provide additional turn lanes where needed
4. Signalization: Interconnect and coordinate NE 3<sup>rd</sup>-4<sup>th</sup> traffic signals
5. Bus Pullouts: Provide bus pullouts at all stops
6. Driveway Consolidation: Recommend no specific driveway consolidations, but encourage and facilitate driveway consolidation in the development review and street design processes

#### 5.3 Plan Elements: Transit

Improve transit access and operations:

1. Provide cross-walks at all bus stops
2. Provide sidewalks to/from all bus stops
3. Provide bus queue-jump lanes at selected intersections
4. Provide a rideshare facility toward the eastern end of the corridor

#### 5.4 Plan Elements: Pedestrian/Bicycle

Improve pedestrian and bicycle safety and convenience:

1. Provide continuous sidewalks and improved cross-walks
2. Provide sidewalk buffering
3. Provide continuous bicycle facilities (which also provide additional sidewalk buffering)

#### 5.5 Plan Elements: Landscaping and Streetscape

Improve corridor aesthetics:

1. Provide roadside landscaping
2. Provide median landscaping

### 5.6 Concept Plan

The NE 3<sup>rd</sup>-4<sup>th</sup> Corridor Improvements Concept Plan is described in this section. The Plan is illustrated in a series of figures: Figure 3 (Sheets 1 and 2) is a schematic diagram of the recommended improvements, and Figures 4 – 6 are typical cross-sections.

#### NE 3<sup>rd</sup> St, Sunset–Jefferson

2-11' lanes EB (uphill), 2-11' lanes + 5' bike lane WB (downhill), 6' raised landscaped median, 10' sidewalk north (downhill) side, 15' combined sidewalk/bike lane south (uphill) side

- Monterey–Bronson intersection: median break, left turn lanes with outside c-curb [A]
- emergency pullout EB (uphill) east of Monterey–Bronson
- new public street connection between Blaine and Edmonds south of 3rd [B]
- median break for EB emergency access on north side of 3rd; no turn lane [C]
- Edmonds intersection: median break, EB right turn lane, left turn lanes with outside c-curb [D]
- emergency crossover median break for WB east (upstream) of Edmonds
- WSDOT driveway (north side of 3rd): median break, EB left turn lane with outside c-curb [E]
- private driveway (south side of 3rd): median break, WB left turn lane with outside c-curb [F]
- adjacent private driveways (north side of 3rd): median break, contiguous EB left turn lane with outside c-curb [G]

#### NE 3<sup>rd</sup>-4<sup>th</sup>/Jefferson Intersection

Reconfigure lanes and crosswalks [H]

- outside c-curb on left turn lanes
- add WB exclusive right-turn lane

#### NE 4<sup>th</sup> St, Jefferson–Monroe

2-11' lanes + 5' bike lane both directions, outside transit-only lane WB (becomes exclusive right-turn lane at Jefferson), 12' raised landscaped median islands, 10' sidewalk both directions

- Reopen RTC westerly 4th St driveway for WB egress-only [I]
- Reopen RTC easterly 4th St driveway for EB ingress-only [I]
- Reopened RTC ingress driveway (north side of 4th): median break, EB left turn lane with outside c-curb [I]
- new public access connection east from Jefferson south of 4th [J]

#### Abbreviations

EB – Eastbound	RTC – Renton Technical College
WB – Westbound	WSDOT – Washington State Department of Transportation

#### NE 4<sup>th</sup>/Monroe Intersection

Reconfigure lanes and crosswalks [K]

- outside c-curb on left turn lanes
- add EB “right-turn-only-except transit” lane for nearside bus stop and general traffic right turns
- add priority signalization for EB buses

#### NE 4<sup>th</sup> St, Monroe–Union

2-11' lanes + 5' bike lane + 6' sidewalks both directions, 12' raised landscaped median

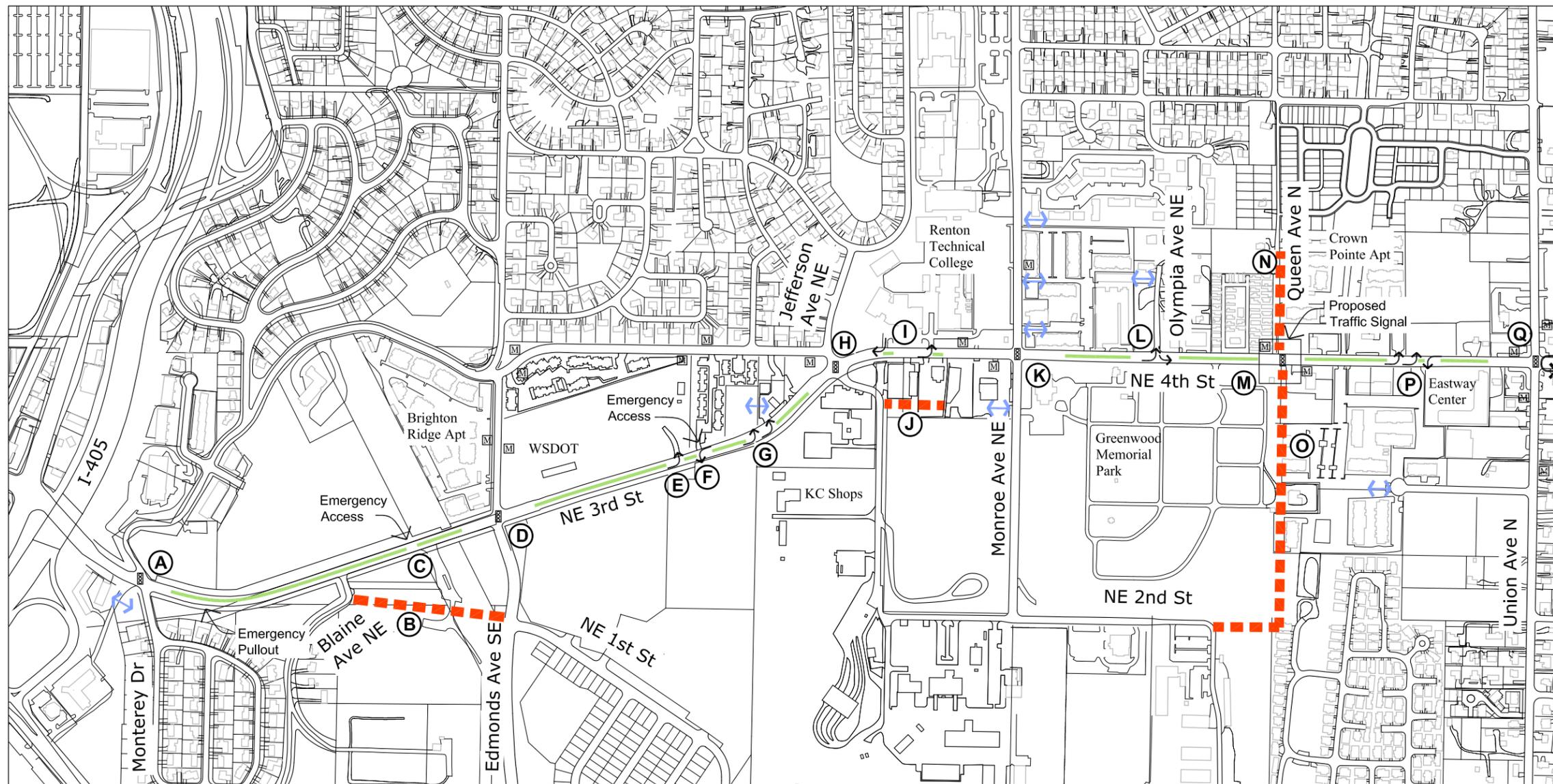
- emergency crossover median break for WB east (upstream) of Monroe
- Olympia intersection: median break, EB left turn lane/acceleration lane with outside c-curb [L]
- Queen intersection: signalization, median break, left turn lanes with outside c-curb, marked crosswalks, far-side (downstream) bus pull-out both directions [M]
- extend Queen north from 4th to connect to existing segment south of 6th [N]
- extend Queen south from 4th to connect to NE 2nd St [O]
- emergency crossover median breaks for each direction upstream of Queen
- adjacent private driveways (north side of 4th): median break, contiguous EB left turn lane with outside c-curb [P]
- combined private driveway (south side of 4th): median break, WB left turn lane with outside c-curb [P]
- emergency crossover median break for EB west (upstream) of Union

#### NE 4<sup>th</sup>/Union Intersection

Reconfigure lanes and crosswalks [Q]

- outside c-curb on left turn lanes
- add WB “right-turn-only-except transit” lane
- add farside (downstream) bus pullouts both directions

# NE 3rd-4th Plan Schematic Diagram



MATCH LINE

LEGEND	
	Traffic Signal
	Metro Bus Stop
	New Public Access
	U-Turn
	Left Turn Only
	Alternative Property Access
	Median



NE 4<sup>th</sup> St, Union–Duvall

2-11' lanes + 5' bike lane + 10' sidewalks both directions, 12' raised landscaped median

- shopping center driveway east of Union (north side of 4th): median break, EB left turn lane with outside c-curb [R]
- new street connection west of Post Office (south side of 4th): median break, WB left turn lane and acceleration lane with outside c-curb, EB right turn lane extending past Post Office [S]
- easterly shopping center driveway east of Union (north side of 4th): median break, EB acceleration lane with outside c-curb [T]
- Bremerton intersection: signalization, median break, left turn lanes with outside c-curb, marked crosswalks [U]
- emergency crossover median break for WB upstream of Bremerton
- new public access connection west from Bremerton south of 4th [V]

NE 4<sup>th</sup>/Duvall Intersection

Reconfigure lanes and crosswalks [W]

- outside c-curb on left turn lanes
- extend existing WB right turn lane and redesignate as “right-turn-only-except transit”
- add farside (downstream) bus pullouts both directions

NE 4<sup>th</sup> St, Duvall–Hoquiam

2-11' lanes + 5' bike lane + 10' sidewalks both directions, 12' raised landscaped median

- shopping center driveway east of Duvall (north side of 4th): median break, EB left turn lane with outside c-curb [X]
- easterly shopping center driveway east of Duvall (north side of 4th): median break, EB acceleration lane with outside c-curb [X]
- emergency crossover and emergency access median break for EB west (upstream) of Hoquiam [Y]
- new NE 3rd public street connection between Duvall and Hoquiam [Z]
- extend Field south from 4th to connect to existing segment north of NE 2nd [AA]
- extend Hoquiam south from 4th to connect to existing segment north of NE 2nd [BB]

NE 4<sup>th</sup>/Hoquiam Intersection

Reconfigure lanes and crosswalks, signalize [CC]

- outside c-curb on left turn lanes
- add farside (downstream) bus pullouts both directions

<u>Abbreviations</u> EB – Eastbound WB – Westbound
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NE 4<sup>th</sup> St, Hoquiam–Jericho

2-11' lanes + 5' bike lane + 10' sidewalks both directions, outside transit-only lane EB (extends east from farside bus pullout and becomes “right-turn-only-except-transit” lane at Jericho), 12' raised landscaped median

- emergency crossover median break midway between Hoquiam and Jericho

NE 4<sup>th</sup>/Jericho Intersection

Reconfigure lanes and crosswalks [DD]

- outside c-curb on left turn lanes
- add EB “right-turn-only-except transit” lane
- add farside (downstream) bus pullouts both directions

NE 4<sup>th</sup> St, Jericho–Nile

2-11' lanes + 5' bike lane + 10' sidewalks both directions, 12' raised landscaped median

- emergency crossover median break for WB upstream of Jericho
- Lyons intersection: median break, left turn lanes with outside c-curb [EE]

NE 4<sup>th</sup>/Nile Intersection

Reconfigure lanes and crosswalks [FF]

- left turn lanes with outside c-curb
- marked crosswalks
- add farside (downstream) bus pullouts both directions

NE 4<sup>th</sup> St, Nile–Rosario

2-11' lanes + 5' bike lane + 10' sidewalks both directions, 12' raised landscaped median

- emergency crossover median break for WB upstream of Nile
- emergency crossover median break for EB upstream of Rosario

NE 4<sup>th</sup>/Rosario Intersection

Reconfigure lanes and crosswalks, signalize [GG]

- left turn lanes with outside c-curb
- marked crosswalks
- add farside (downstream) bus pullouts both directions

NE 4<sup>th</sup> St, Rosario–City Limit

2-11' lanes + 5' bike lane + 10' sidewalks both directions, 12' raised landscaped median

- emergency crossover median break for WB upstream of Rosario

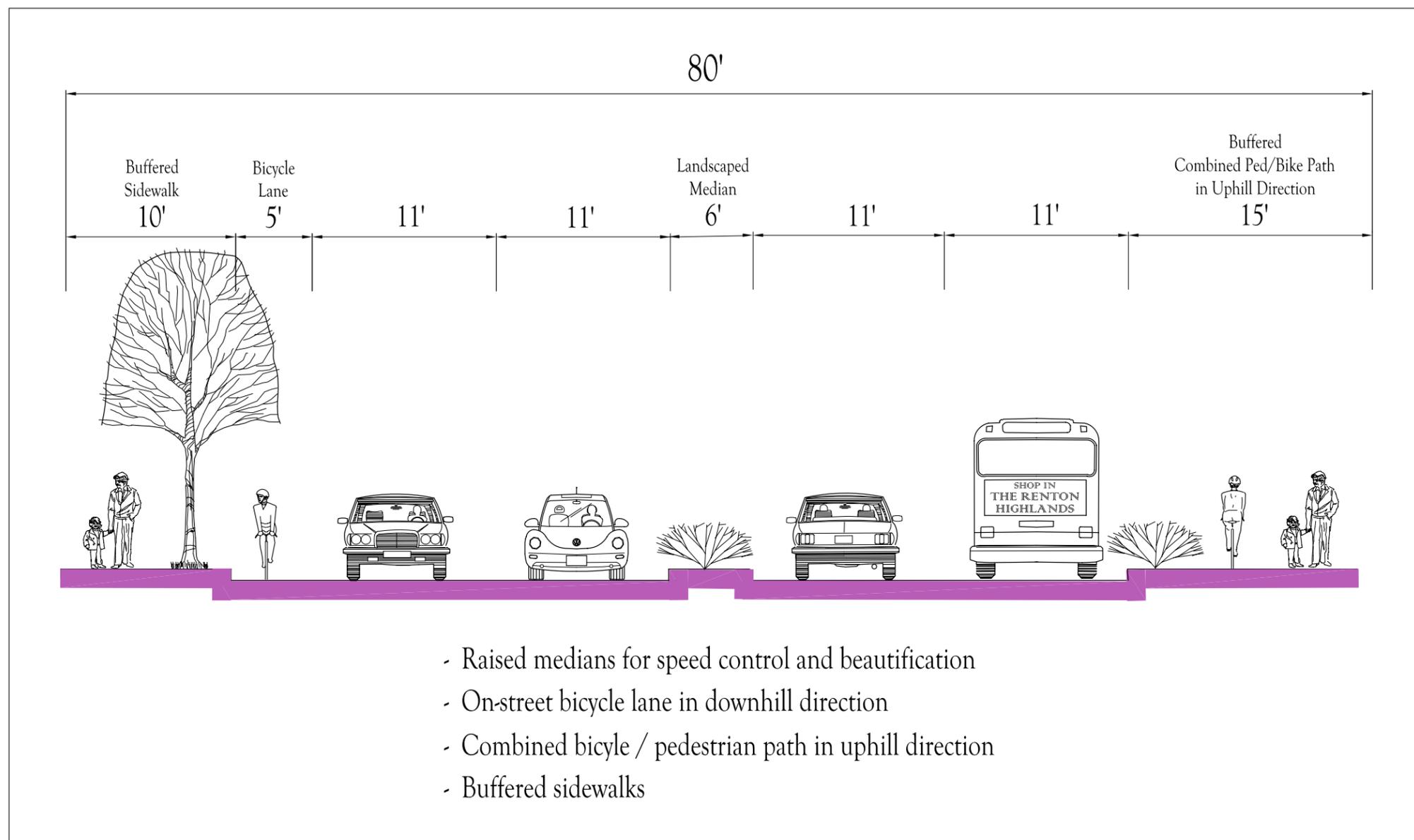
# NE 3rd-4th Plan Schematic Diagram



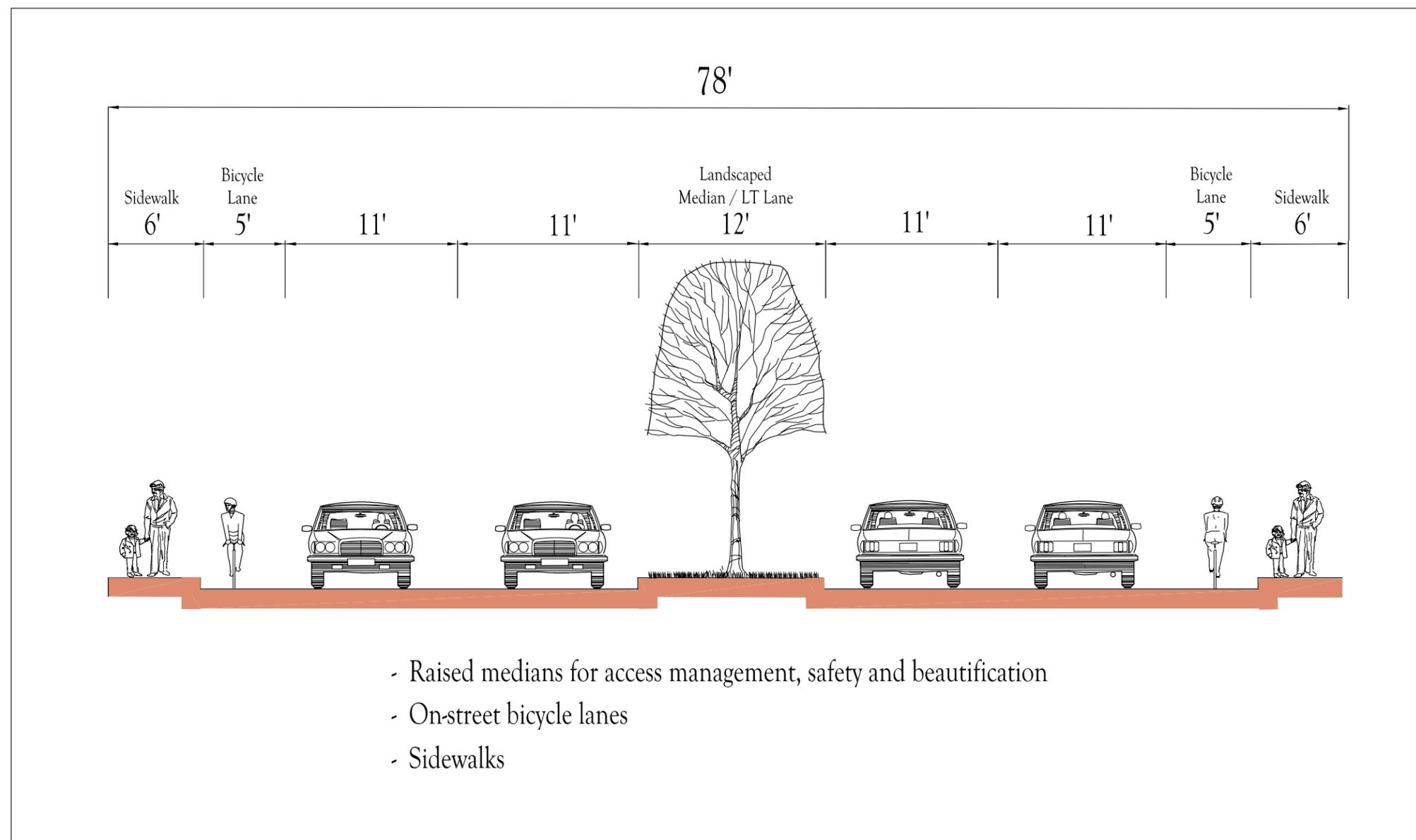
LEGEND	
	Traffic Signal
	Metro Bus Stop
	New Public Access
	U-Turn
	Left Turn Only
	Alternative Property Access
	Median



# Typical Cross Section Sunset - Jefferson



# Typical Cross Section Monroe - Union



# Typical Cross Section Union - City Limits

