Alternatives Development

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

Alternatives Development Discussion

- Review purpose and need
- Best practices for alternatives development
- Review corridor "segments", or "portions"
- Alternatives concepts
  - Strategy Table
  - Cross Section
  - Concept layout
- Other concepts
- Collect input per corridor segment

What's the problem?

- Bad and deteriorating traffic congestion
- Deficient pedestrian and bike environment
- Few buses (few bus routes exist on the corridor due to congestion and poor pedestrian facilities)
- Light rail station coming but people can't get there easily
- Collision records show unsafe conditions for cars, bikes, and pedestrians

What are the main goals for the project?

Ensure we can walk, bike, bus, or drive safely and reliably along and across the corridor.

And:

Develop transportation improvements that:

- Support the local economy
- Protect the environment
- Support a vibrant community

"Best practices" for developing alternatives

- Should be directly responsive to the problem statement
- Use purpose and need statement to test reasonableness
- Consider all viable transportation modes and technologies
- Consider design and operational/policy solutions
- Commit to develop and assess multiple meaningful alternatives

Evaluation Criteria

What is important to you?

Evaluation criteria define how improvement concepts are measured against other concepts

How well does the alternative ...

- support safer travel by all modes and alleviate existing problems?
- improve transit performance in the corridor?
- support pedestrian and bike connectivity?
- improve traffic flow?
- provide benefits to freight-related system users?
- integrate with other capital projects including the proposed light rail station and future improvements to the I-5 interchange?
- provide for opportunities to upgrade facilities to manage stormwater runoff and upgrade stormwater quality?
- support the community's vision for adjacent neighborhoods?

How well does the alternative ...

- provide for opportunities to improve existing utilities?
- minimize impacts to critical areas or mitigate unavoidable impacts?
- reduce air pollutants including greenhouse gas emissions and other pollutants?
- encourage and support private reinvestment in the corridor through improvements such as landscaping, upgraded utilities and enhanced aesthetics?
- minimize impacts to property and business owners?
- support the ability to compete for grant funding or secure direct funding?

Alternatives Strategy Table - 145th Street Corridor Study

Improvement Options Under Consideration						145th Street Corridor
Traffic Capacity and Operations Improvements	**Transit Enhancements**	**Access Management Measures**	**Pedestrian Walkability**	**Bikes**	**Overhead Utility Improvements**	**Community Based Design Amenities**
No improvements	No improvements	No improvements	No improvements	No improvements	No improvements	No improvements
Optimize traffic signal timing	New shelters	Consolidate driveways	Pedestrian supportive signals (countdown heads and audible signals)	Bike route signage	Utility poles in sidewalk with 4ft clearance	Plant new street trees in landscape strip along corridor
Left turn storage lengthened to meet design year LOS	Special design of transit zones throughout the corridor including paving, shelters, street furniture.	C-curb / barrier to restrict left turns from driveways	Improved side street sidewalk connections to intersections	Bike storage lockers	Poles in amenty zones	Use special paving for crosswalks
Traffic signal interconnection and coordination	Transit Signal Priority (TSP)	Directional left-turn pockets mid-block	Ped refuges in median	Bicycle detection at signals	Relocate utility poles outside of the sidewalks	Use special paving within intersections
Strategic capacity improvements at intersections	New local transit service connecting along 145th Street to Link Light Rail Station	Two-way left turn lane	Bulb-out curb returns at minor streets	Green bike boxes and 2 stage turns at intersections	Underground overhead utilities	Way finding and signage
Widen to add left-turn lane/median	Queue jumps.	Center raised median with left-turns	WSDOT standard 6' sidewalks (no buffer)	Green lanes in conflict (auto/bike) zones		Incorporate Art
Widen to add Business Access/Transit Lane EB	Widen to add Bus and Right Turn Lane EB	Provide U-turn accommodations	5' sidewalks with 3' landscape buffer	Widen outside lane to accommodate bikes		Benches, trash and recycling receptacles
Widen to add Business Access/Transit Lane WB	Widen to add Bus and Right Turn Lane WB		8' sidewalks and 5' landscape buffer	Widen to accommodate 5' bike lanes		Improve corridor roadway lighting
Reversible traffic lane	Bus pullouts		Multi-use trail along project corridor	Widen to accommodate buffered bike lanes (2' striping + 5' bike lanes) with route behind bus shelters		Special pedestrian scale lighting
Adaptive signals in the network	Median-running bus lanes			Widen to accommodate cycletracks		Surveillance cameras for increased security and/or emergency response.
Widen to add additional traffic lane	Reversible Bus Lane			Multi-use trail along project corridor		
				Develop parallel corridor "greenway" for bikes		

Alternatives Strategy Table - 145th Street Corridor Study

ALTERNATIVE A: No Action/Existing Conditions

145th Street Corridor

Traffic Capacity and Operations Improvements	Transit Enhancements	Access Management Measures	Pedestrian Walkability	Bikes	Overhead Utility Improvements	Community Based Design Amenities
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Widen to add additional traffic lane	Reversible Bus Lane			Multi-use trail along project corridor		
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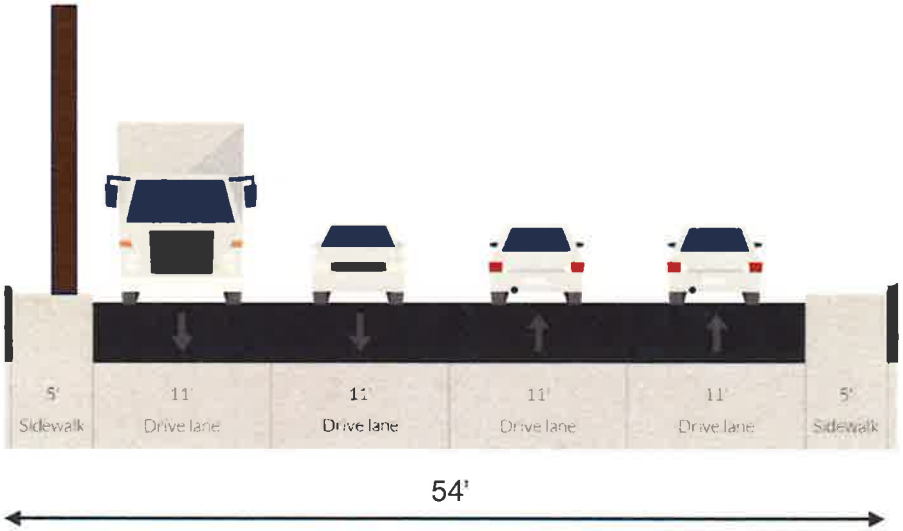
Alternative A – No Action/Existing Conditions



- 4 traffic lanes
- No bike facilities
- Non-accessible sidewalks
- No transit lanes
- Utility poles exist on both sides of roadway

Alternatives Strategy Table - 145th Street Corridor Study

ALTERNATIVE B: Two Traffic Lanes and a Two way Left Turn Lane

145th Street Corridor

Traffic Capacity and Operations Improvements	Transit Enhancements	Access Management Measures	Pedestrian Walkability	Bikes	Overhead Utility Improvements	Community Based Design Amenities
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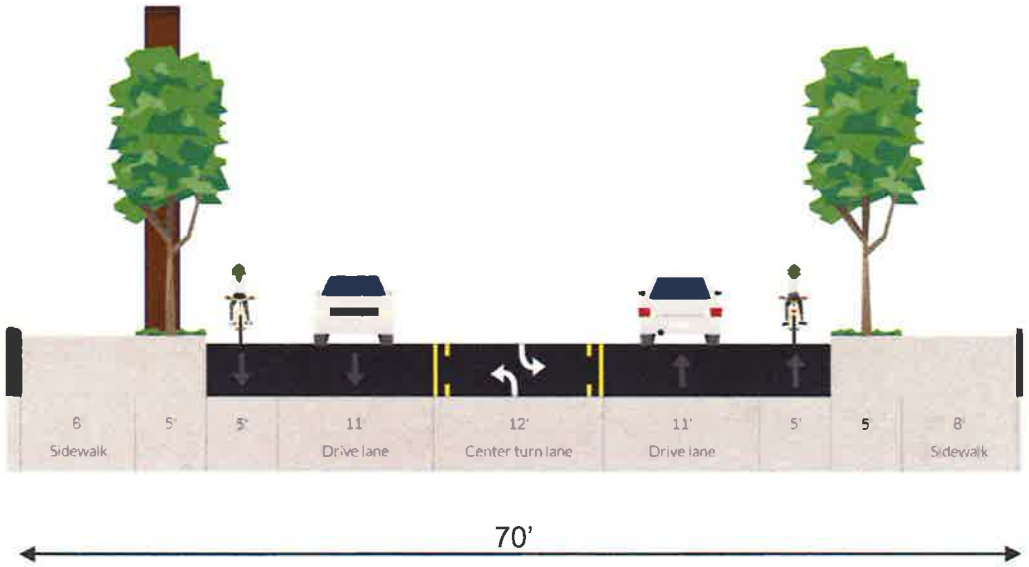
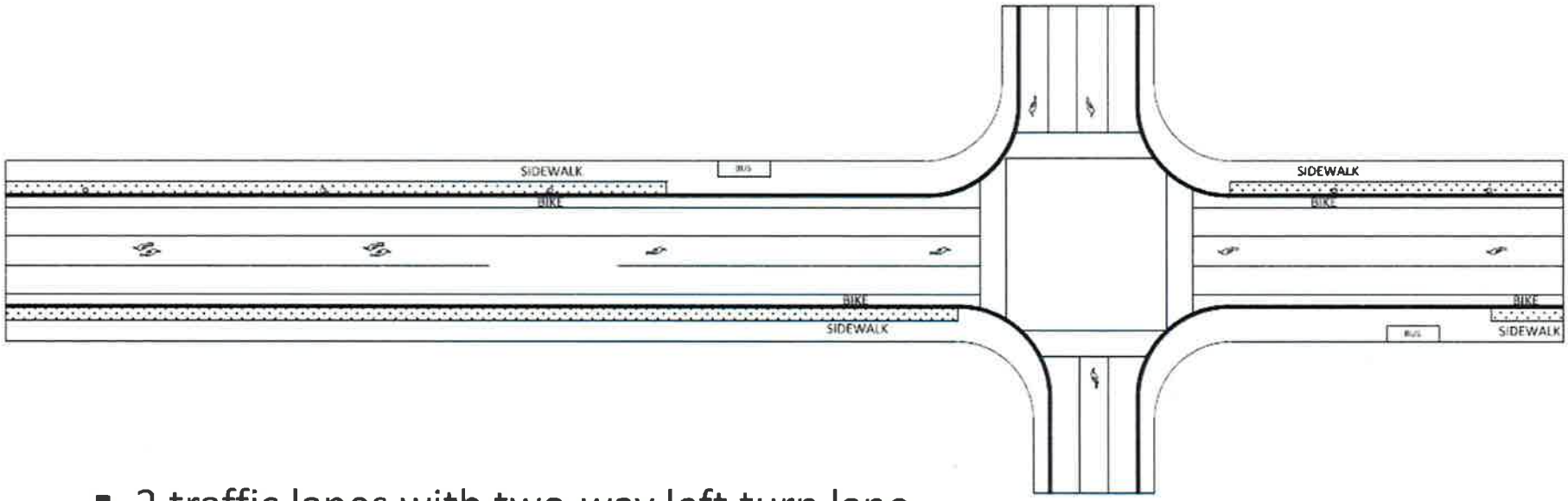
Widen to add additional traffic lane	Reversible Bus Lane			Multi-use trail along project corridor		
Remove traffic lanes				Develop parallel corridor "greenway" for bikes		

Alternative B



- 2 traffic lanes with two-way left turn lane
- Bike lanes
- Sidewalk and amenity zone
- No bus lanes
- Utility poles on both sides of roadway

Alternative B



- 2 traffic lanes with two-way left turn lane
- Bike lanes
- Sidewalk and amenity zone
- No bus lanes
- Utility poles on both sides of roadway

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Alternatives Strategy Table - 145th Street Corridor Study

ALTERNATIVE C: Four Traffic Lanes with Off-Corridor focus, Off-Corridor Parallel Bike Facilities

Traffic Capacity and Operations Improvements	Transit Enhancements	Access Management Measures	Pedestrian Walkability	Bikes	Overhead Utility Improvements	Community Based Design Amenities
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Optimize traffic signal timing	New shelters	Consolidate driveways	Pedestrian supportive signals (countdown heads and audible signals)	Bike route signage	Utility poles in sidewalk with 4ft clearance	Plant new street trees in landscape strip along corridor
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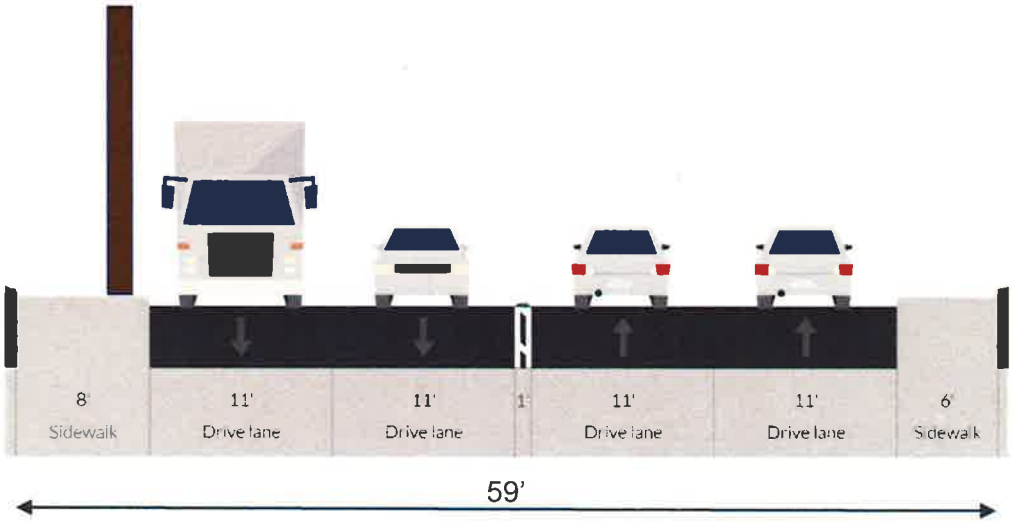
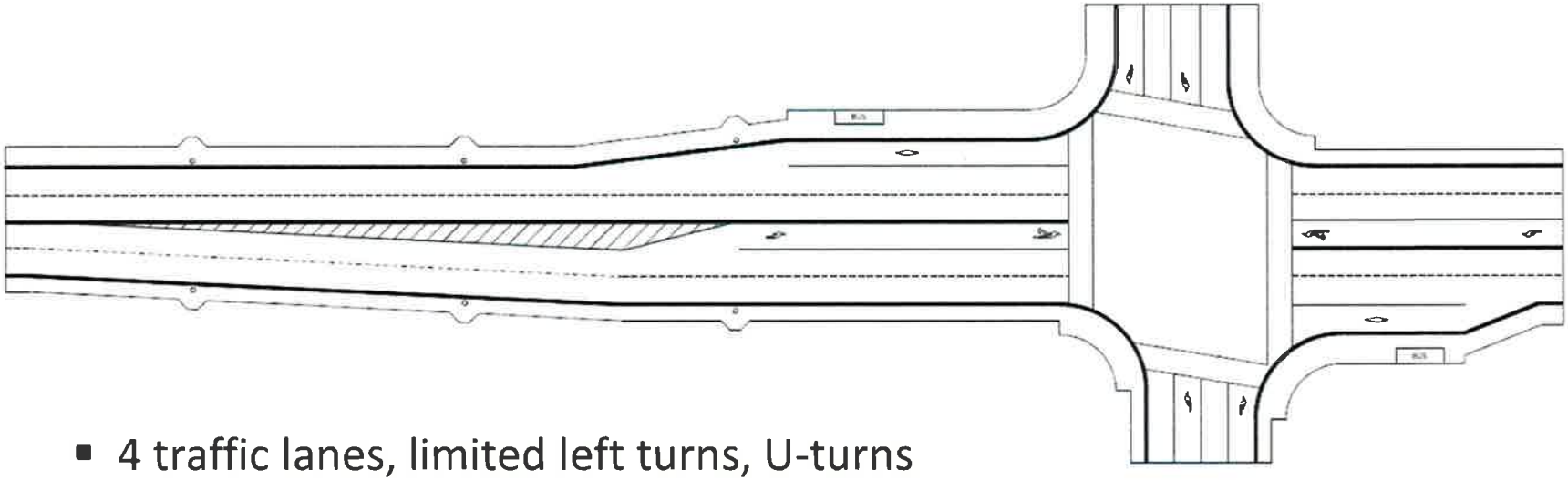
Widen to add additional traffic lane	Reversible Bus Lane			Multi-use trail along project corridor		
Remove traffic lanes				Develop parallel corridor "greenway" for bikes		

Alternative C



- 4 traffic lanes, limited left turns, U-turns
- Off-corridor bike facilities, "greenway"
- Minimal ADA accessible sidewalks
- No bus lanes
- Utility poles on both sides of roadway. Sidewalk will vary based on presence of utility pole.

Alternative C



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145th Station Subarea DEIS Green Network Concept

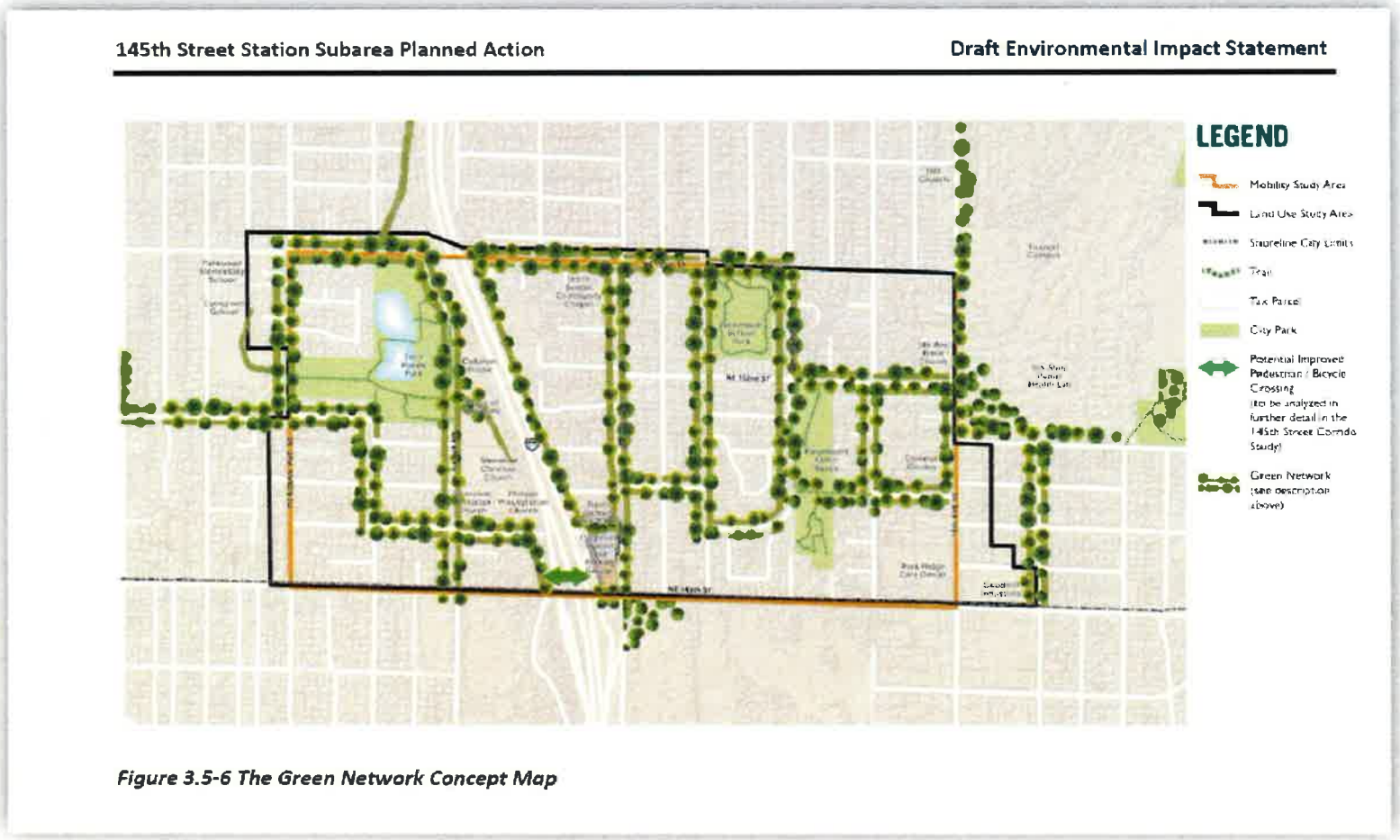

Figure 3.5-6 The Green Network Concept Map

- Green network concept will be expanded

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ALTERNATIVE D: Four Traffic Lanes with Reversible Bus Lane

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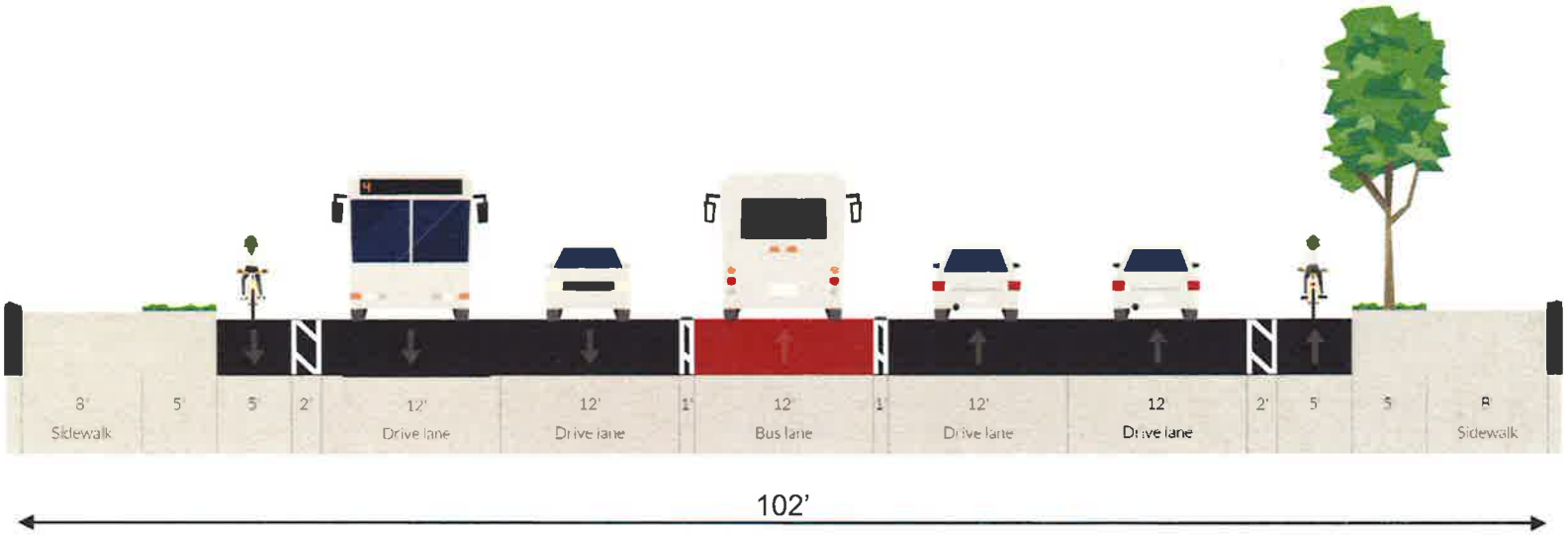
Remove traffic lanes				Develop parallel corridor "greenway" for bikes		

Alternative D



- 4 traffic lanes, limited left turns, U-turns
- Buffered bike lanes
- Sidewalks and amenity zone
- Reversible bus lane
- Utility undergrounding

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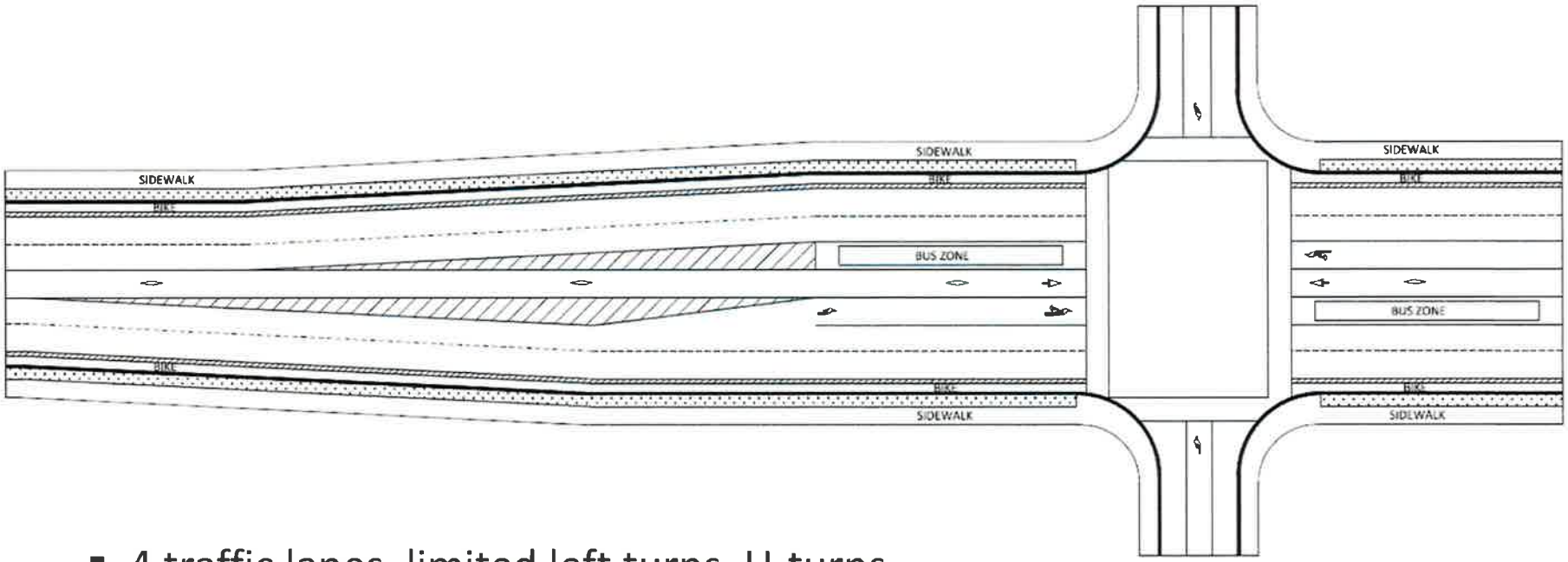
Alternative D



- 4 traffic lanes, limited left turns, U-turns
- Buffered bike lanes
- Sidewalks and amenity zone
- Reversible bus lane
- Utility undergrounding

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Alternatives Strategy Table - 145th Street Corridor Study

ALTERNATIVE E: Four Traffic Lanes with Median Two-way Left Turn Lane

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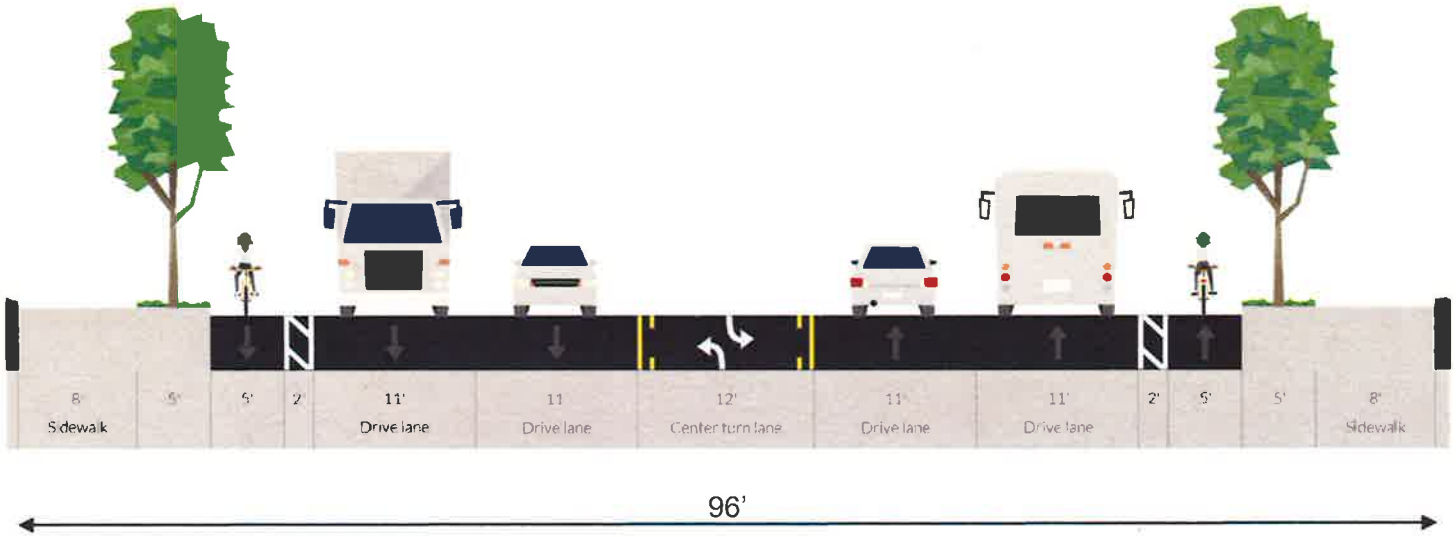
Remove traffic lanes				Develop parallel corridor "greenway" for bikes		

Alternative E



- 4 traffic lanes with two-way left turn lane
- Buffered bike lane
- Sidewalks and amenity zones
- No bus lanes
- Utility undergrounding

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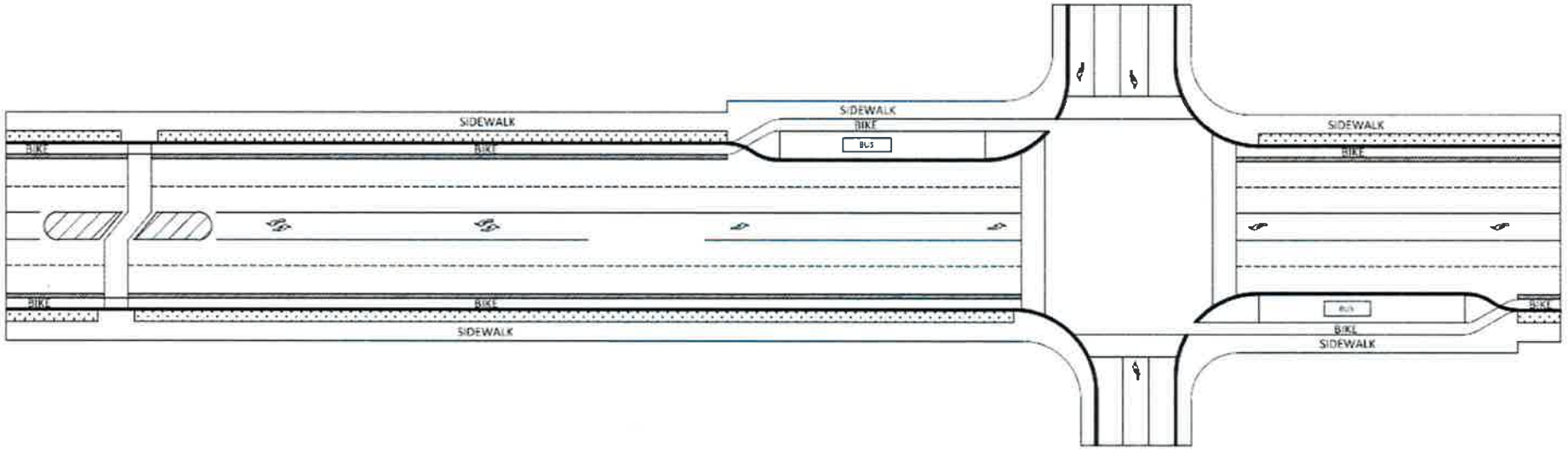
Alternative E



- 4 traffic lanes with two-way left turn lane
- Buffered bike lane
- Sidewalks and amenity zones
- No bus lanes
- Utility undergrounding

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Alternatives Strategy Table - 145th Street Corridor Study

ALTERNATIVE F: Four Traffic Lanes with two BAT (Bus and Right Turn) Lanes

145th Street Corridor

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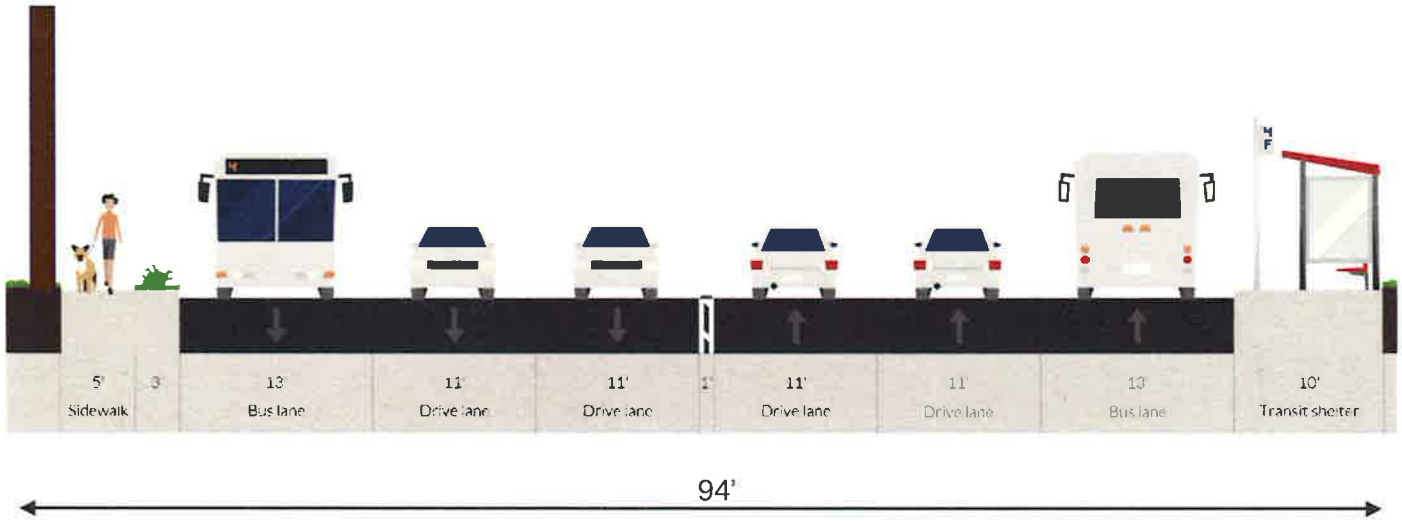
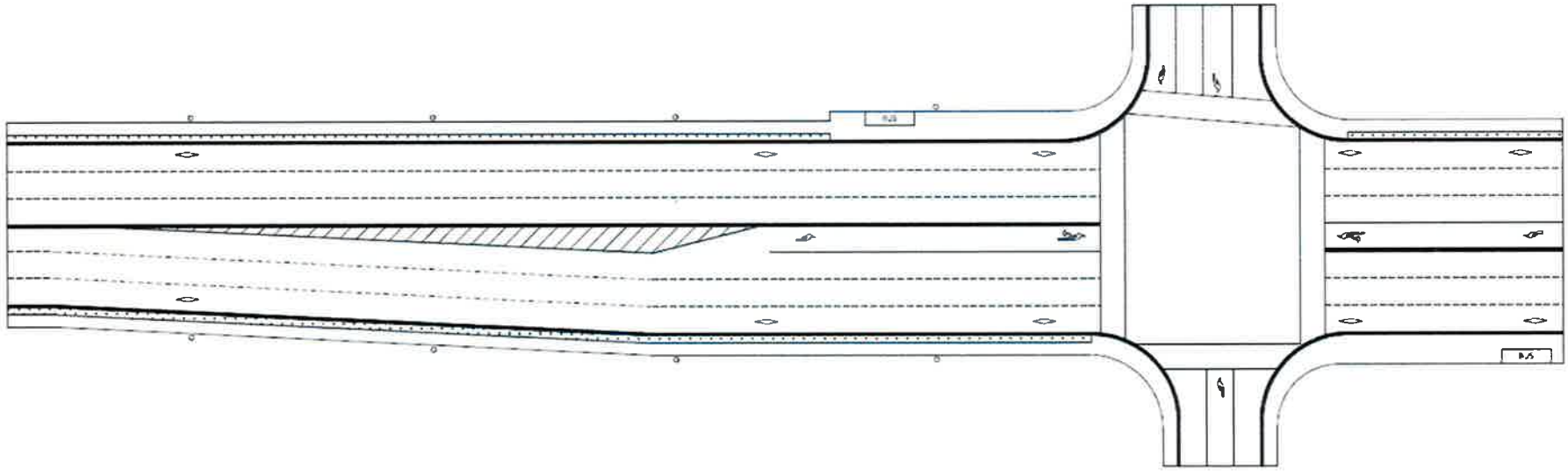
Alternative F



- 4 traffic lanes, limited left turns, U-turns
- Off-corridor bike facilities, "greenway"
- Minimal sidewalks and amenity zones
- Bus lanes/right turn lanes
- Utility poles on both sides of roadway

Alternative F



- 4 traffic lanes, limited left turns, U-turns
- Off-corridor bike facilities, "greenway"
- Minimal sidewalks and amenity zones
- Bus lanes/right turn lanes
- Utility poles on both sides of the roadway

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Alternatives Strategy Table - 145th Street Corridor Study

ALTERNATIVE G: Four Traffic Lanes, Median/Protected Left Turn Lane, and BAT Lanes

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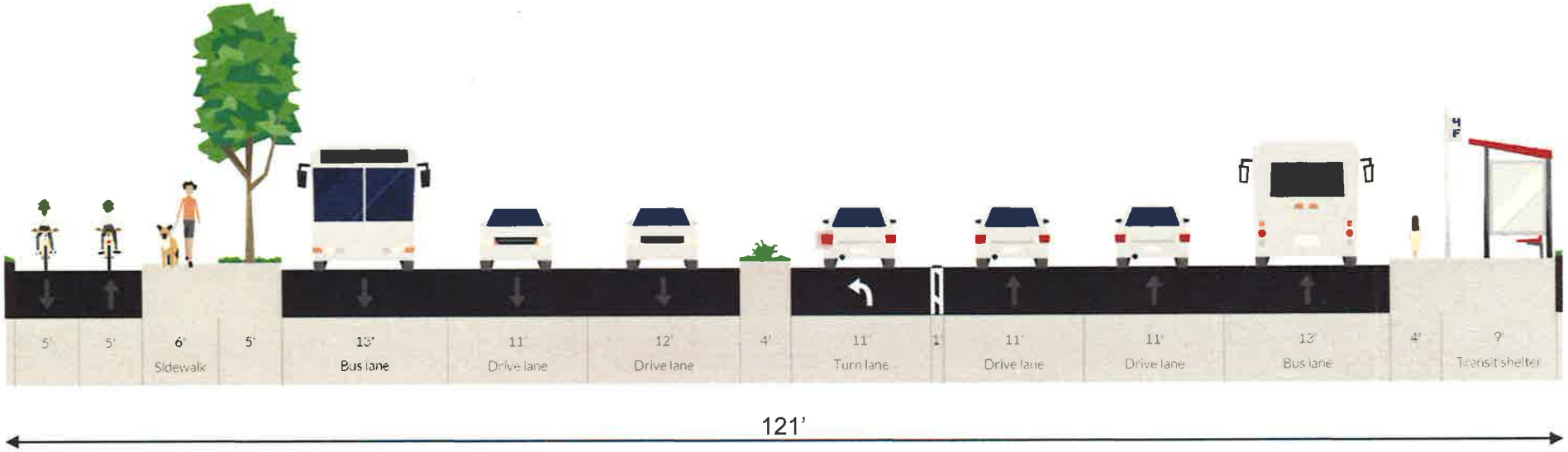
Widen to add additional traffic lane	Reversible Bus Lane			Multi-use trail along project corridor		
Remove traffic lanes				Develop parallel corridor "greenway" for bikes		

Alternative G



- 4 traffic lanes with median/protected left-turn lanes, U-turns
- Multi-use trail
- Sidewalks and amenity zones
- Bus lanes / right turn lanes
- Utility undergrounding

145TH STREET
Multimodal Corridor Study

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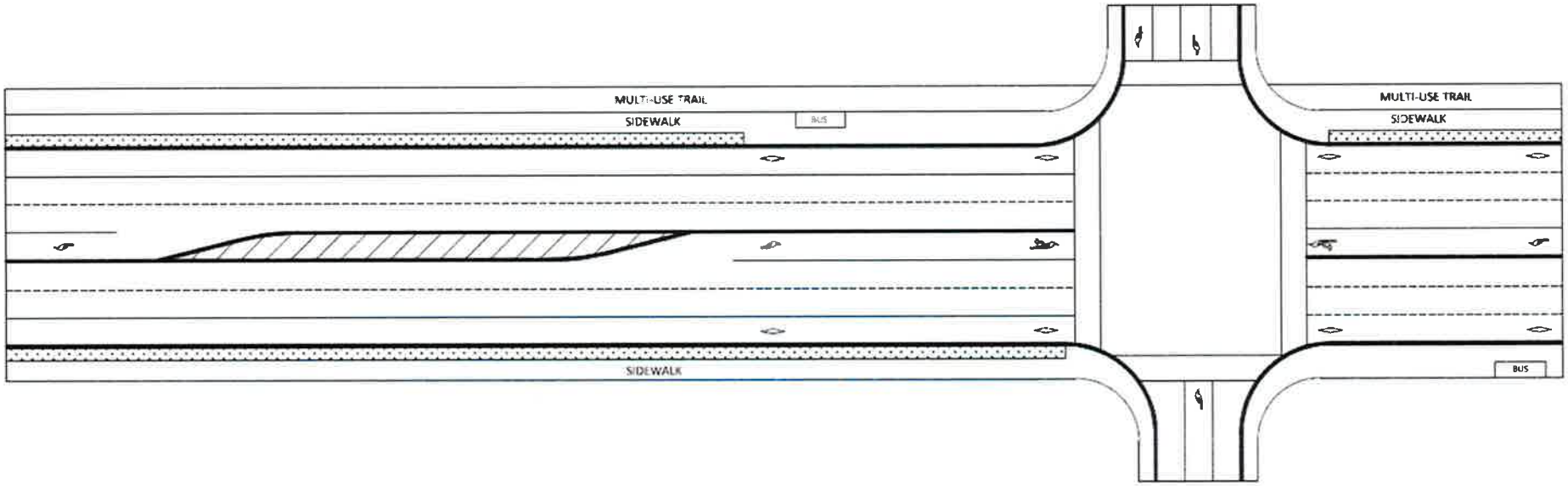
Alternative G



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145TH STREET
Multimodal Corridor Study

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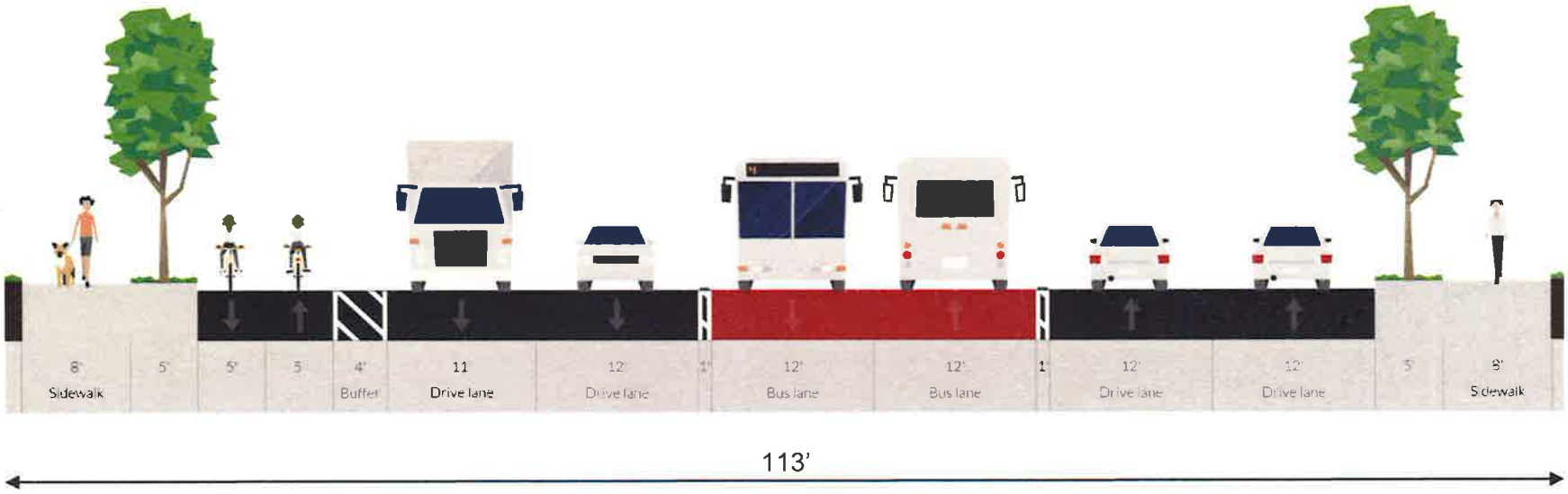
Alternatives Strategy Table - 145th Street Corridor Study

ALTERNATIVE H: Four Traffic Lanes, Two-way Center Bus Lanes, and Two-way Cycle Track

Traffic Capacity and Operations Improvements	Transit Enhancements	Access Management Measures	Pedestrian Walkability	Bikes	Overhead Utility Improvements	Community Based Design Amenities
No improvements	No improvements	No improvements	No improvements	No improvements	No improvements	No improvements
Optimize traffic signal timing	New shelters	Consolidate driveways	Pedestrian supportive signals (countdown heads and audible signals)	Bike route signage	Utility poles in sidewalk with 4ft clearance	Plant new street trees in landscape strip along corridor
Left turn storage lengthened to meet design year LOS	Special design of transit zones throughout the corridor including paving, shelters, street furniture.	C-curb / barrier to restrict left turns from driveways	Improved side street sidewalk connections to intersections	Bike storage lockers	Poles in amenty zones	Use special paving for crosswalks
Traffic signal interconnection and coordination	Transit Signal Priority (TSP)	Directional left-turn pockets mid-block	Ped refuges in median	Bicycle detection at signals	Relocate utility poles outside of the sidewalks	Use special paving within intersections
Strategic capacity improvements at intersections	New local transit service connecting along 145th Street to Link Light Rail Station	Two-way left turn lane	Bulb-out curb returns at minor streets	Green bike boxes and 2 stage turns at intersections	Underground overhead utilities	Way finding and signage
Widen to add left-turn lane/median	Queue jumps.	Center raised median with left-turns	WSDOT standard 6' sidewalks (no buffer)	Green lanes in conflict (auto/bike) zones		Incorporate Art
Widen to add Business Access/Transit Lane EB	Widen to add Bus and Right Turn Lane EB	Provide U-turn accommodations	5' sidewalks with 3' landscape buffer	Widen outside lane to accommodate bikes		Benches, trash and recycling receptacles
Widen to add Business Access/Transit Lane WB	Widen to add Bus and Right Turn Lane WB		8' sidewalks and 5' landscape buffer	Widen to accommodate 5' bike lanes		Improve corridor roadway lighting
Reversible traffic lane	Bus pullouts		Multi-use trail along project corridor	Widen to accommodate buffered bike lanes (2' striping + 5' bike lanes) with route behind bus shelters		Special pedestrian scale lighting
Adaptive signals in the network	Median-running bus lanes			Widen to accommodate cycletracks		Surveillance cameras for increased security and/or emergency response.
Widen to add additional traffic lane	Reversible Bus Lane			Multi-use trail along project corridor		
Remove traffic lanes				Develop parallel corridor "greenway" for bikes		

Alternative H



- 4 traffic lanes, limited left turns
- Cycle track/protected bike lanes
- Sidewalks with amenity zones
- Median running two-way busway
- Utility undergrounding

145TH STREET
Multimodal Corridor Study

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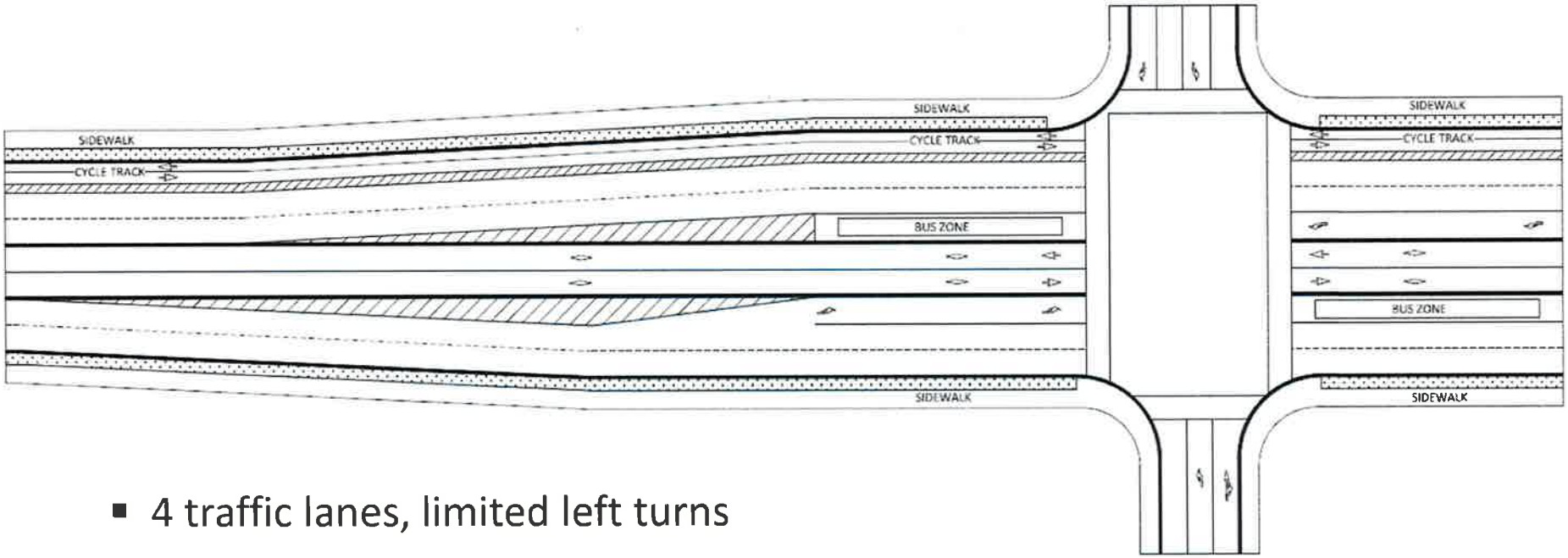
Alternative H



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