



Plan for Walking and Biking

SAC Meeting #3 September 12, 2018



Meeting Agenda:



- » Draft Recommendations
- » Discussion
- » Next Steps



Plan for Walking and Biking

Study Overview:

- » Stakeholder and Public Outreach
 - » Background data collection and analysis
 - » Municipal-wide inventory and assessment
 - » Improvement concepts and recommendations
 - » "4 E" Approach
-
- » Final Report and Implementation Matrix



Study Recap:

» Stakeholder and Public Outreach Summary

- » SAC Meeting #1 – 7/19/2017
- » National Night Out – 8/1/2017
- » Blue Bishop – 8/19/2017
- » Business Focus Group – 9/13/2018
- » Advocate Focus Group – 9/28/2018
- » SAC Meeting #2 – 1/18/2018
- » Wikimap



Draft Recommendations



Plan for Walking and Biking

Comprehensive Program: 4 E's

- » Education
- » Encouragement
- » Enforcement
- » Engineering



Education

Information Distribution

- » Safe walking and biking tips
- » Rules of the road
- » Health benefits
- » School outreach programs
- » Planning and Design Guidance

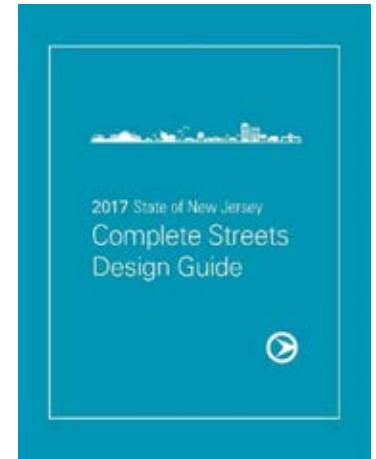


Plan for Walking and Biking

Education

Bike Training

» Local Partnerships



Bike Training

» Town Staff

» Policy Implementation



Plan for Walking and Biking

Encouragement

- » Support advocacy groups such as APCSC
- » Cyclist events
- » Bike & Walk to school events
- » Highlight bike/ped project success stories



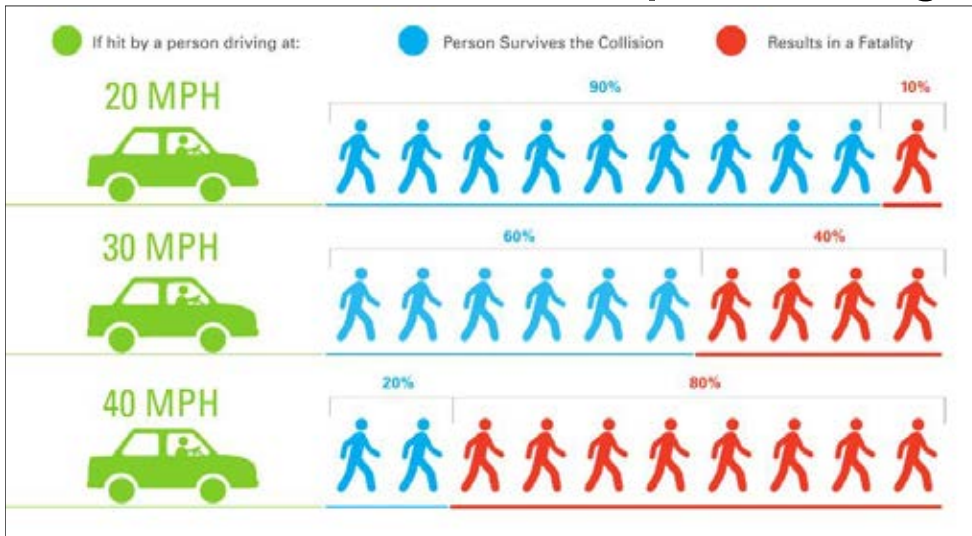
Encouragement

- » Bicycle parking requirements
- » Covered parking
- » Bicycle corrals



Enforcement

- » Pedestrian safety enforcement program
- » Utilize ITS to raise awareness of speeding



Source: SFMTA



Engineering

- » Targeted Pedestrian Improvements
- » Enhance existing bicycle network
- » Improve connections to major destinations
- » Improve bicycle and pedestrian access to schools
- » Develop network of Complete Streets, one project at a time



Engineering

Recommendation Categories

- » Pedestrian Improvement Concepts
 - Priority Intersections
- » Bicycle Network
 - Corridors
 - Bicycle Network Map



Pedestrian Design Elements



Plan for Walking and Biking

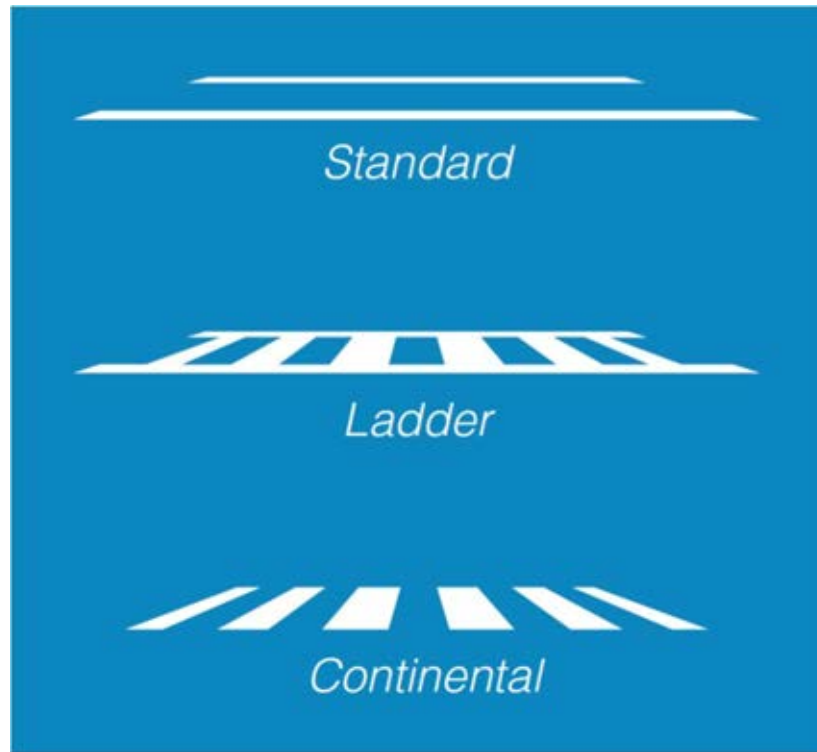
Enhanced Pedestrian Crossings

» Signage and beacons

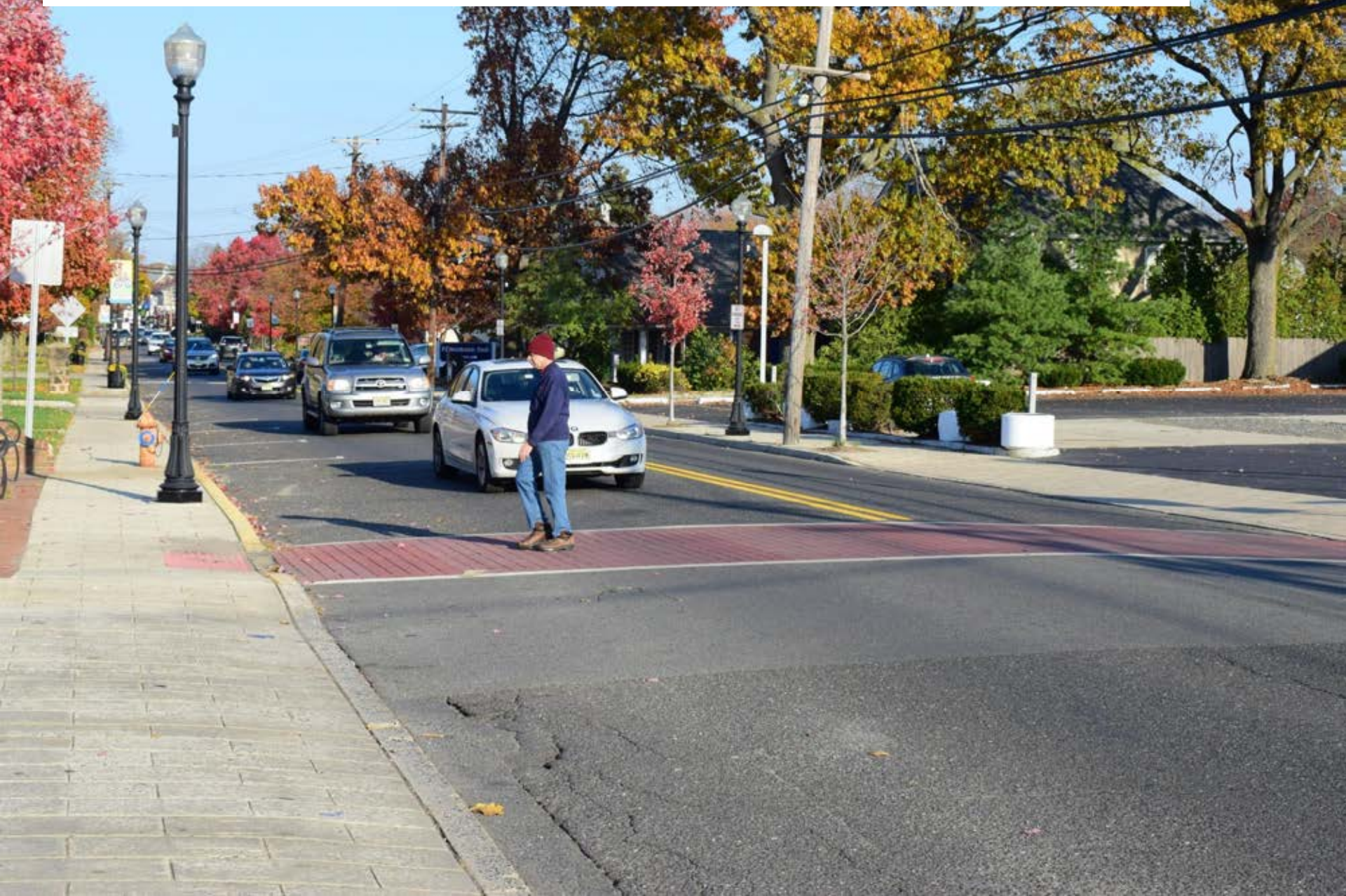


Enhanced Pedestrian Crossings

» High visibility crosswalk striping



Enhanced Pedestrian Crossings



Enhanced Pedestrian Crossings



Enhanced Pedestrian Crossings



» Intersection daylighting

Traffic Calming



Neighborhood
Roundabout



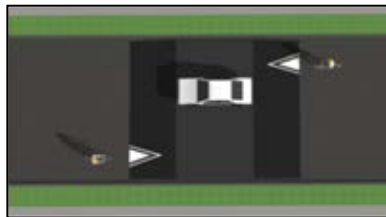
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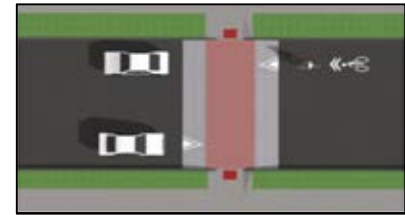
Curb
Extensions



Speed Hump



Speed Table



Raised Crosswalk



Speed Cushion

Traffic Calming

» Target key corridors

- » Asbury Avenue
- » Sunset Avenue
- » Memorial Drive

» Support

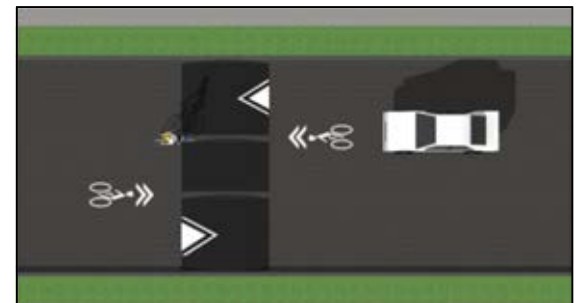
- » Pedestrian crossings
- » Bicycle boulevards
- » Shared-lane markings



Radar
Speed
Signs



Curb Extensions



Speed Cushion



Median Islands



Speed Humps



Raised Intersections



Priority Intersection Improvement Concepts

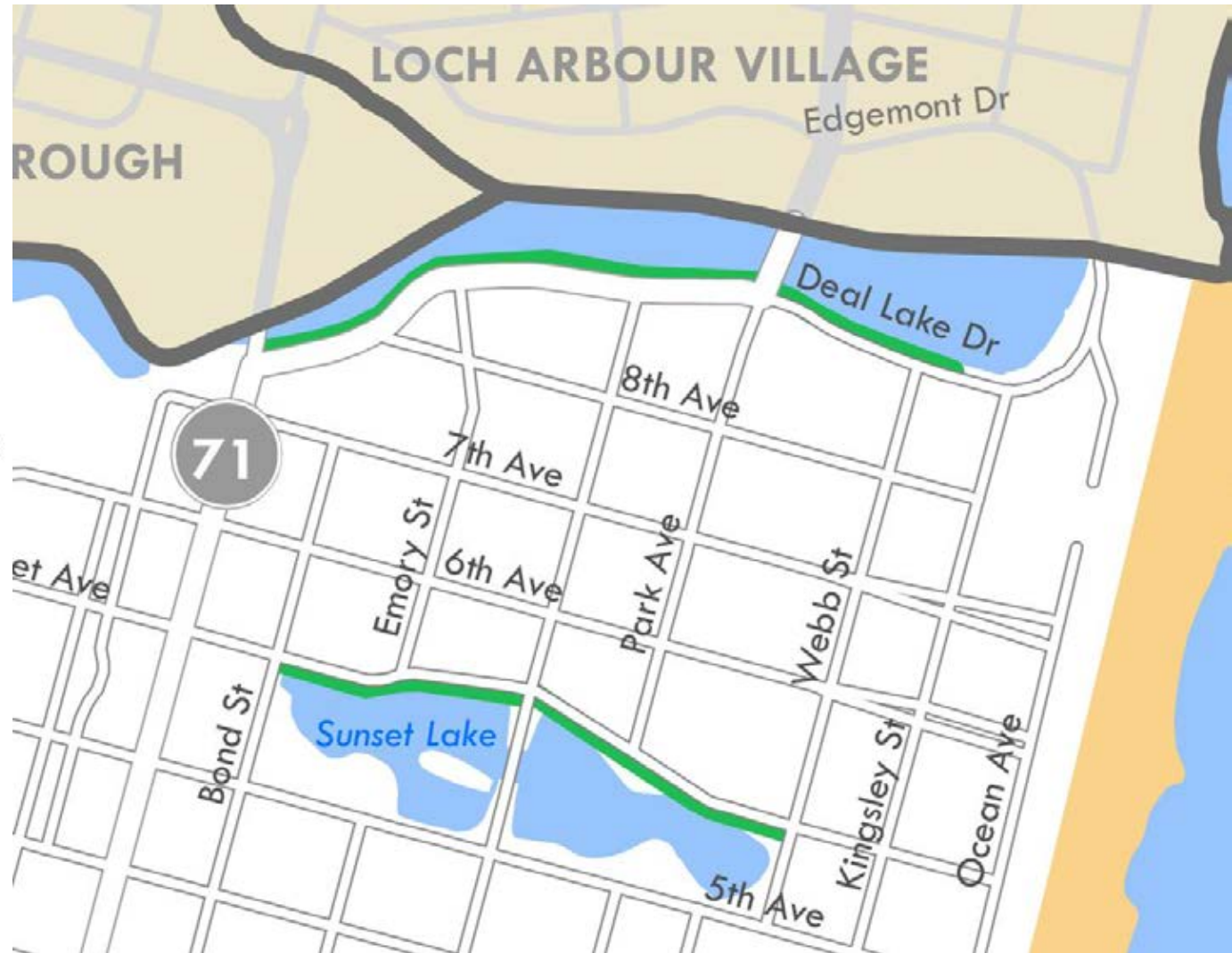


Plan for Walking and Biking

Sidewalk Network Expansion

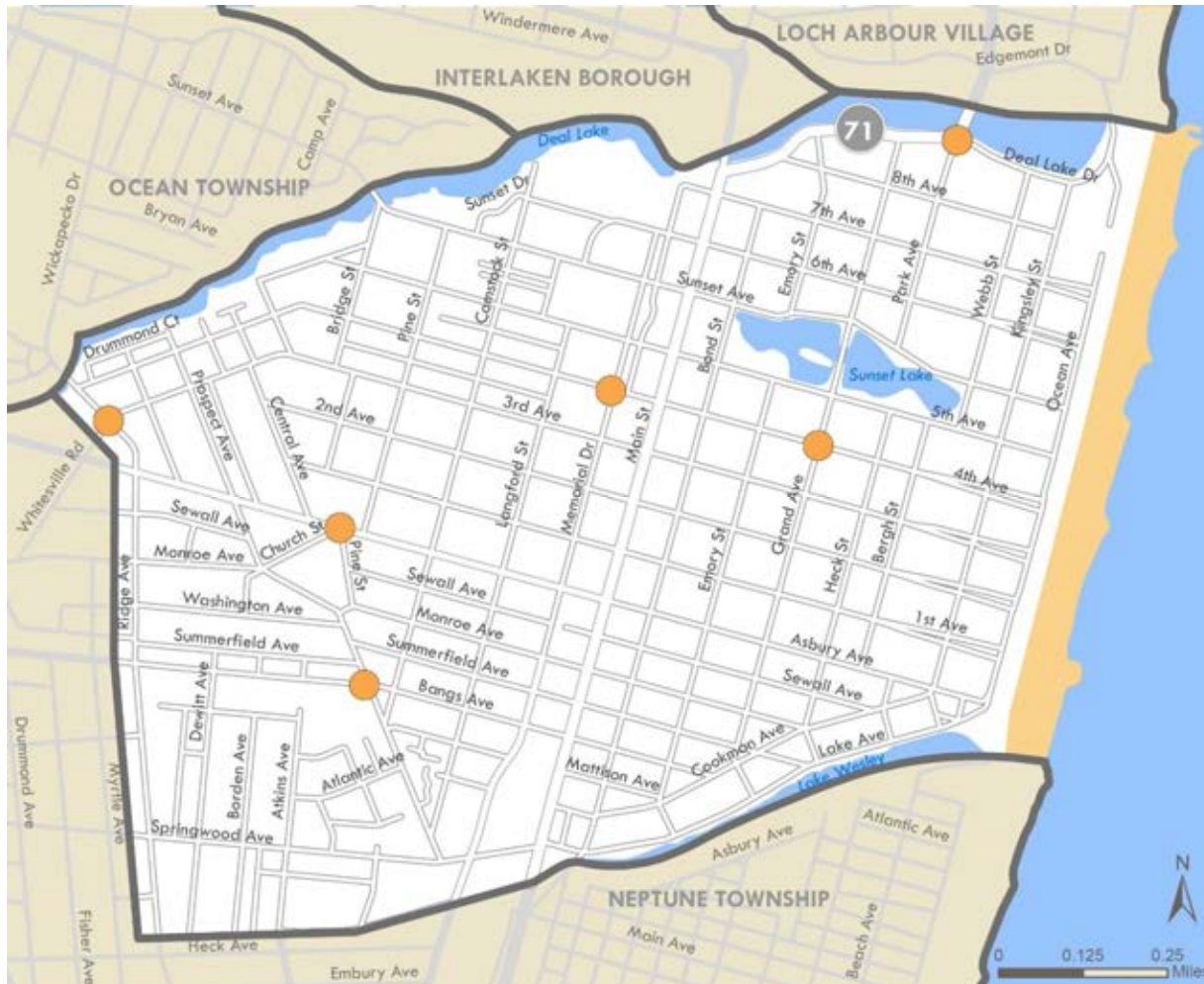
Pedestrian Infrastructure

 New Sidewalk



Plan for Walking and Biking

Priority Intersections



- » Memorial Dr at 4th Ave
- » Deal Lake Dr at Park Ave
- » Asbury Ave at Pine/Church Street
- » Ridge Ave at 3rd St
- » Prospect Ave at Bangs Ave
- » Grand Ave at 4th Ave



Plan for Walking and Biking

Memorial Dr at 4th Ave



Memorial Dr at 4th Ave



Deal Lake Dr at Park Ave



Deal Lake Dr at Park Ave



Stripe high visibility crosswalks and install ADA-curb ramps



Extend the existing multi-use path along the banks of Deal Lake and continue it across Park Ave



Install parking protected bike lanes



Implement road-diet along Deal Lake Dr



Construct curb-extensions at all four corners of the intersection



Install shared-lane markings



Install bike lanes

Potential Improvements



Install ADA Curb Ramp



Stripe Crosswalk



Install Curb Extensions



Install Sidewalk



Install Bike Lanes

Asbury Ave at Church St/Pine St



Asbury Ave at Church St/Pine St



Stripe high visibility crosswalks and install ADA-curb ramps



Install pedestrian signal heads across Asbury Ave crosswalks

Asbury Ave



Stripe shared-lane markings



Construct curb-extensions at all four corners of the intersection

Church St

Pine St

Potential Improvements



Install ADA Curb Ramp



Stripe Crosswalk



Install Curb Extensions

Ridge Ave at 3rd Ave



Ridge Ave at 3rd Ave



Construct curb-extensions at three corners of the intersection



Re-align intersection approaches to improve visibility



Install bicycle lanes



Install bicycle boulevard



Stripe high visibility crosswalks and install ADA-curb ramps

Potential Improvements



Install ADA Curb Ramp



Stripe Crosswalk



Install Curb Extensions



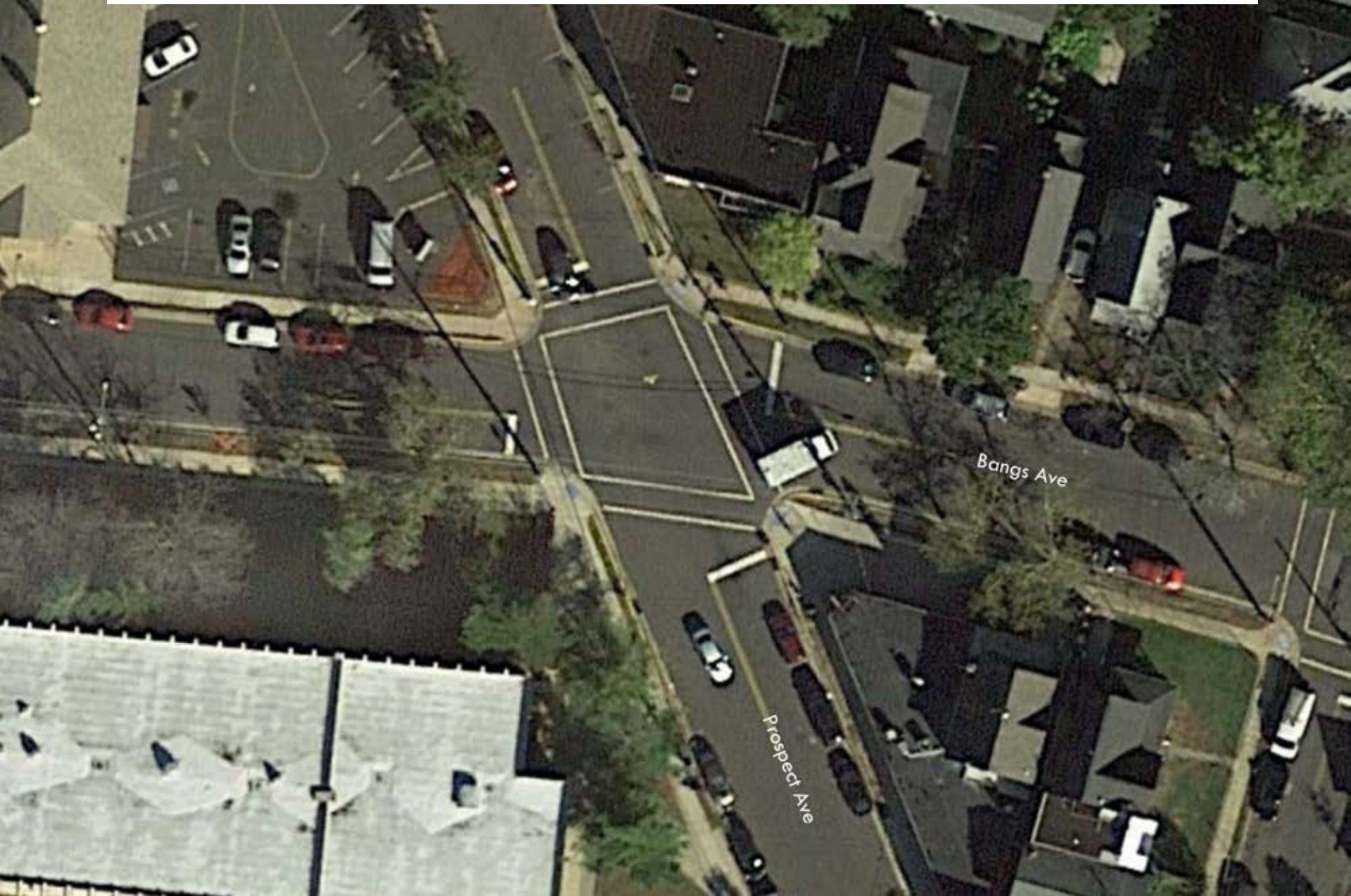
Install Bike Lanes



Stripe Sharrows



Prospect Ave at Bangs Ave



Prospect Ave at Bangs Ave



Construct curb-extensions at all four corners of the intersection



Stripe high visibility crosswalks and install ADA-curb ramps



Re-align intersection approaches to improve visibility



Install advisory bike lanes



Install bicycle boulevard

Potential Improvements



Install ADA Curb Ramp



Stripe Crosswalk



Install Curb Extensions



Install Advisory Bike Lanes



Stripe Sharrows



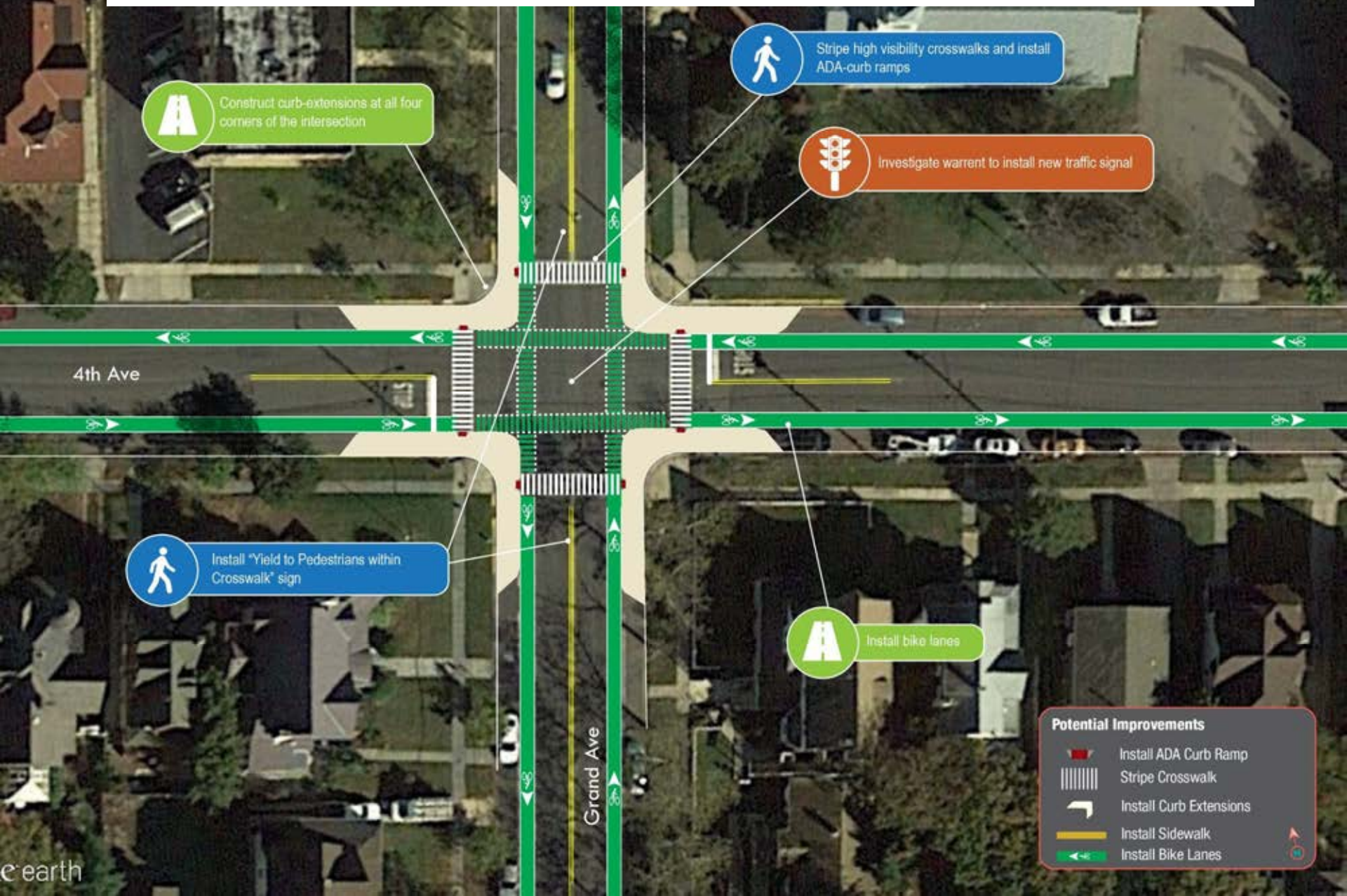
Grand Ave at 4th Ave



4th Ave

Grand Ave

Grand Ave at 4th Ave



Construct curb-extensions at all four corners of the intersection



Stripe high visibility crosswalks and install ADA-curb ramps



Investigate warrant to install new traffic signal



Install "Yield to Pedestrians within Crosswalk" sign



Install bike lanes

Potential Improvements



Install ADA Curb Ramp



Stripe Crosswalk



Install Curb Extensions



Install Sidewalk



Install Bike Lanes

Draft Bicycle Network



Plan for Walking and Biking

Facility Types | Bicycle Lane



Facility Types | Buffered Bicycle Lane





Facility Types | Separated Bicycle Lane

Facility Types | Two-Way Separated Bicycle Lane



Facility Types | Shared-Use Path



Facility Types | Bicycle Boulevard



Facility Types | Bicycle Boulevard



Facility Types | Advisory Bicycle Lane



Facility Types | Advisory Bicycle Lane



Facility Types | Shared Lane Marking



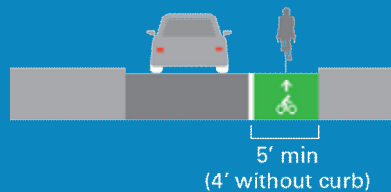
Roadway Width Considerations

- » Shared streets have no minimum width requirements
- » Shared-lane markings are not appropriate on multi-lane streets
- » Shared-lane markings not recommended above 25 mph

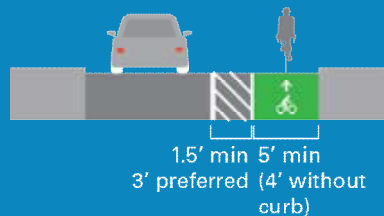


Roadway Width Considerations

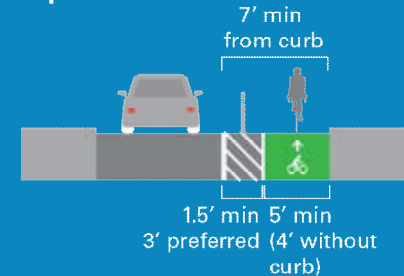
Standard Bike Lane



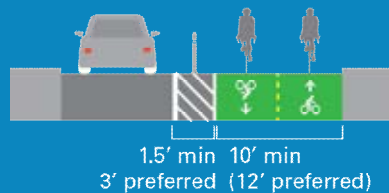
Buffered Bike Lane



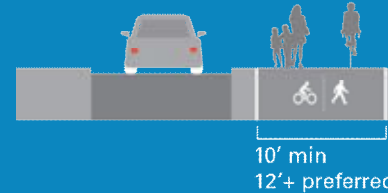
Separated Bike Lane



Two-Way Separated Bike Lane



Off-Road Path



- » General purpose travel lanes for motor vehicles in most contexts: 10-11'
- » Typical parking lane: 8' (7.5' Minimum)

Recent and Future Bike Improvements

- » 4th Ave bike lanes + sharrows
- » Sunset Ave bike lanes
- » Heck St shared-lane markings
- » Main St/ Deal Lake Dr Road Diet



Plan for Walking and Biking

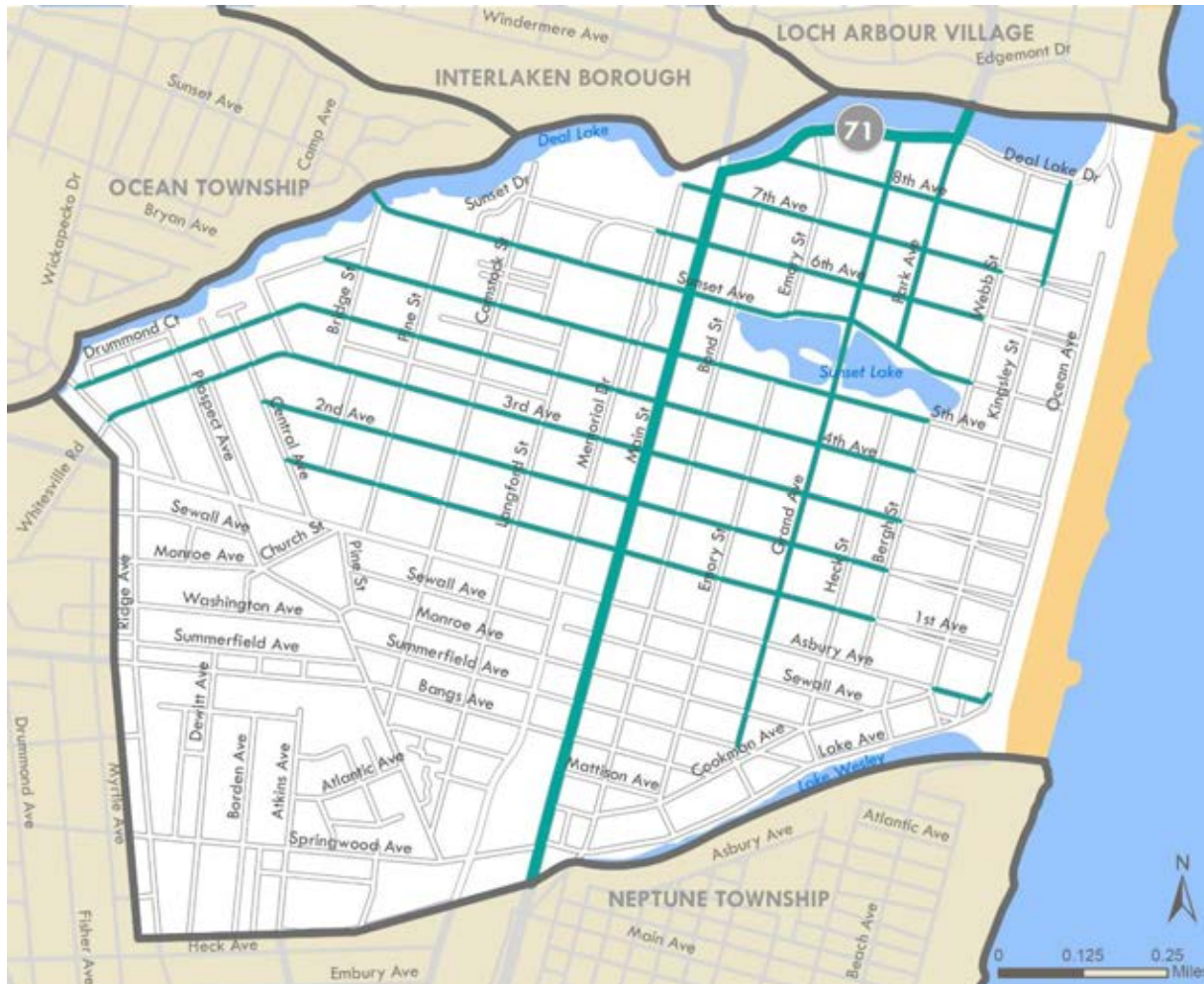
4th Ave at Langford St



Sunset Ave at Comstock St



Proposed Bicycle Network (Draft)



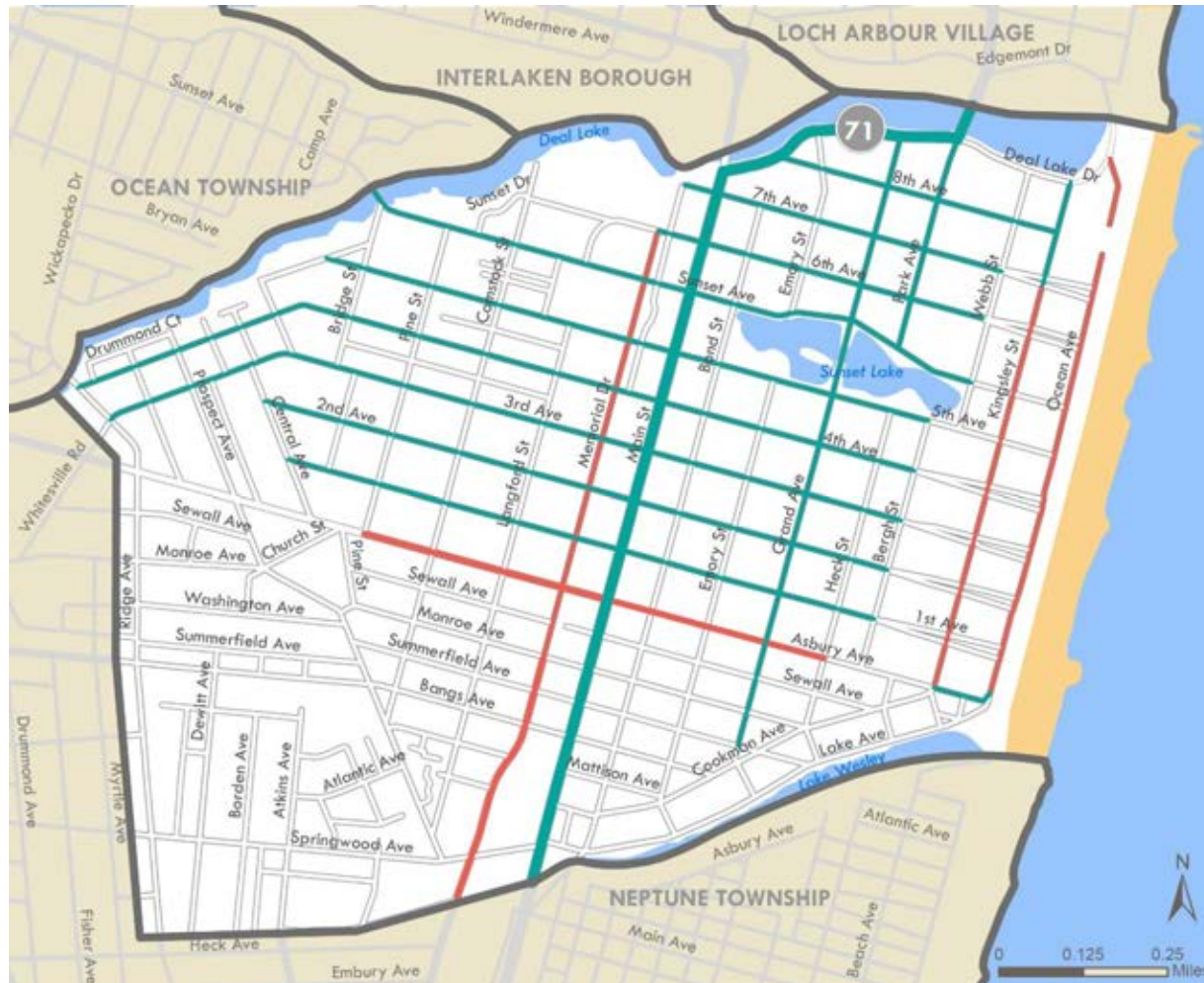
Proposed Bicycle Network

 Bicycle Lane



Plan for Walking and Biking

Proposed Bicycle Network (Draft)



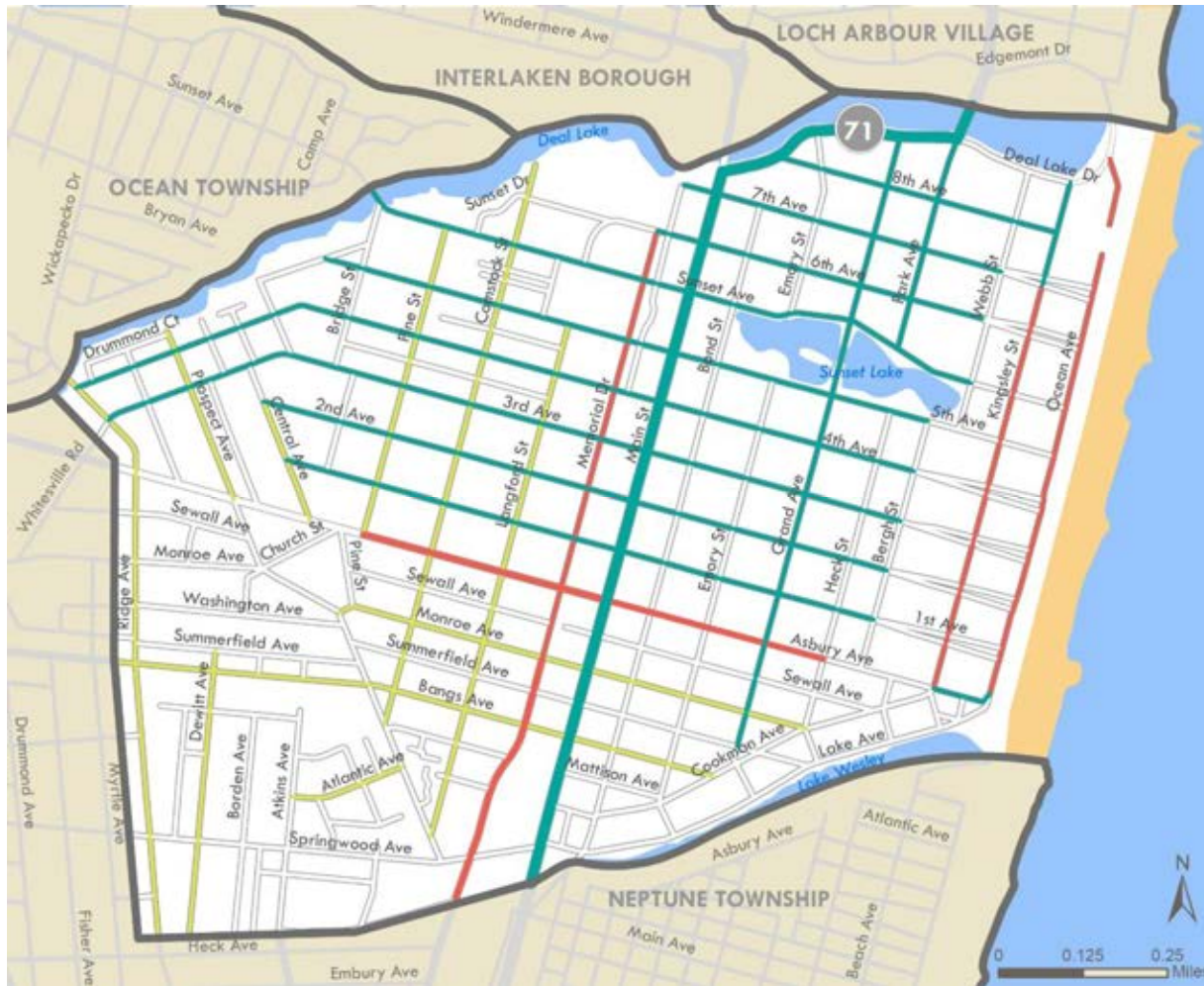
Proposed Bicycle Network

- Bicycle Lane
- Buffered or Separated Bicycle Lane



Plan for Walking and Biking

Proposed Bicycle Network (Draft)



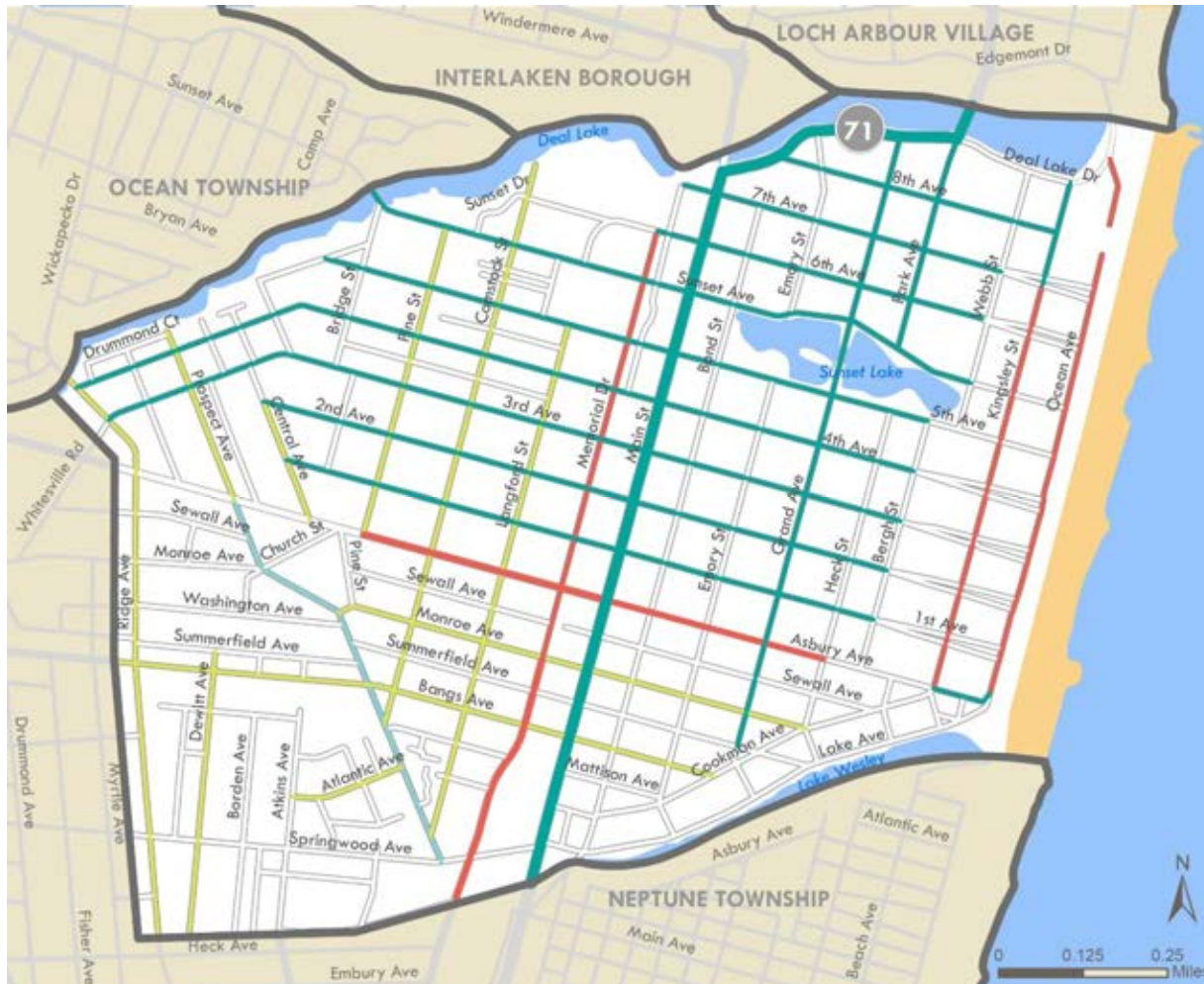
Proposed Bicycle Network

-  Bicycle Lane
-  Buffered or Separated Bicycle Lane
-  Bicycle Boulevard



Plan for Walking and Biking

Proposed Bicycle Network (Draft)



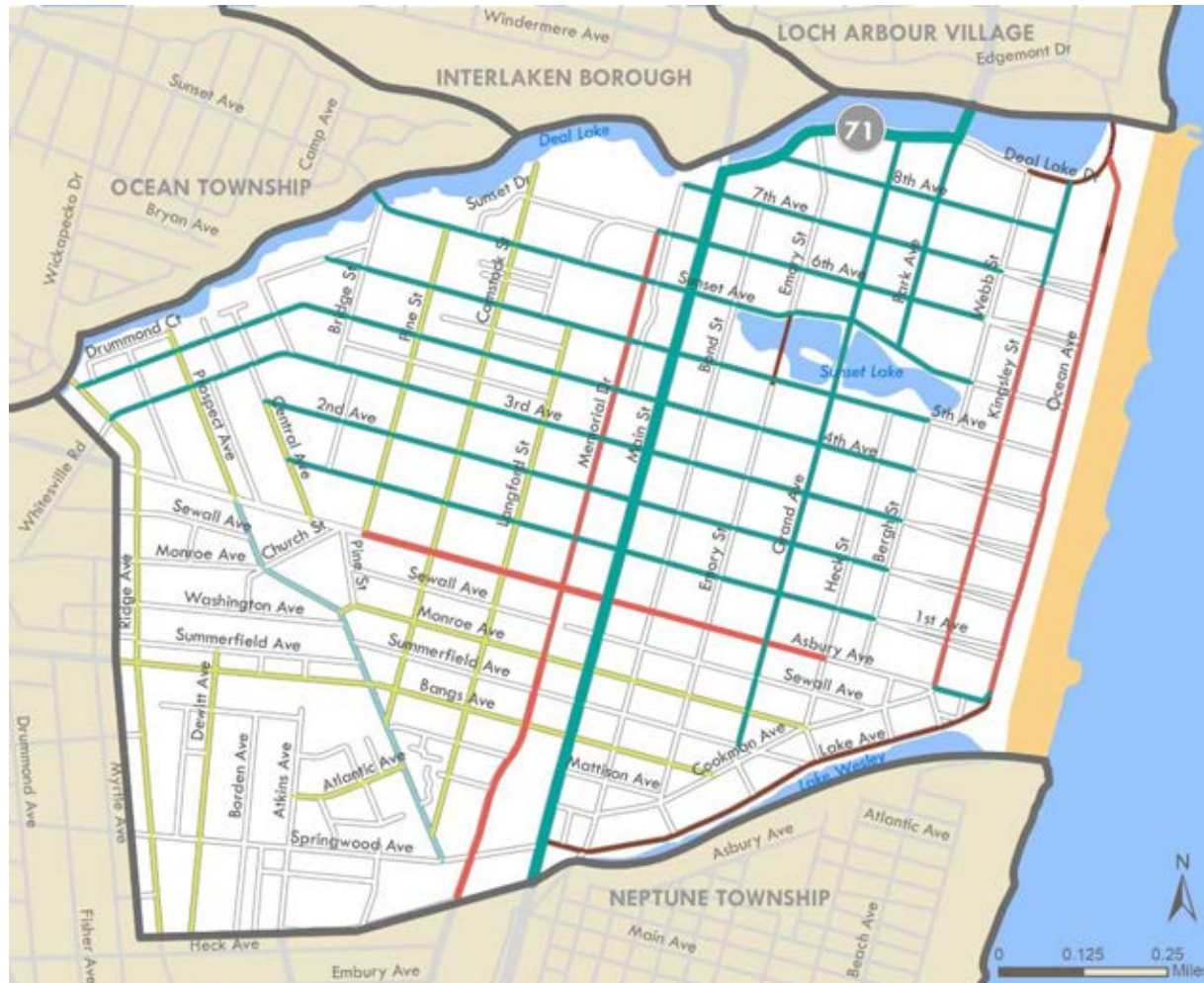
Proposed Bicycle Network

-  Bicycle Lane
-  Buffered or Separated Bicycle Lane
-  Bicycle Boulevard
-  Advisory Bicycle Lane



Plan for Walking and Biking

Proposed Bicycle Network (Draft)



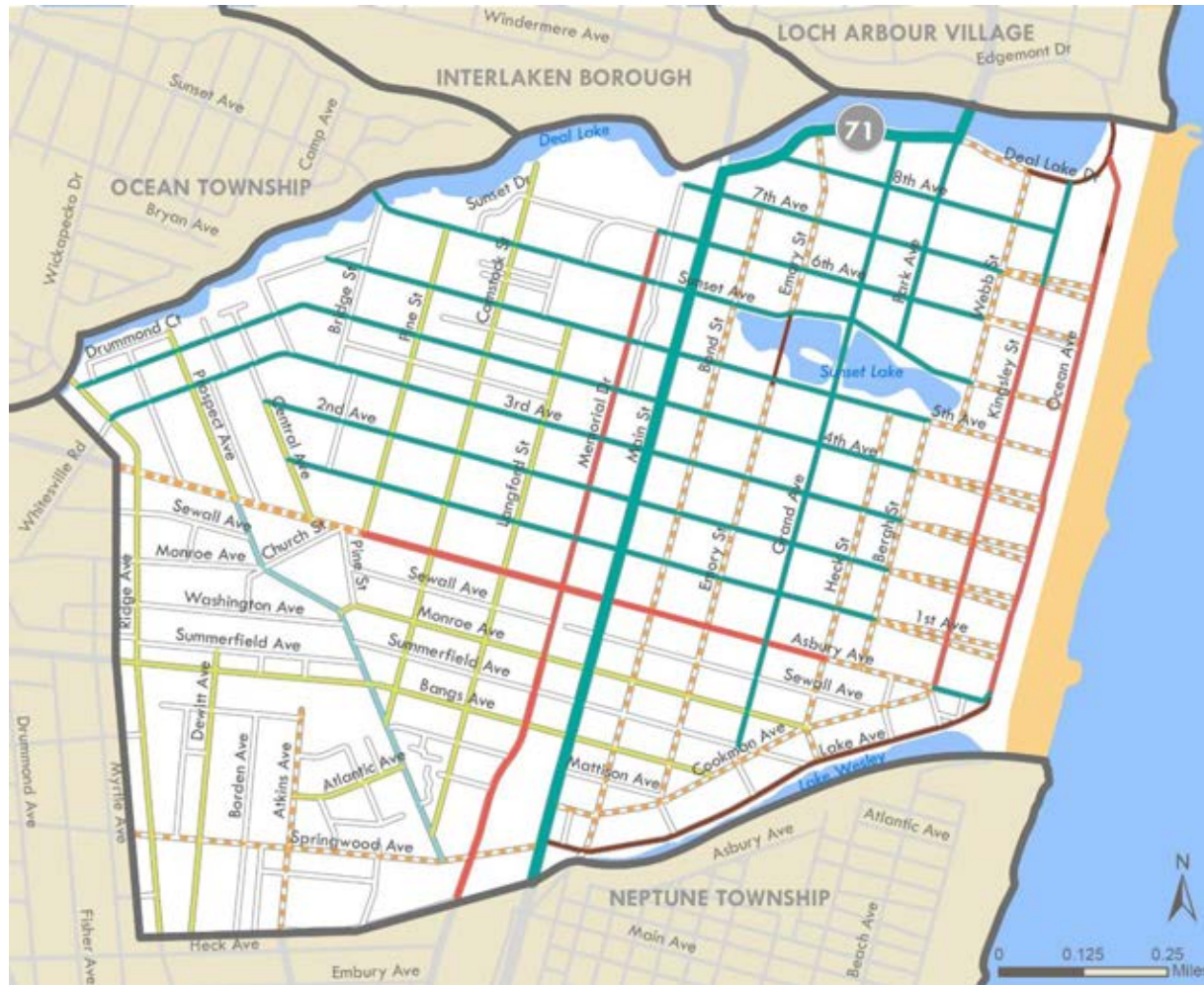
Proposed Bicycle Network

-  Bicycle Lane
-  Buffered or Separated Bicycle Lane
-  Bicycle Boulevard
-  Advisory Bicycle Lane
-  Shared-use Path



Plan for Walking and Biking

Proposed Bicycle Network (Draft)



Proposed Bicycle Network

- Bicycle Lane
- Buffered or Separated Bicycle Lane
- Bicycle Boulevard
- Advisory Bicycle Lane
- Shared-use Path
- Shared Lane Markings



Plan for Walking and Biking

Kingsley St & Ocean Ave One-way Pair Conversion



Plan for Walking and Biking

Ocean Ave: Existing

Existing Roadway Characteristics

Speed Limit: 25 mph

Typical Cartway Width: 58 ft

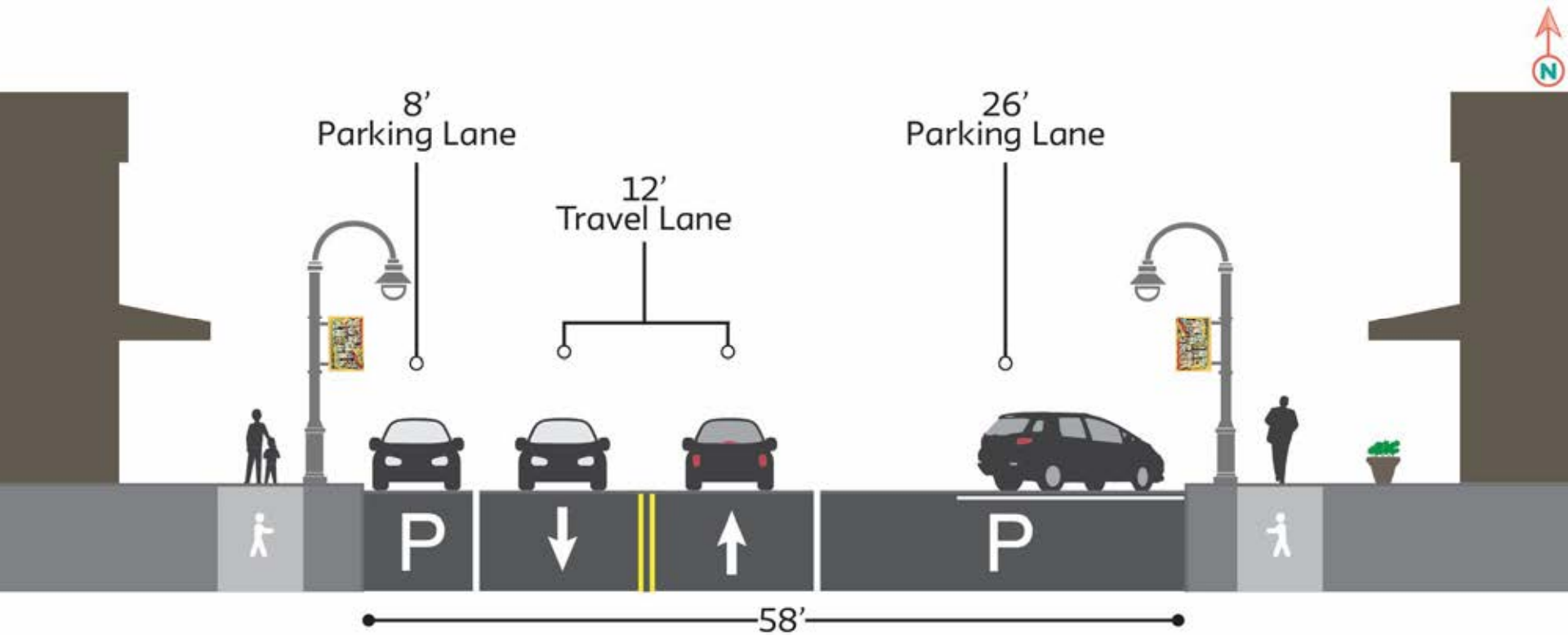
AADT: 2,036

Travel Lanes: 2 (with marked centerline)

Parking: parallel on west, angled on east

Existing LTS: 2

Proposed LTS: 1



Plan for Walking and Biking

Ocean Ave: Proposed

Existing Roadway Characteristics

Speed Limit: 25 mph

Typical Cartway Width: 58 ft

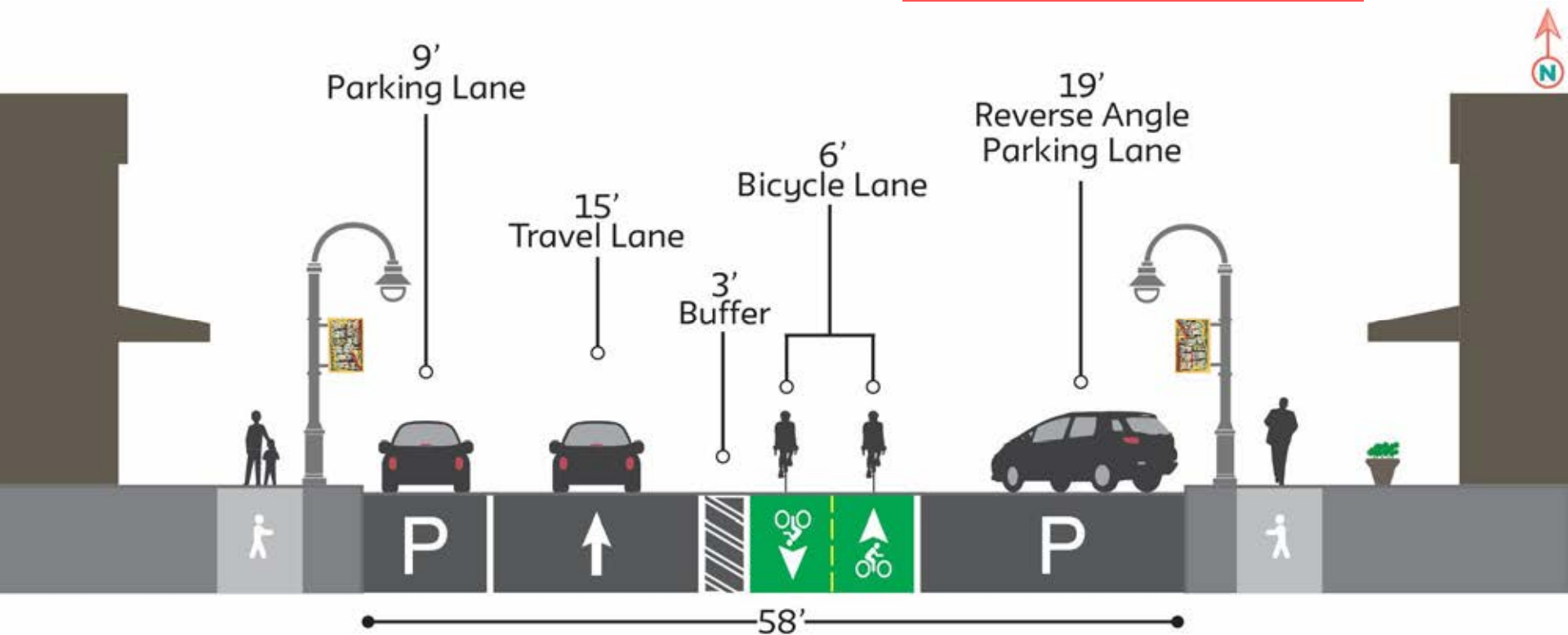
AADT: 2,036

Travel Lanes: 2 (with marked centerline)

Parking: parallel on west, angled on east

Existing LTS: 2

Proposed LTS: 1



Plan for Walking and Biking

Kingsley St: Existing

Existing Roadway Characteristics

Speed Limit: 25 mph

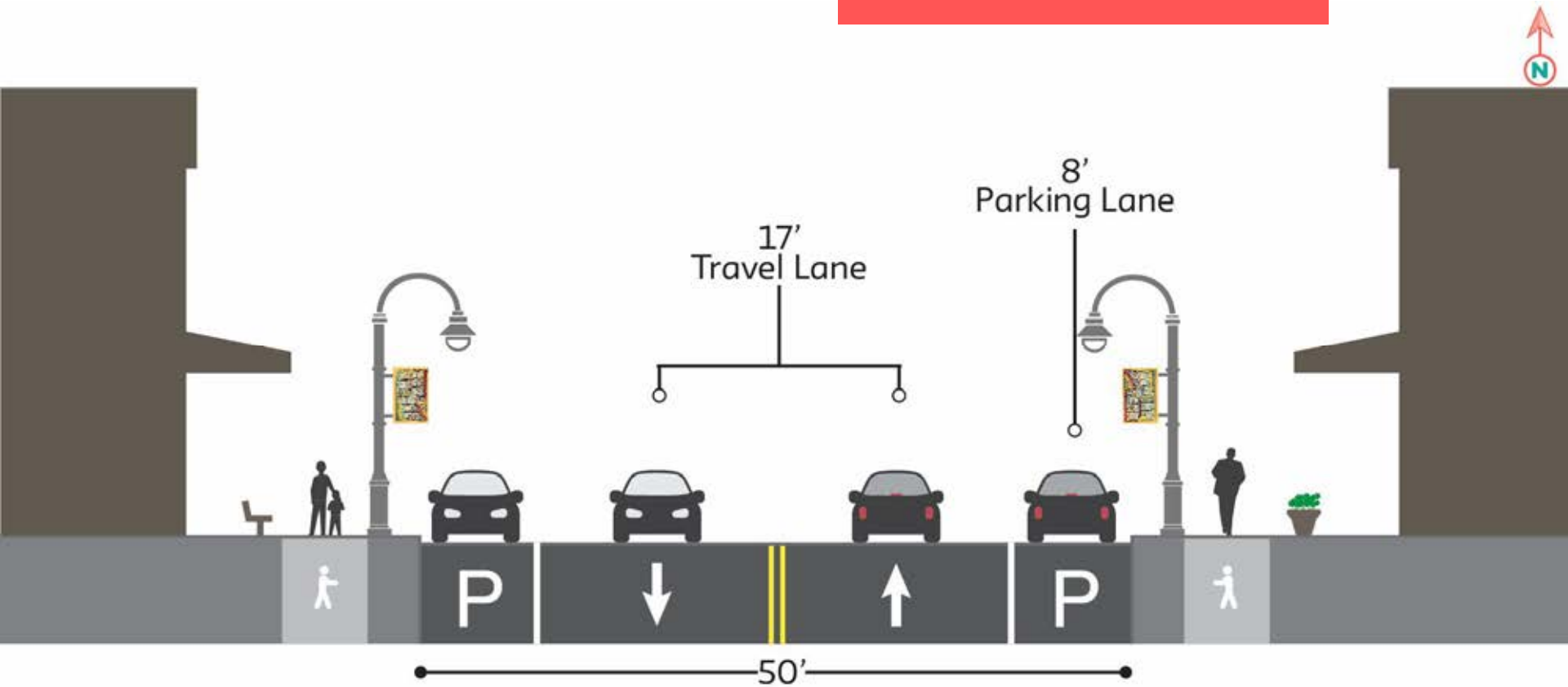
Typical Cartway Width: 50 ft

Travel Lanes: 2 (with marked centerline)

Parking: parallel on both sides

Existing LTS: 2

Proposed LTS: 1



Plan for Walking and Biking

Kingsley St: Proposed: Asbury Ave to 7th Ave

Existing Roadway Characteristics

Speed Limit: 25 mph

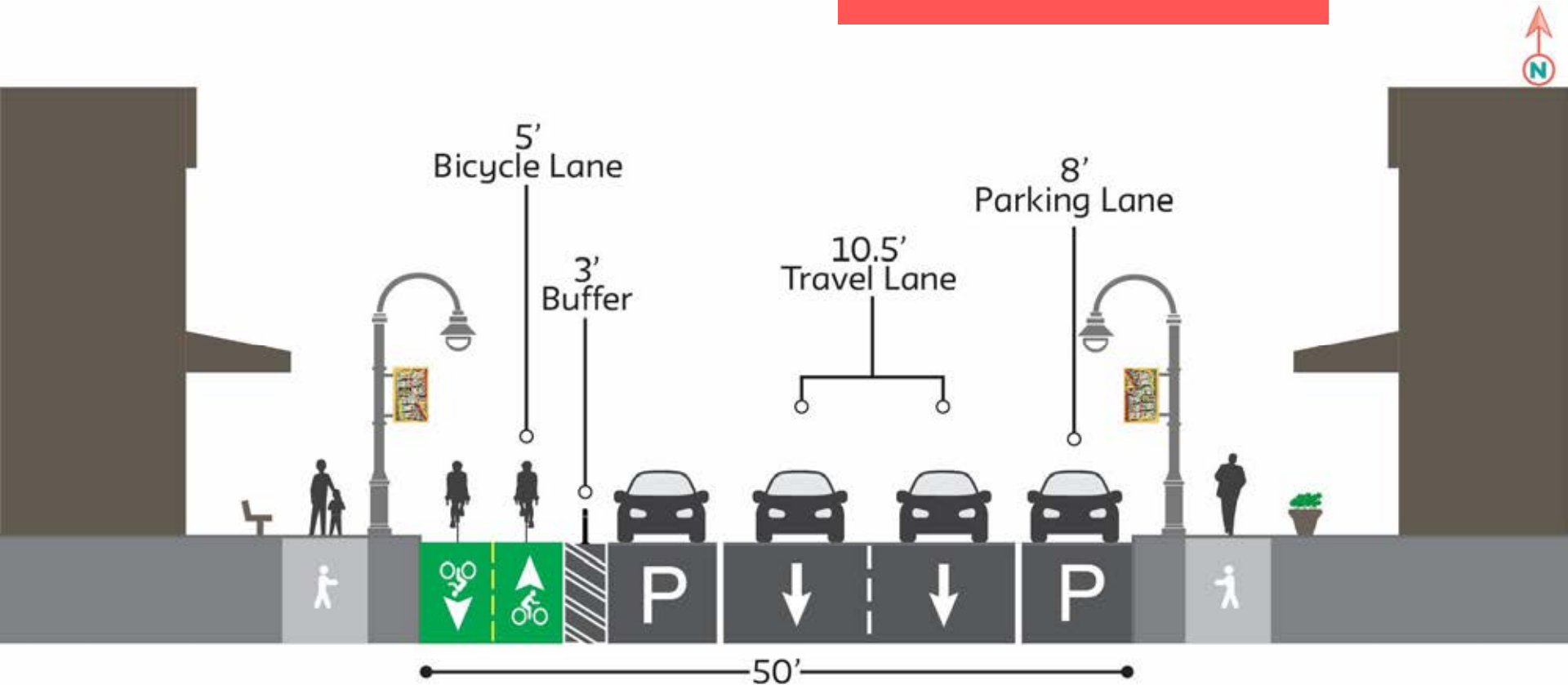
Typical Cartway Width: 50 ft

Travel Lanes: 2 (with marked centerline)

Parking: parallel on both sides

Existing LTS: 2

Proposed LTS: 1



Plan for Walking and Biking

Kingsley St: Proposed: 7th Ave to Lake Dr

Existing Roadway Characteristics

Speed Limit: 25 mph

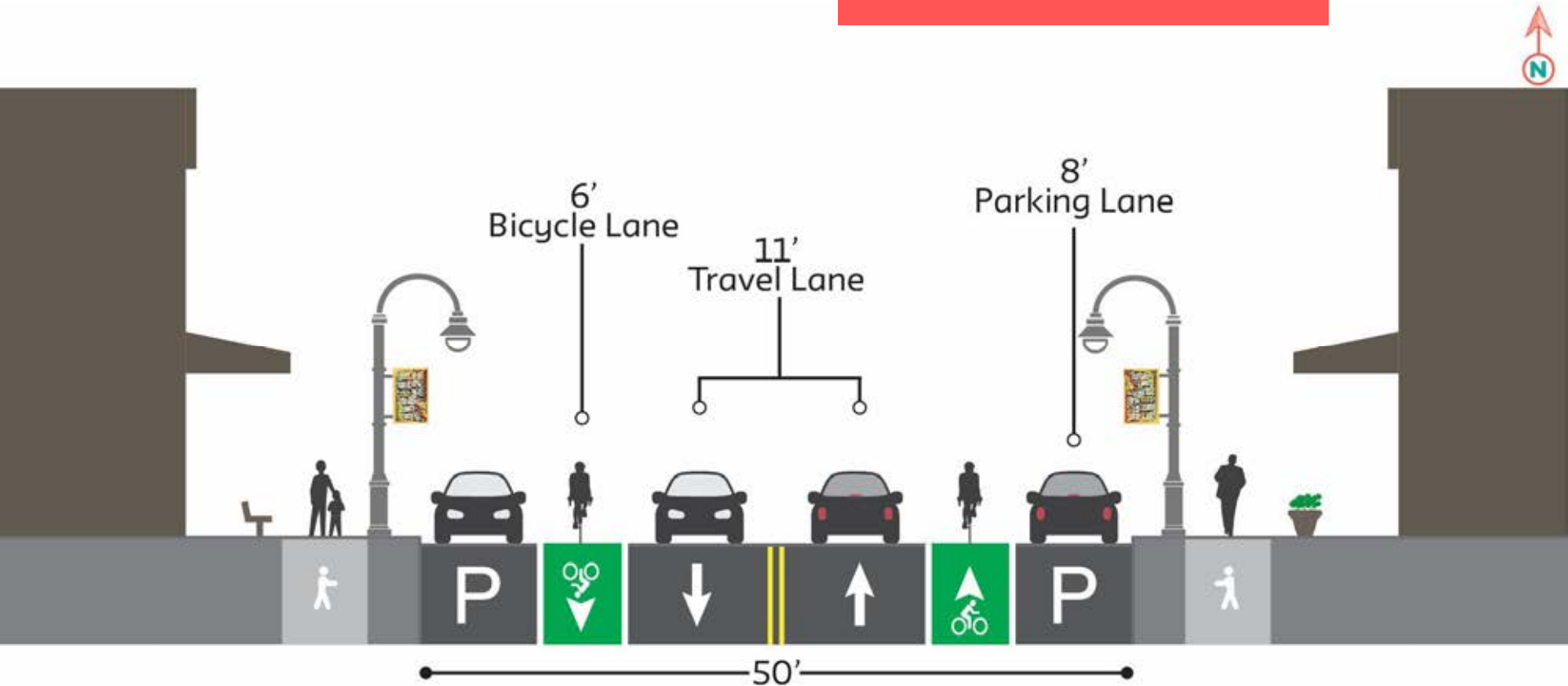
Typical Cartway Width: 50 ft

Travel Lanes: 2 (with marked centerline)

Parking: parallel on both sides

Existing LTS: 2

Proposed LTS: 1



Plan for Walking and Biking

Asbury Ave

Existing: Kingsley St to Ocean Ave

Existing Roadway Characteristics

Speed Limit: 25 mph

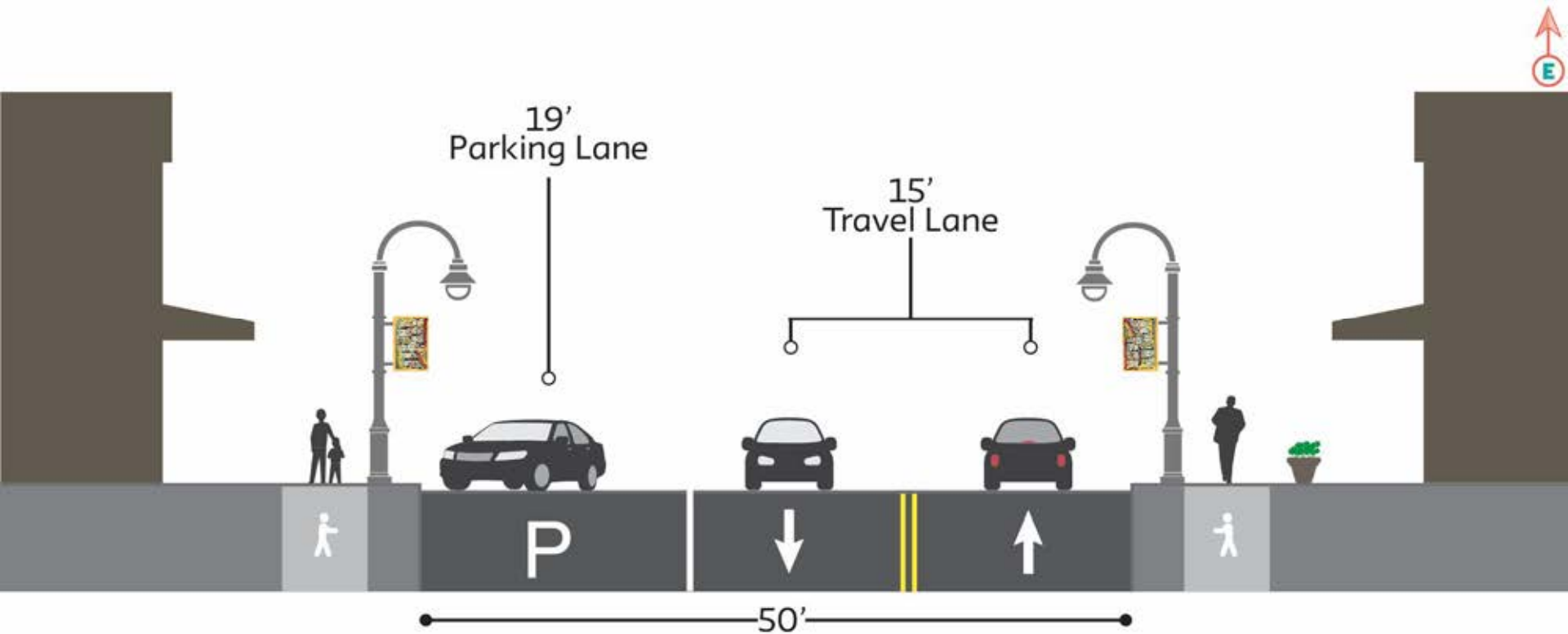
Typical Cartway Width: 50 ft

Travel Lanes: 2 (with marked center line)

Parking: angled in WB direction, no parking in EB direction

Existing LTS: 2

Proposed LTS: 1



Plan for Walking and Biking

Asbury Ave Proposed: Kingsley St to Ocean Ave

Existing Roadway Characteristics

Speed Limit: 25 mph

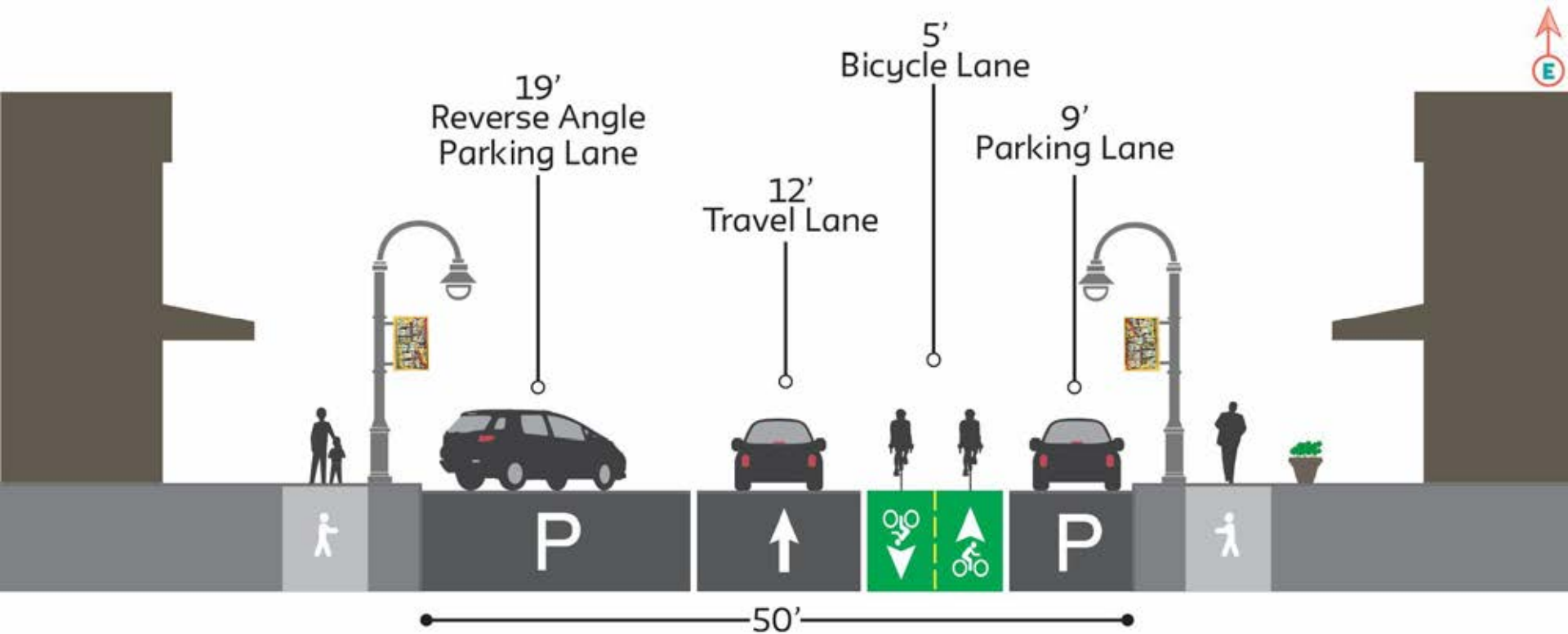
Typical Cartway Width: 50 ft

Travel Lanes: 2 (with marked center line)

Parking: angled in WB direction, no parking in EB direction

Existing LTS: 2

Proposed LTS: 1



Plan for Walking and Biking

Asbury Ave

Existing: Heck St to Pine St

Existing Roadway Characteristics

Speed Limit: 25 mph

Typical Cartway Width: 50 ft

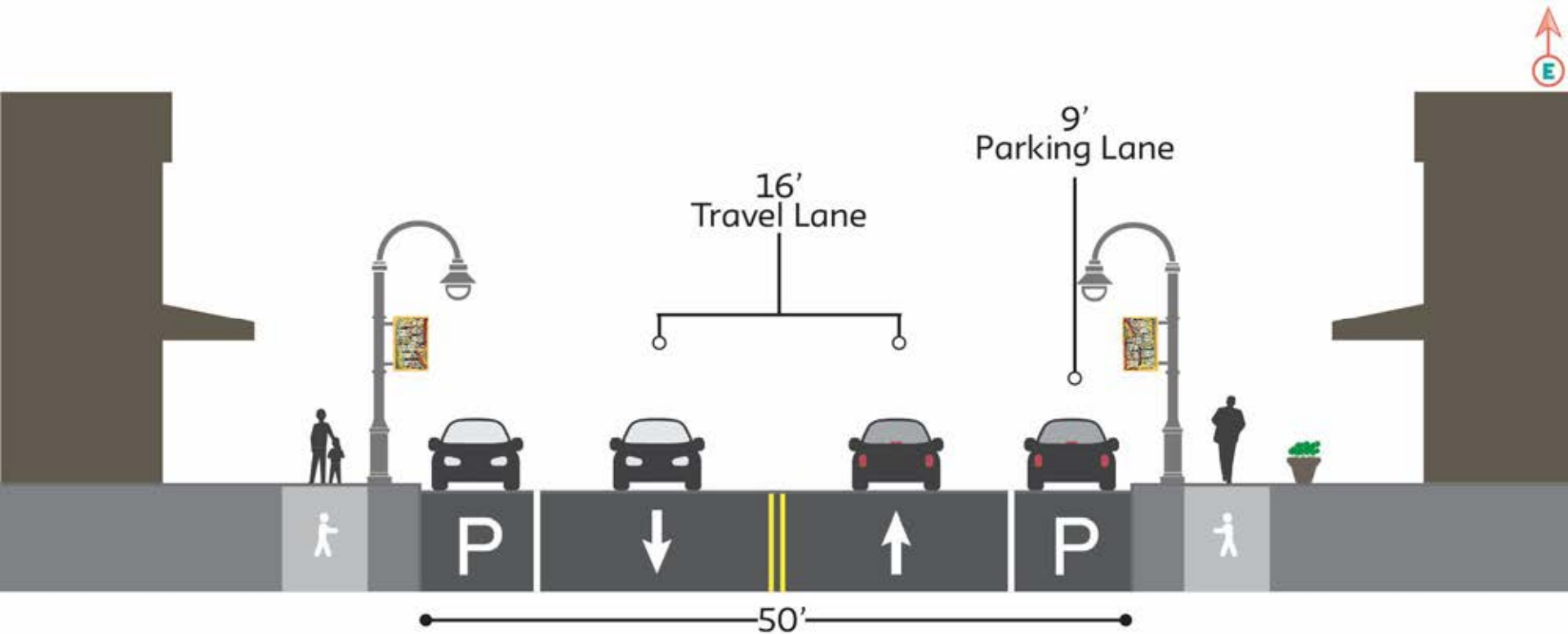
AADT: 7,416

Travel Lanes: 2 (with marked centerline)

Parking: parallel in both directions

Existing LTS: 2

Proposed LTS: 1



Plan for Walking and Biking

Asbury Ave Proposed: Heck St to Pine St

Existing Roadway Characteristics

Speed Limit: 25 mph

Typical Cartway Width: 50 ft

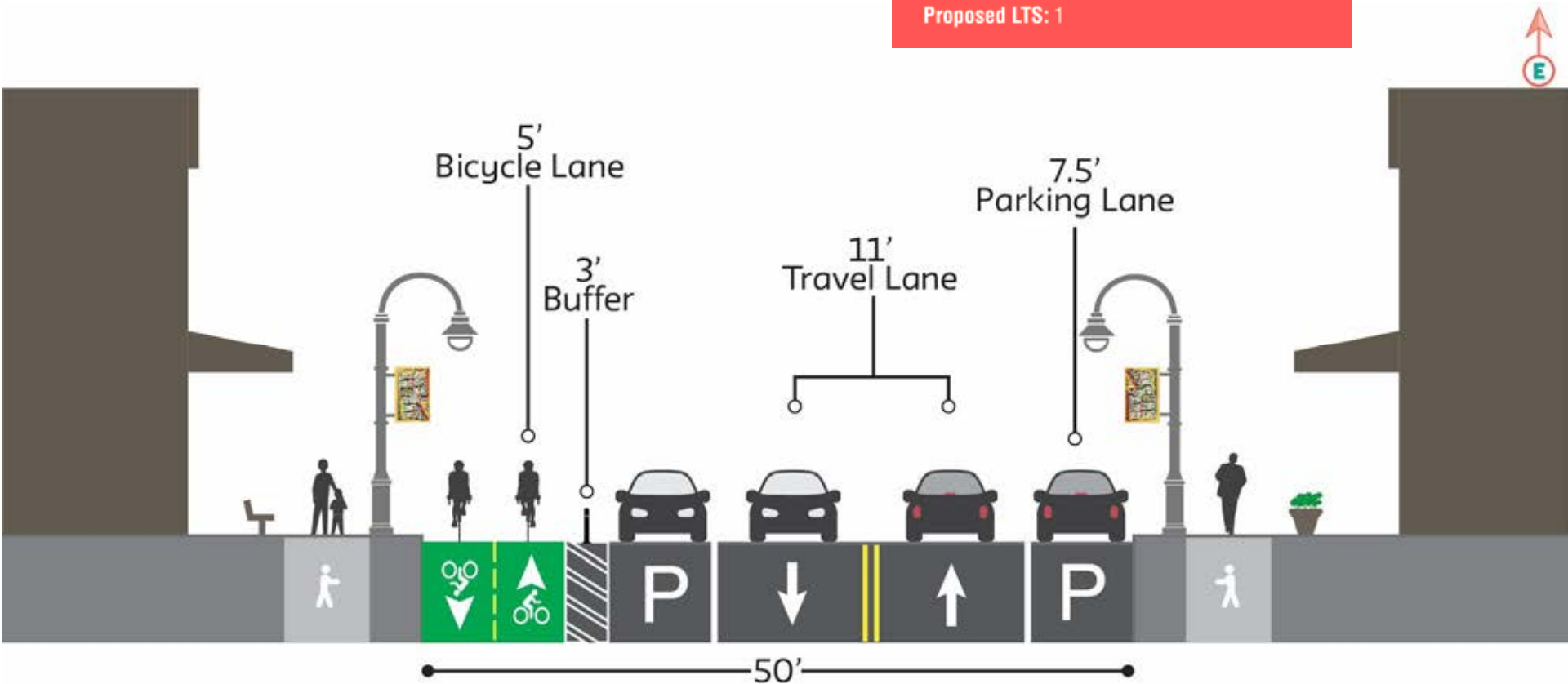
AADT: 7,416

Travel Lanes: 2 (with marked centerline)

Parking: parallel in both directions

Existing LTS: 2

Proposed LTS: 1



Plan for Walking and Biking

Memorial Dr: Existing: Monroe Ave to 6th Ave

Existing Roadway Characteristics

Speed Limit: 30 mph

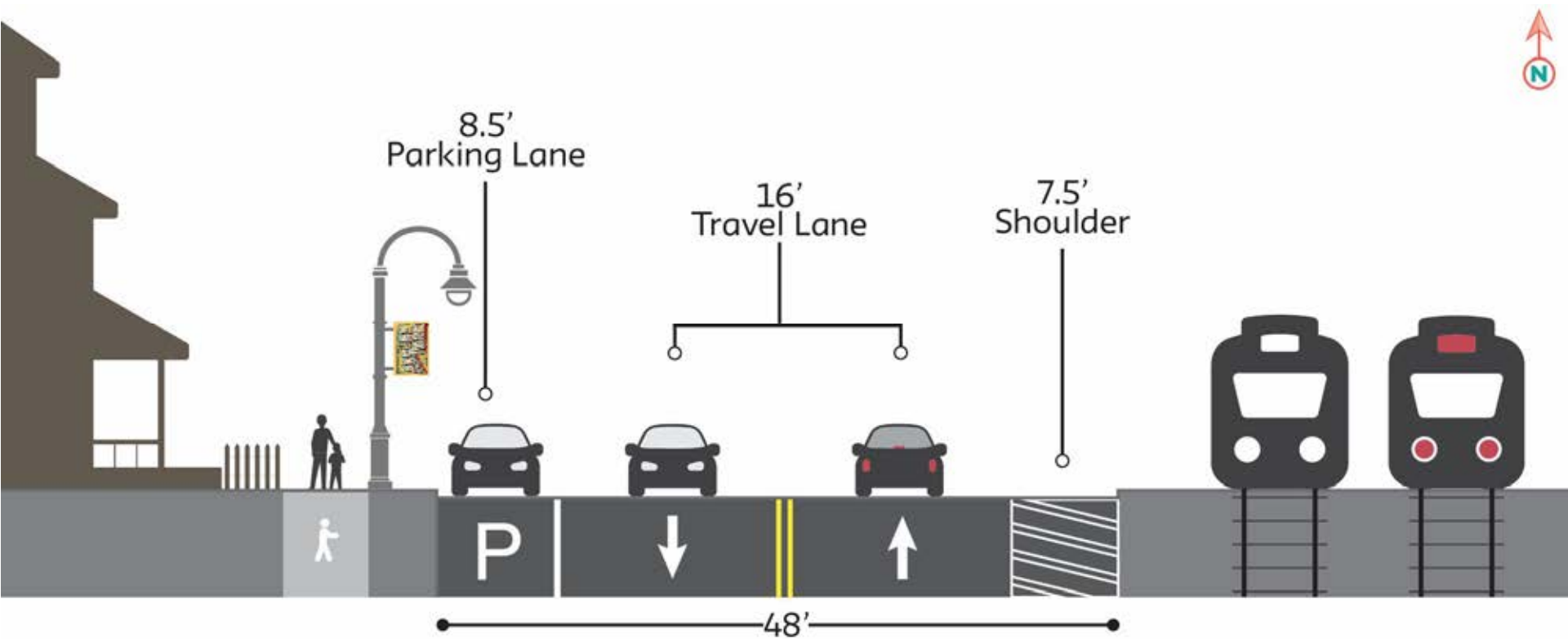
Typical Cartway Width: 48 ft

Travel Lanes: 2 (with marked centerline)

Parking: parallel on west, none on east

Existing LTS: 3

Proposed LTS: 1



Plan for Walking and Biking

Memorial Dr: Proposed: Monroe Ave to 6th Ave

Existing Roadway Characteristics

Speed Limit: 30 mph

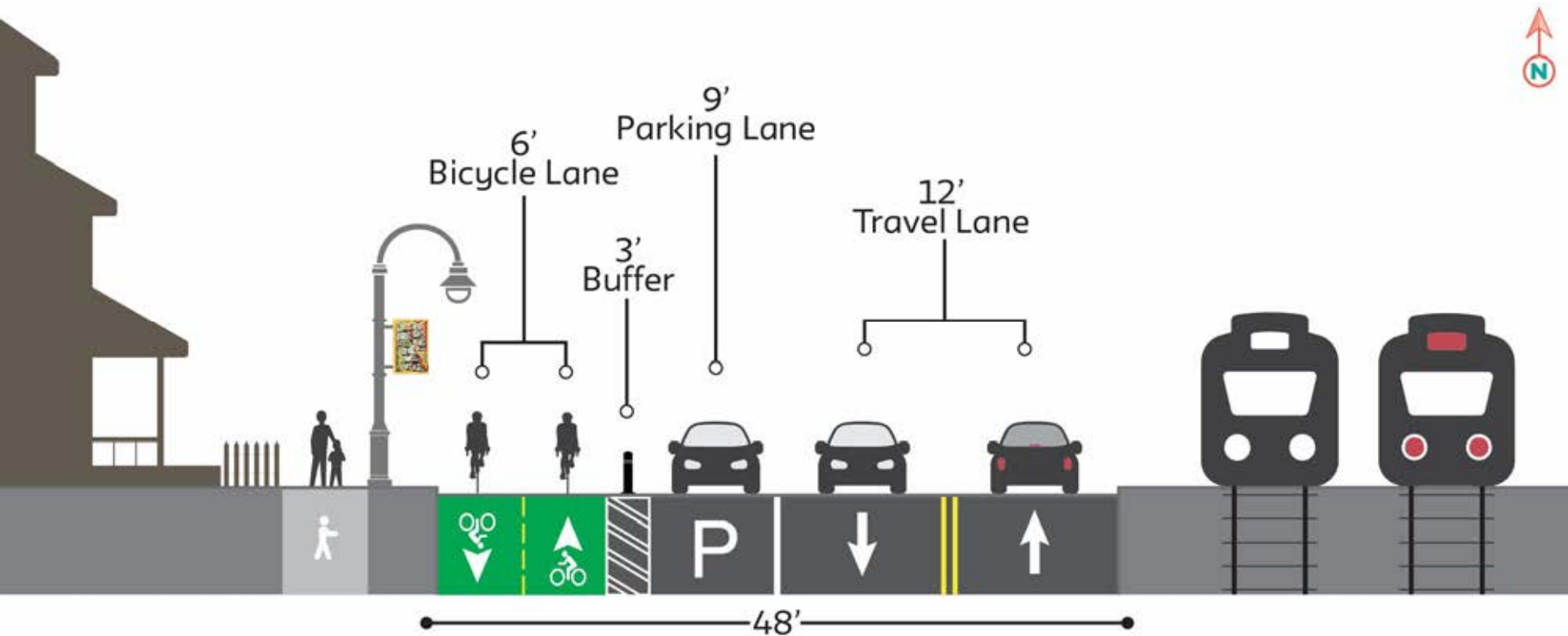
Typical Cartway Width: 48 ft

Travel Lanes: 2 (with marked centerline)

Parking: parallel on west, none on east

Existing LTS: 3

Proposed LTS: 1



Plan for Walking and Biking

Memorial Dr: Existing: Boston Way to Monroe Ave

Existing Roadway Characteristics

Speed Limit: 30 mph

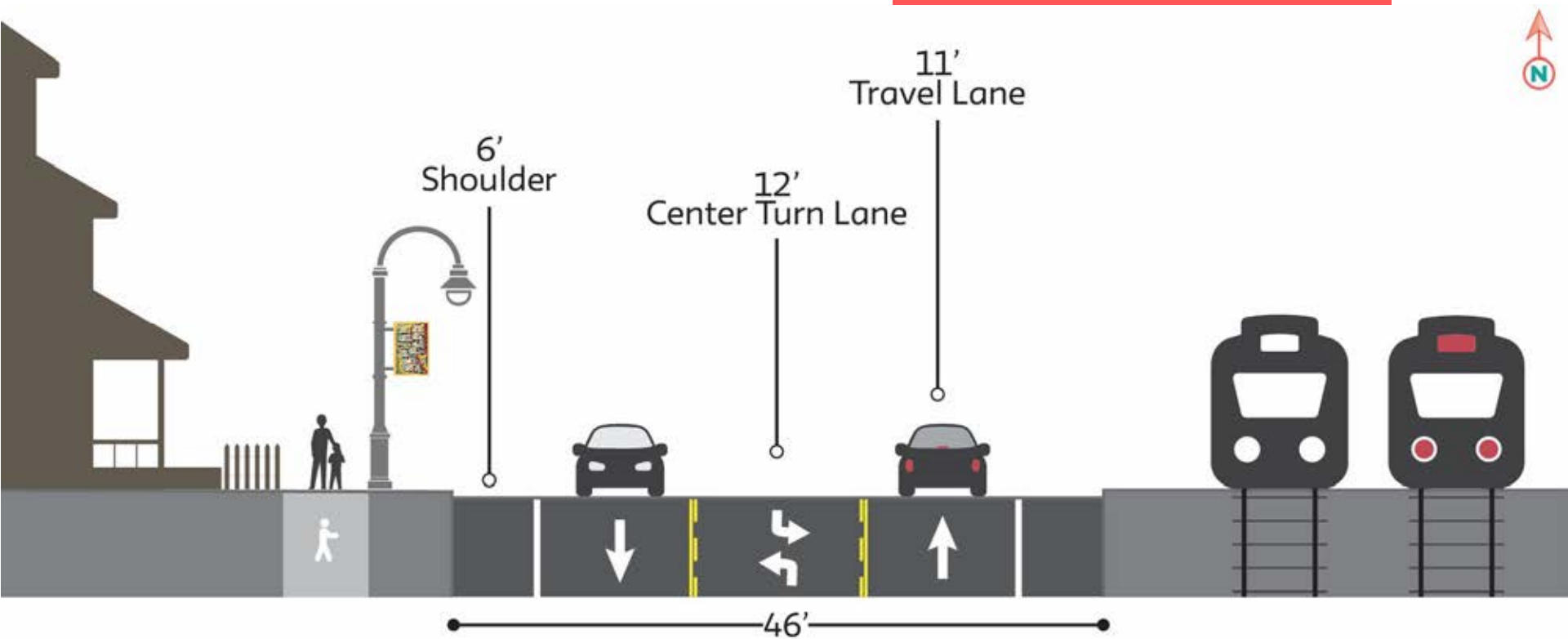
Typical Cartway Width: 46 ft

Travel Lanes: 2 (One center turn lane)

Parking: none

Existing LTS: 3

Proposed LTS: 1



Plan for Walking and Biking

Memorial Dr: Proposed: Boston Way to Monroe Ave

Existing Roadway Characteristics

Speed Limit: 30 mph

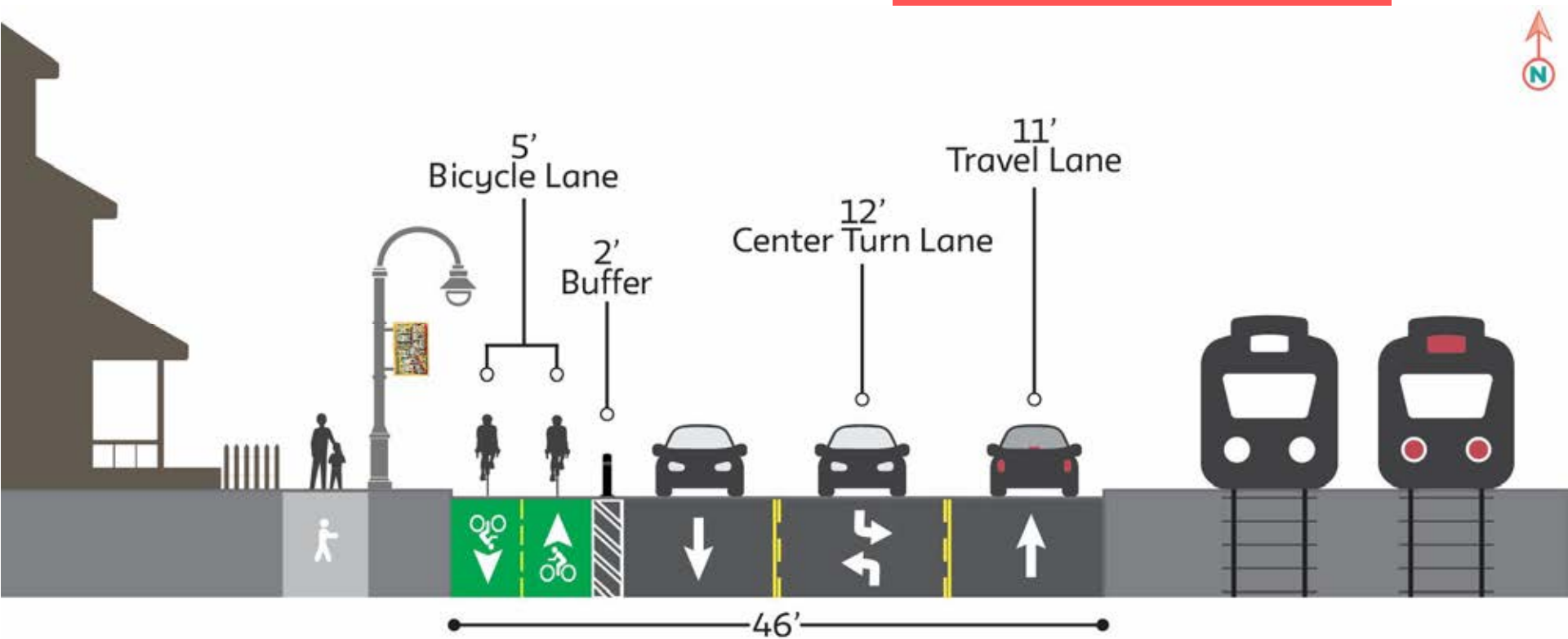
Typical Cartway Width: 46 ft

Travel Lanes: 2 (One center turn lane)

Parking: none

Existing LTS: 3

Proposed LTS: 1



Plan for Walking and Biking

Sunset Ave: Existing: Memorial Dr to Webb St

Existing Roadway Characteristics

Speed Limit: 25 mph

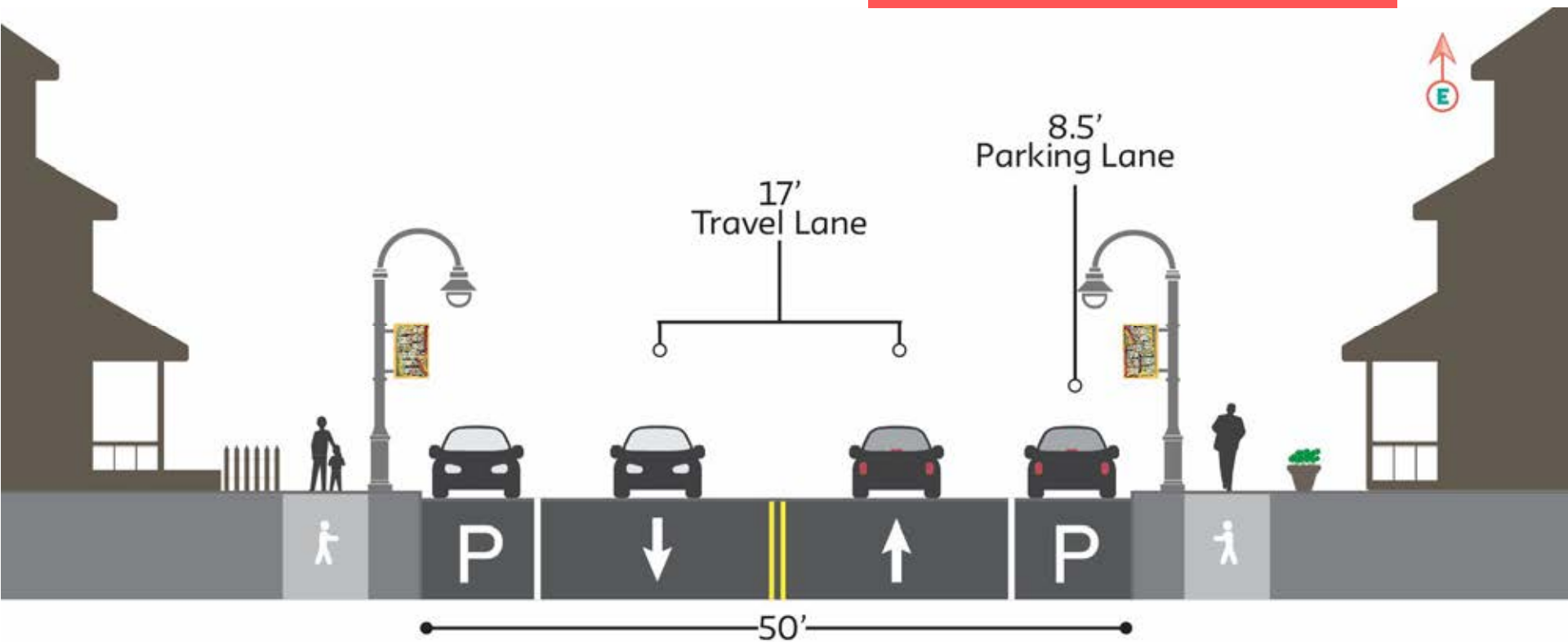
Typical Cartway Width: 50 ft

Travel Lanes: 2 (with marked centerline)

Parking: parallel on both sides

Existing LTS: 2

Proposed LTS: 2



Plan for Walking and Biking

Sunset Ave: Proposed: Memorial Dr to Webb St

Existing Roadway Characteristics

Speed Limit: 25 mph

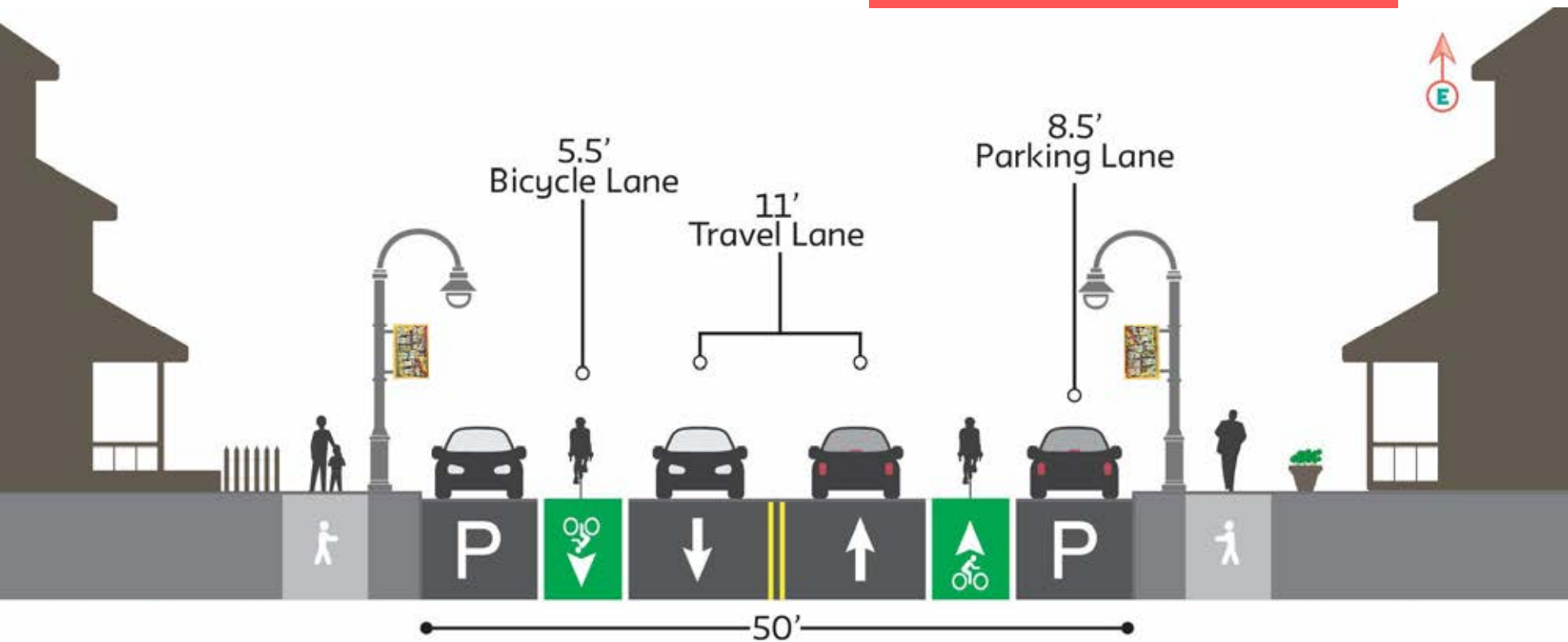
Typical Cartway Width: 50 ft

Travel Lanes: 2 (with marked centerline)

Parking: parallel on both sides

Existing LTS: 2

Proposed LTS: 2



Plan for Walking and Biking

Prospect Ave: Existing: Springwood Ave to Asbury Ave

Existing Roadway Characteristics

Speed Limit: 25 mph

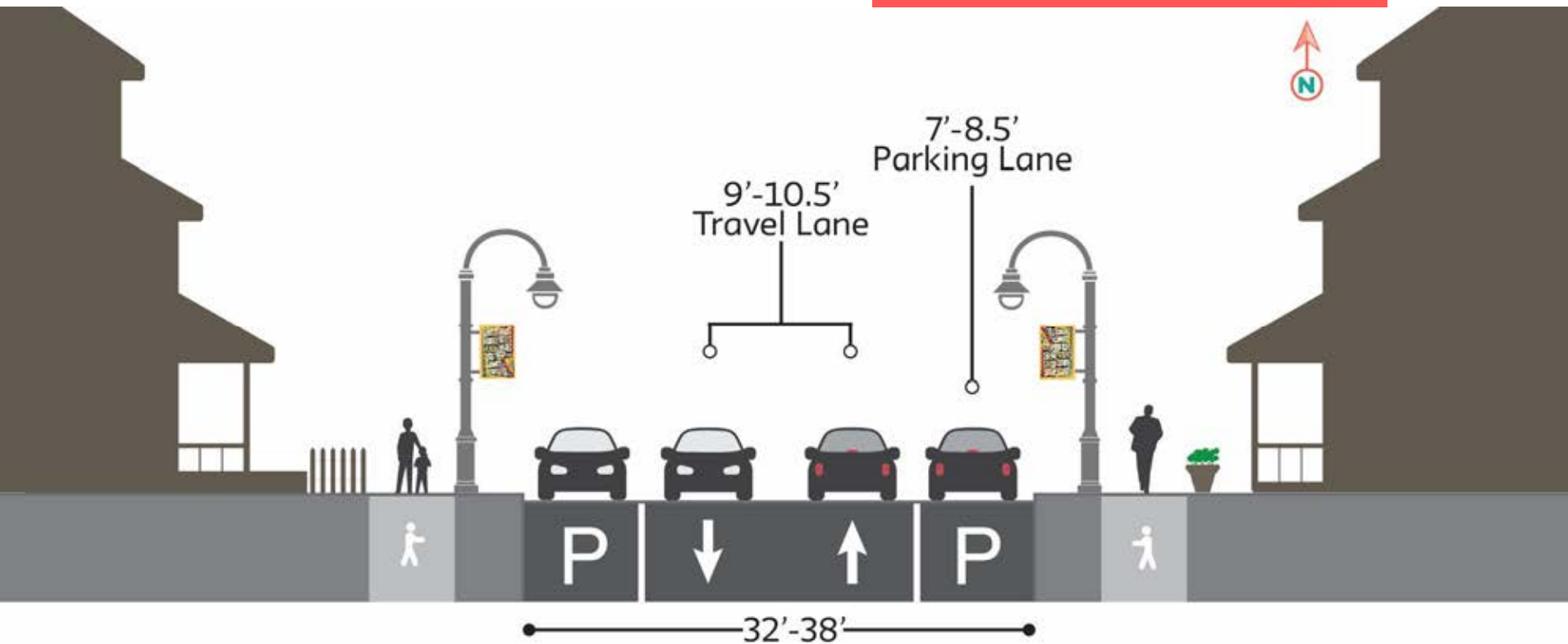
Typical Cartway Width: 32-38 ft

Travel Lanes: 2 (no centerline)

Parking: parallel on both

Existing LTS: 1

Proposed LTS: 1



Plan for Walking and Biking

Prospect Ave: Proposed: Springwood Ave to Asbury Ave

Existing Roadway Characteristics

Speed Limit: 25 mph

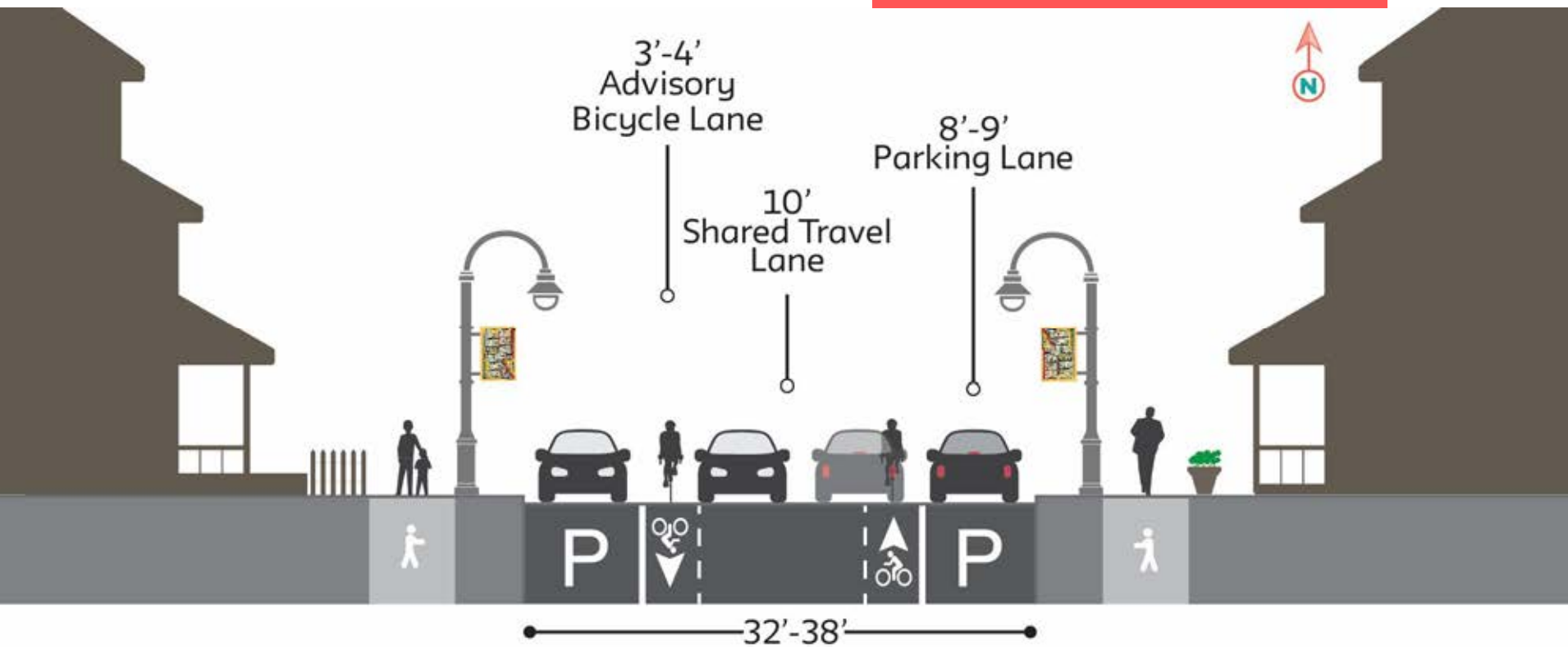
Typical Cartway Width: 32-38 ft

Travel Lanes: 2 (no centerline)

Parking: parallel on both

Existing LTS: 1

Proposed LTS: 1



Plan for Walking and Biking

Springwood Ave: Existing: Prospect Ave to Atkins Ave

Existing Roadway Characteristics

Speed Limit: 25 mph

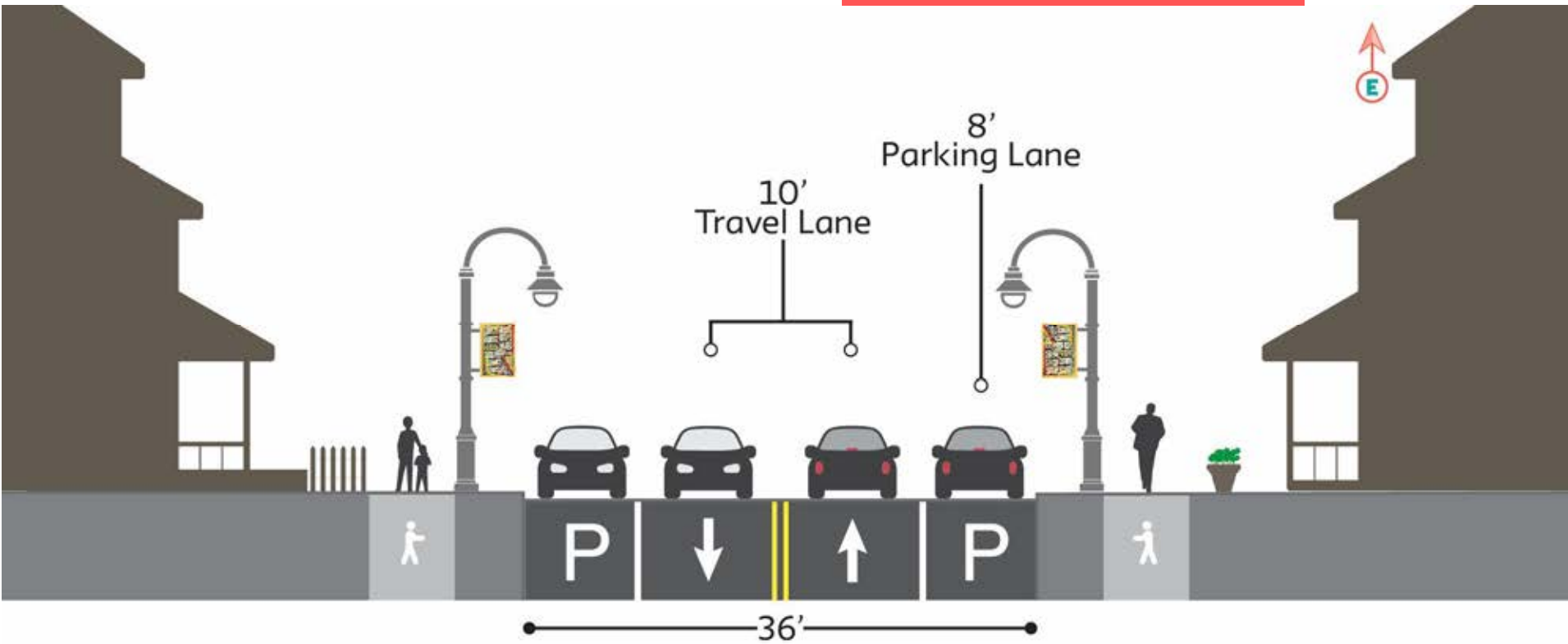
Typical Cartway Width: 36 ft

Travel Lanes: 2 (with marked center line)

Parking: none

Existing LTS: 2

Proposed LTS: 1



Plan for Walking and Biking

Springwood Ave: Proposed: Prospect Ave to Atkins Ave

Existing Roadway Characteristics

Speed Limit: 25 mph

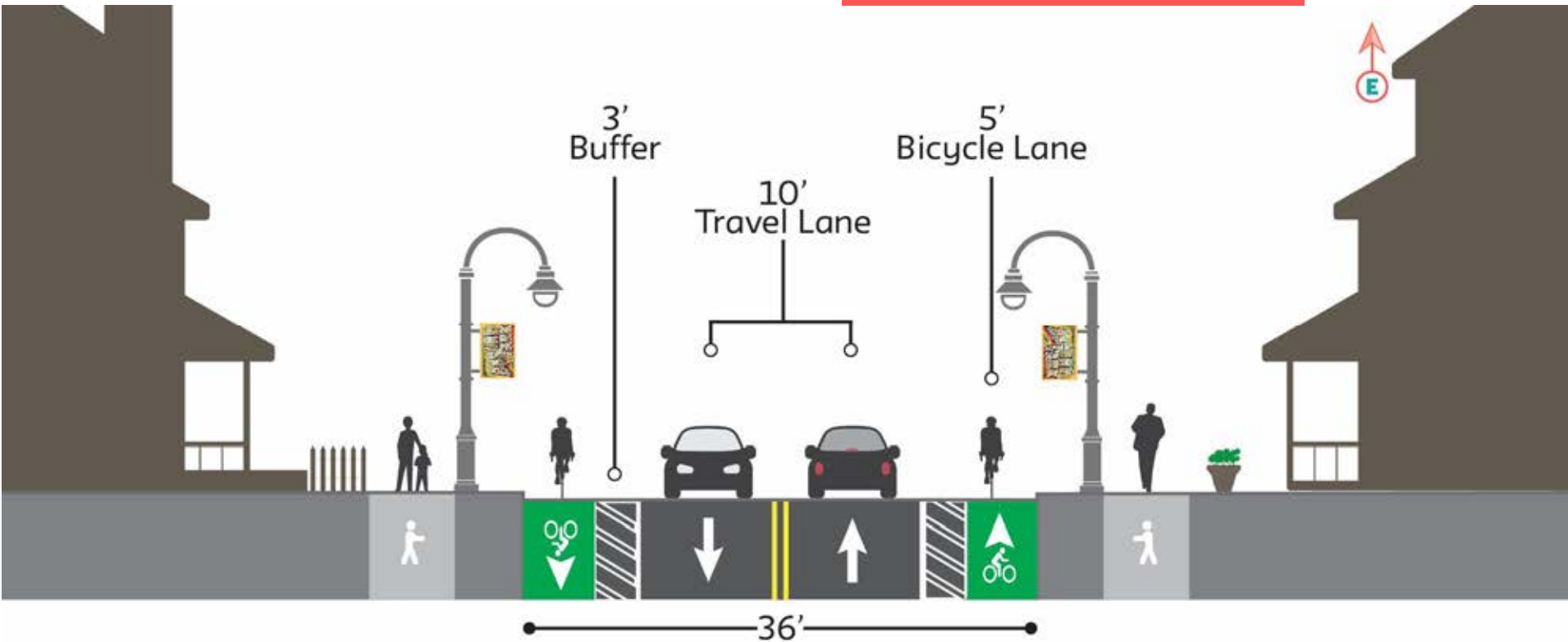
Typical Cartway Width: 36 ft

Travel Lanes: 2 (with marked center line)

Parking: none

Existing LTS: 2

Proposed LTS: 1



Plan for Walking and Biking

Deal Lake Dr Existing: Park Ave to Ocean Ave

Existing Roadway Characteristics

Speed Limit: 25 mph

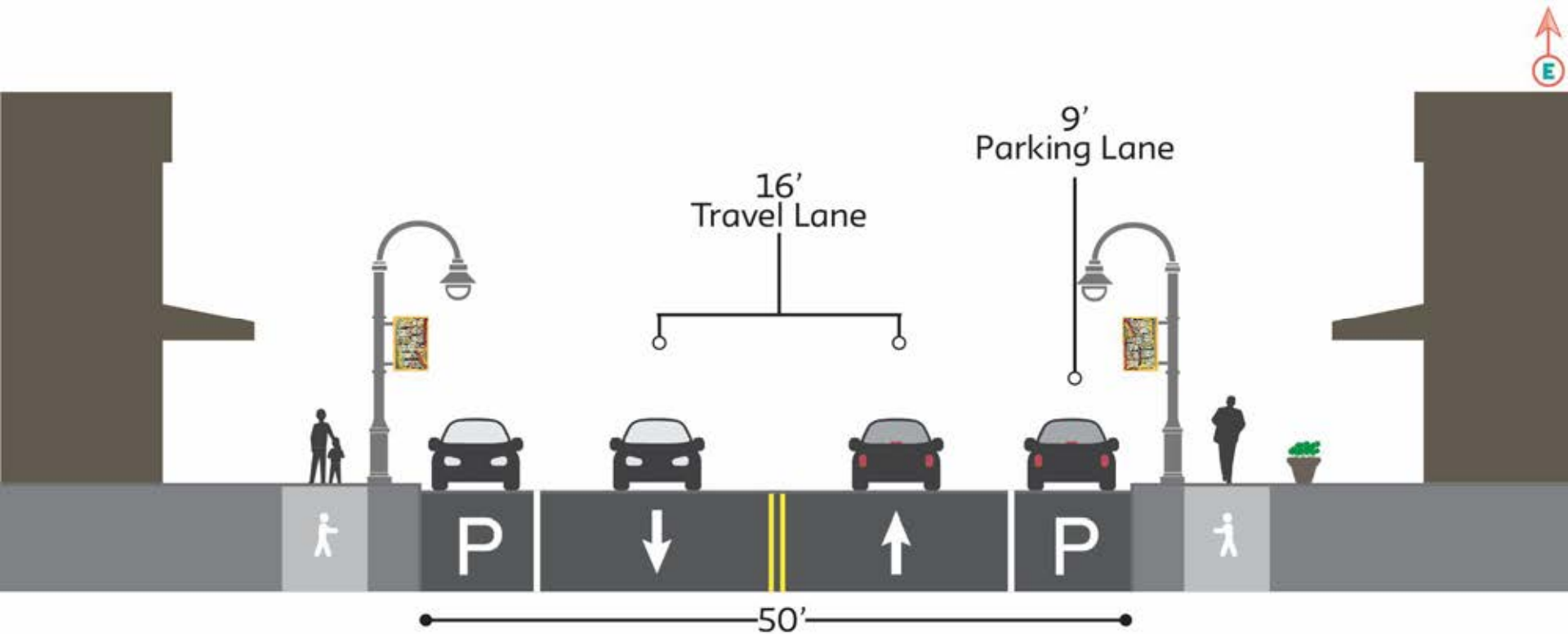
Typical Cartway Width: 50 ft

Travel Lanes: 2 (with marked center line)

Parking: parallel on both

Existing LTS: 2

Proposed LTS: 1



Plan for Walking and Biking

Deal Lake Dr Proposed: Park Ave to Ocean Ave

Existing Roadway Characteristics

Speed Limit: 25 mph

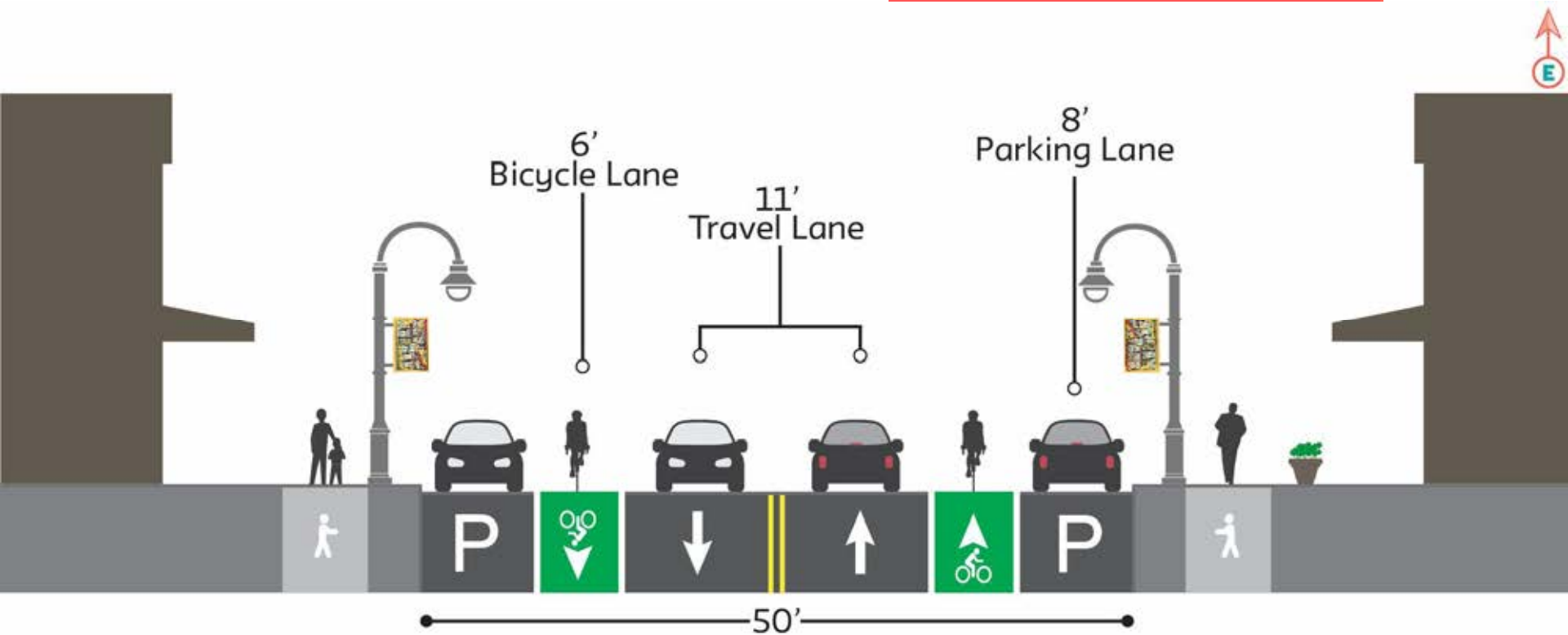
Typical Cartway Width: 50 ft

Travel Lanes: 2 (with marked center line)

Parking: parallel on both

Existing LTS: 2

Proposed LTS: 1



Plan for Walking and Biking

1st Ave 6th Ave
2nd Ave 7th Ave
3rd Ave 8th Ave
4th Ave Park Ave
5th Ave

Existing Roadway Characteristics

Speed Limit: 25 mph

Typical Cartway Width: 48 ft

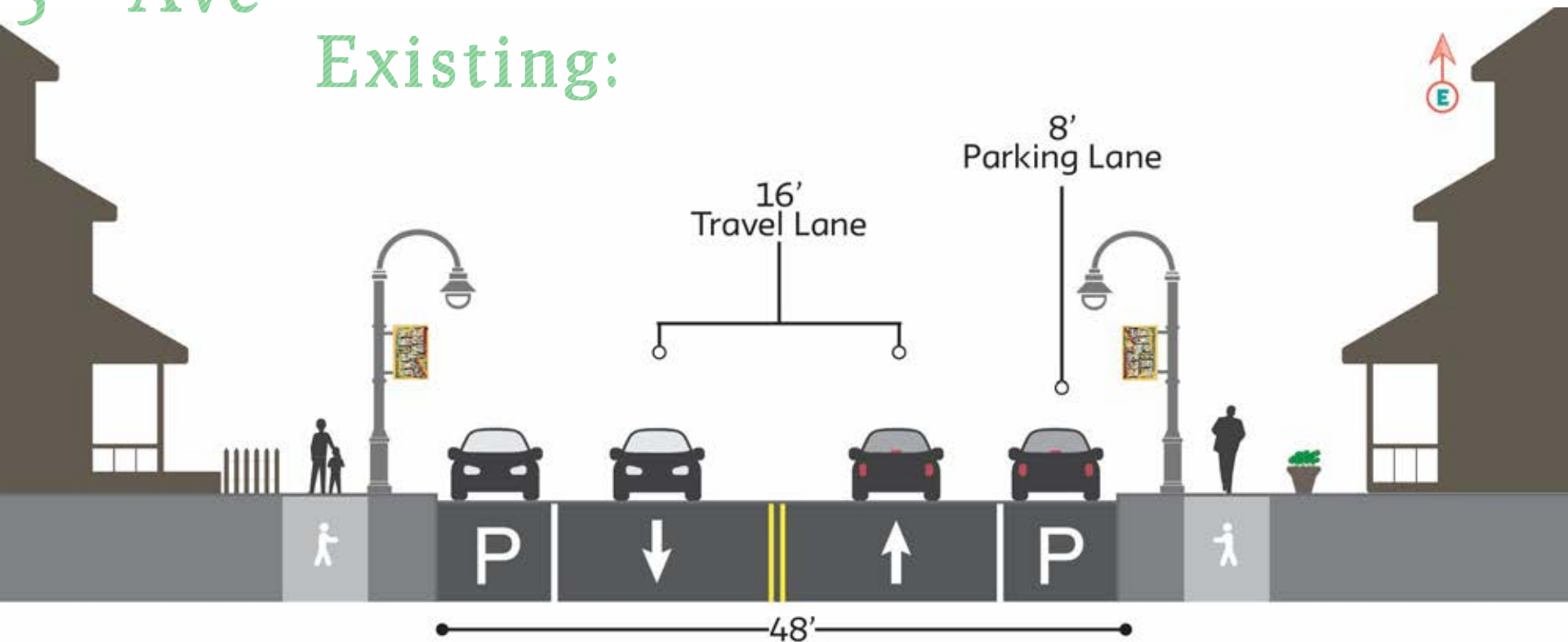
Travel Lanes: 2 (no constant centerline)

Parking: parallel on both

Existing LTS: 1-2

Proposed LTS: 1

Existing:



Plan for Walking and Biking

1st Ave 6th Ave
2nd Ave 7th Ave
3rd Ave 8th Ave
4th Ave Park Ave
5th Ave

Proposed:

Existing Roadway Characteristics

Speed Limit: 25 mph

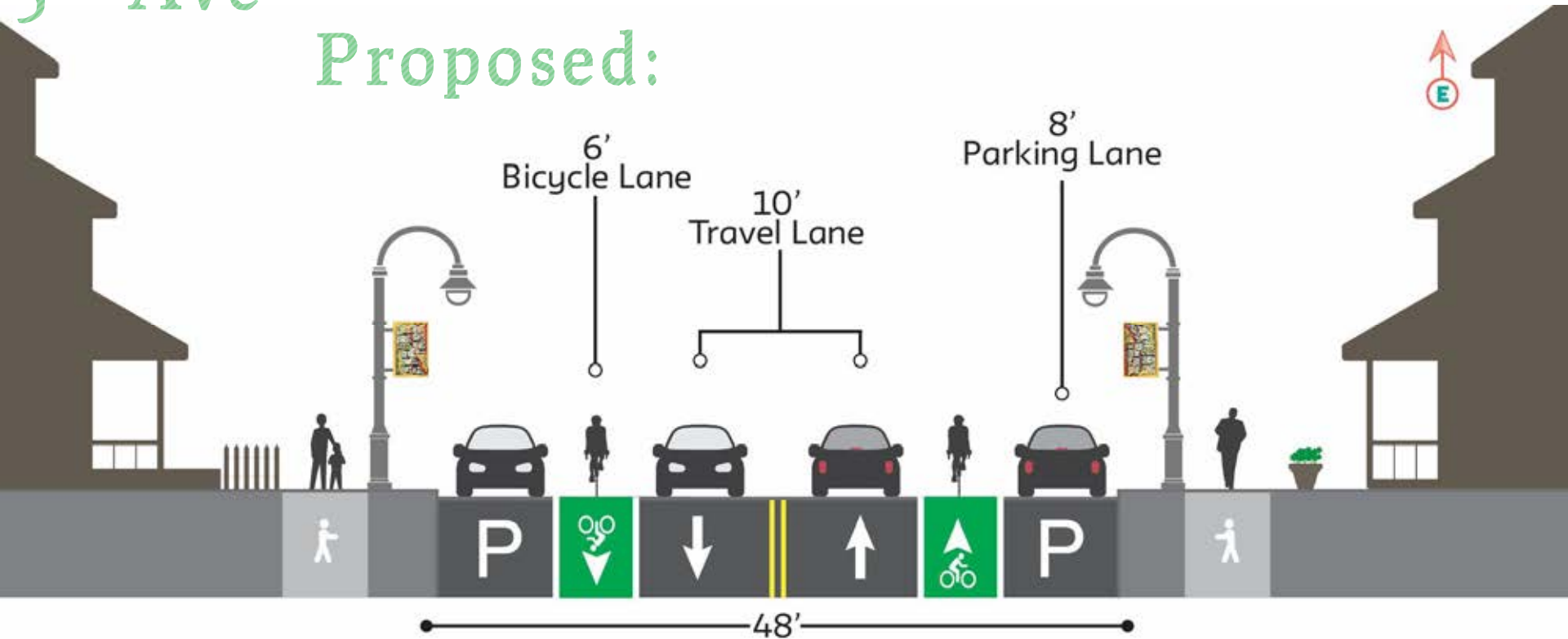
Typical Cartway Width: 48 ft

Travel Lanes: 2 (no constant centerline)

Parking: parallel on both

Existing LTS: 1-2

Proposed LTS: 1



Plan for Walking and Biking

Prospect Ave
Central Ave
Ridge Ave
Dewitt Ave
Atlantic Ave
Bangs Ave
Monroe Ave
Langford St
Pine St
Comstock St

Proposed:

Existing Roadway Characteristics

Speed Limit: 25 mph (Drop to 20 mph)

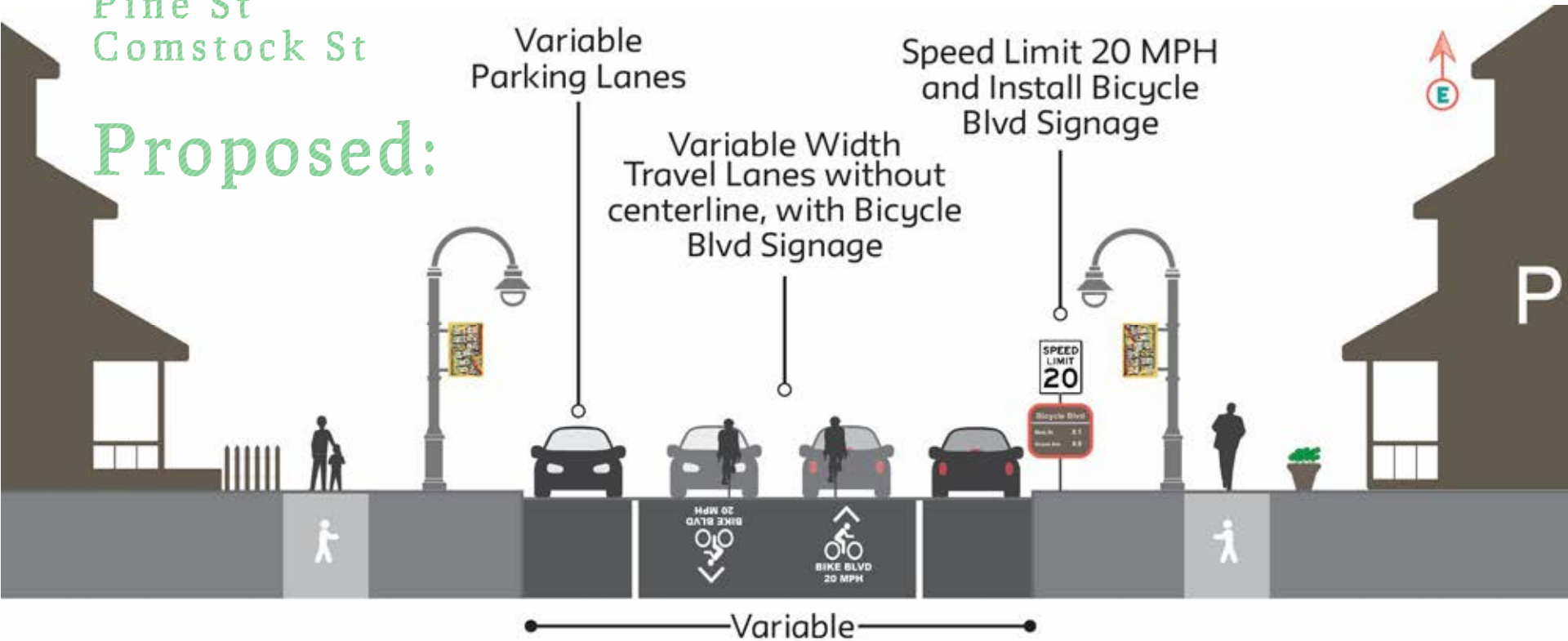
Typical Cartway Width: variable

Travel Lanes: 2 (without marked center line)

Parking: variable

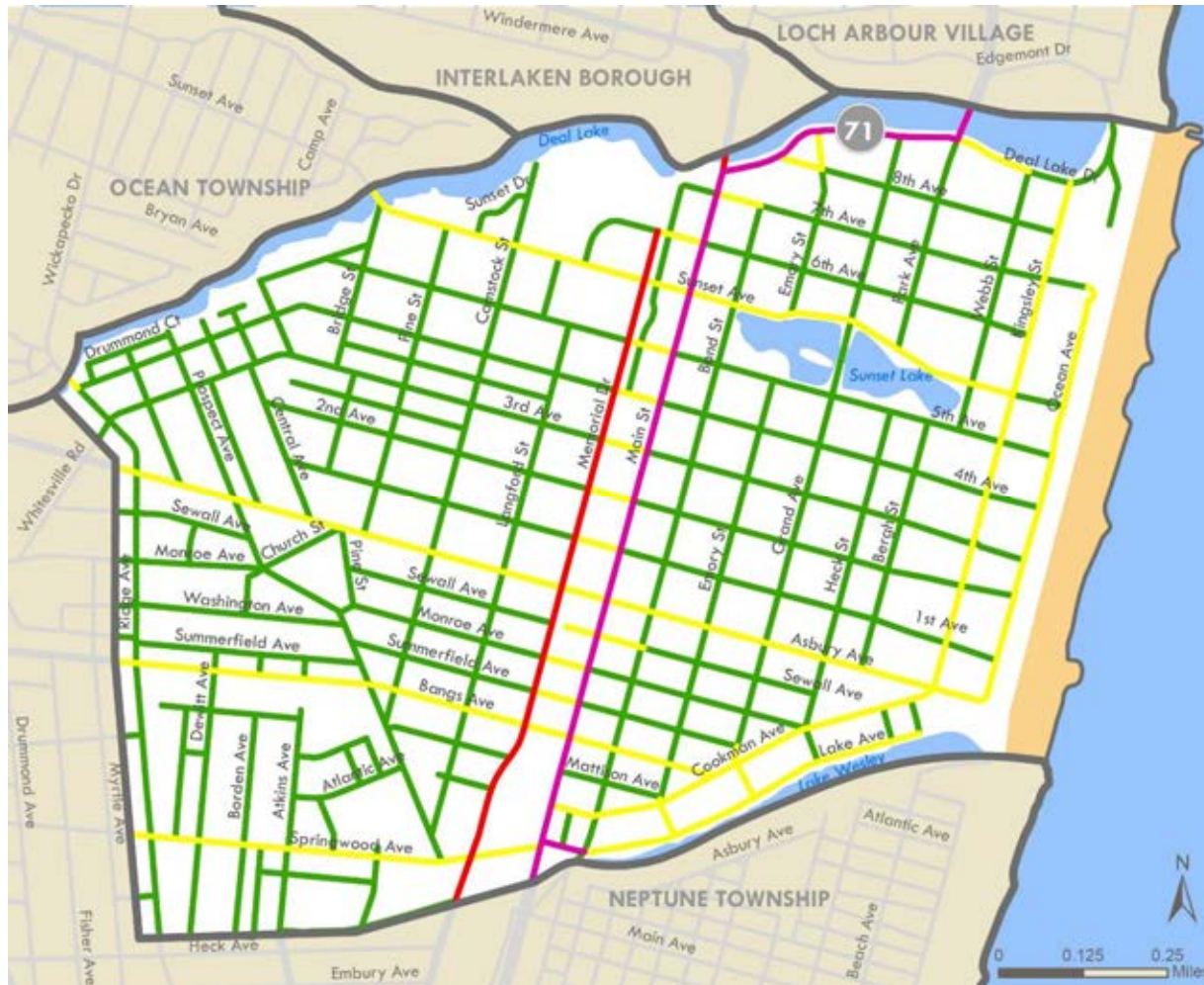
Existing LTS: 1-2

Proposed LTS: 1-2



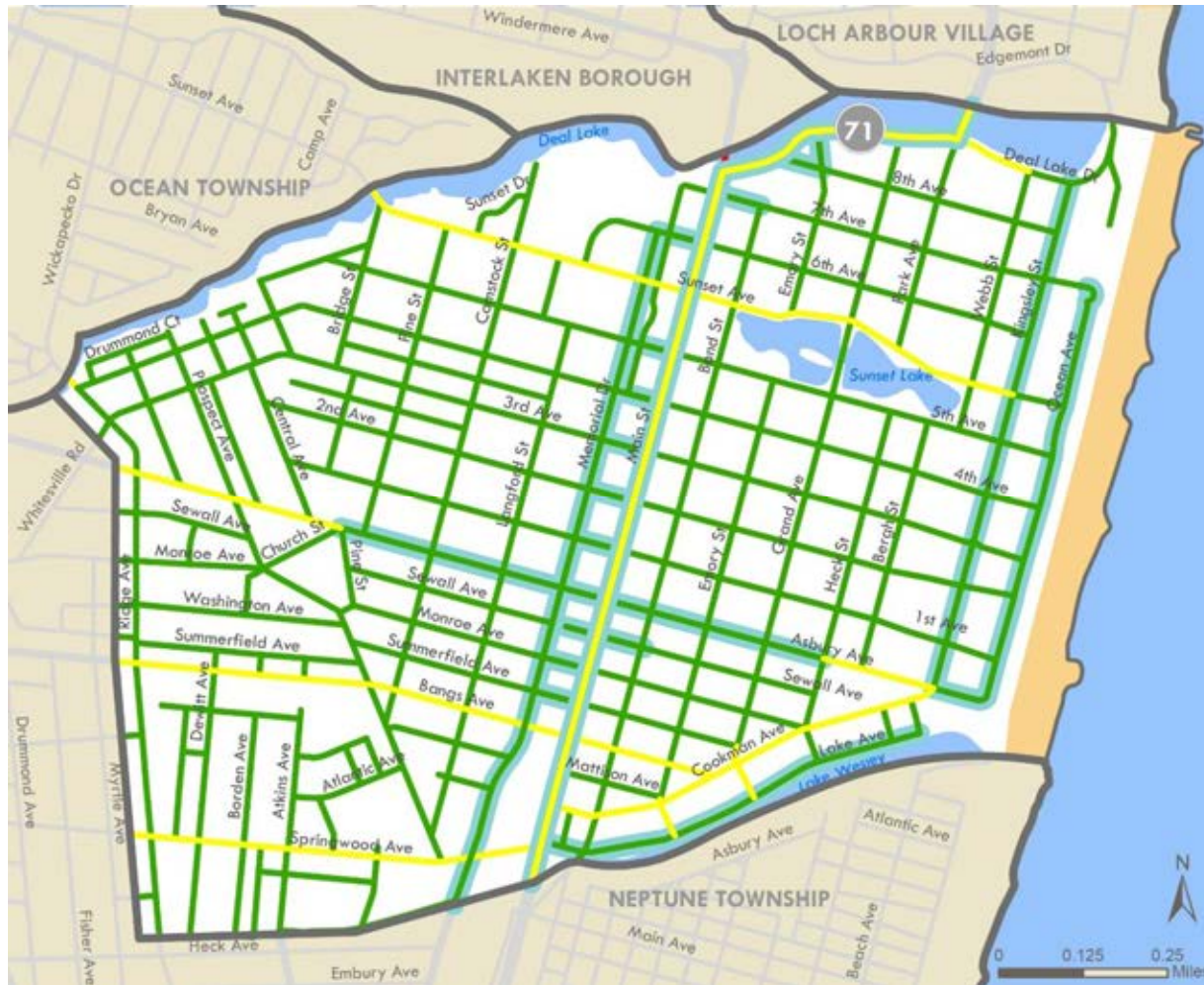
Plan for Walking and Biking

Bicycle LTS - Existing



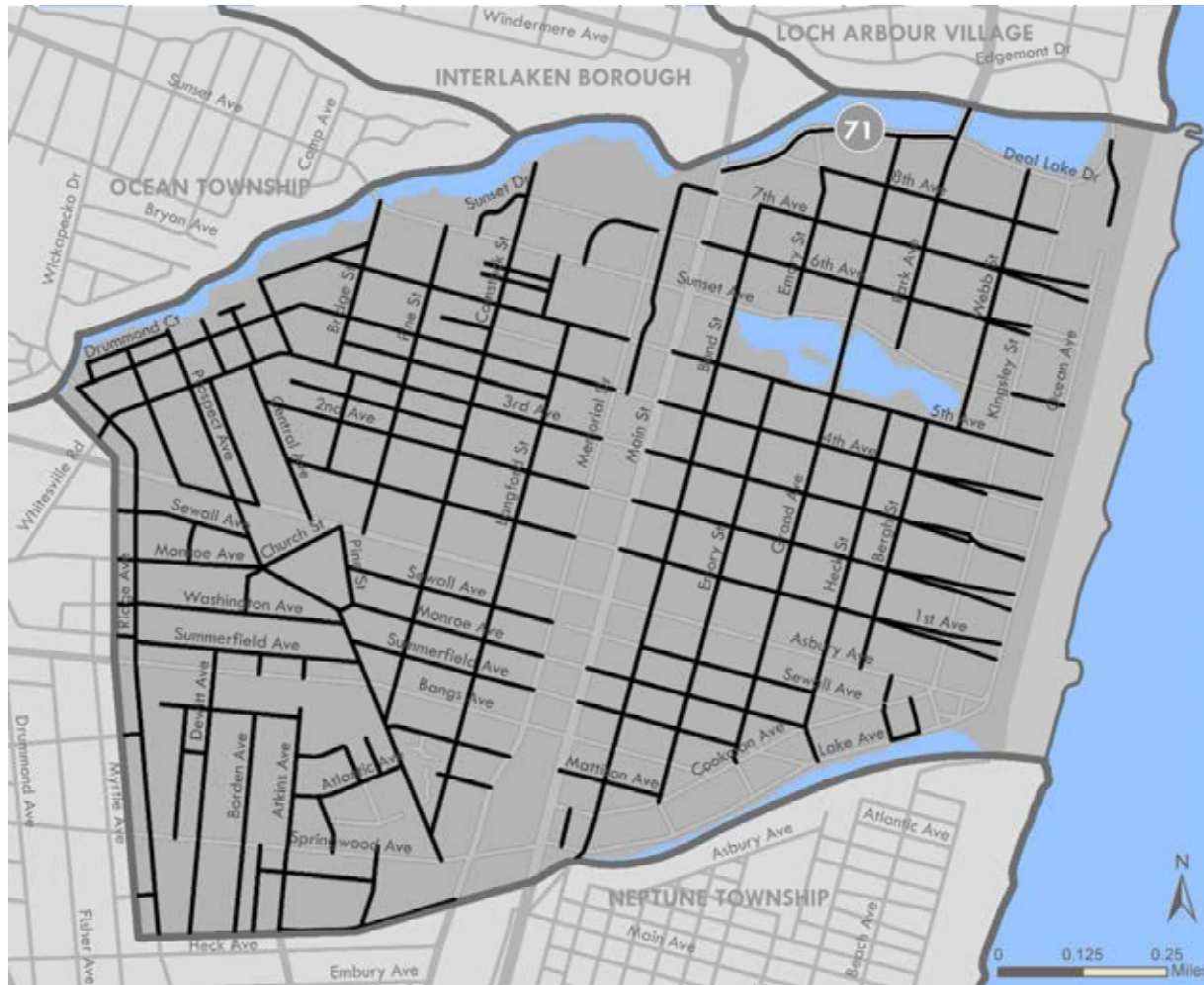
Plan for Walking and Biking

Bicycle LTS - Proposed



Plan for Walking and Biking

Bicycle Penalty – LTS 1 Existing

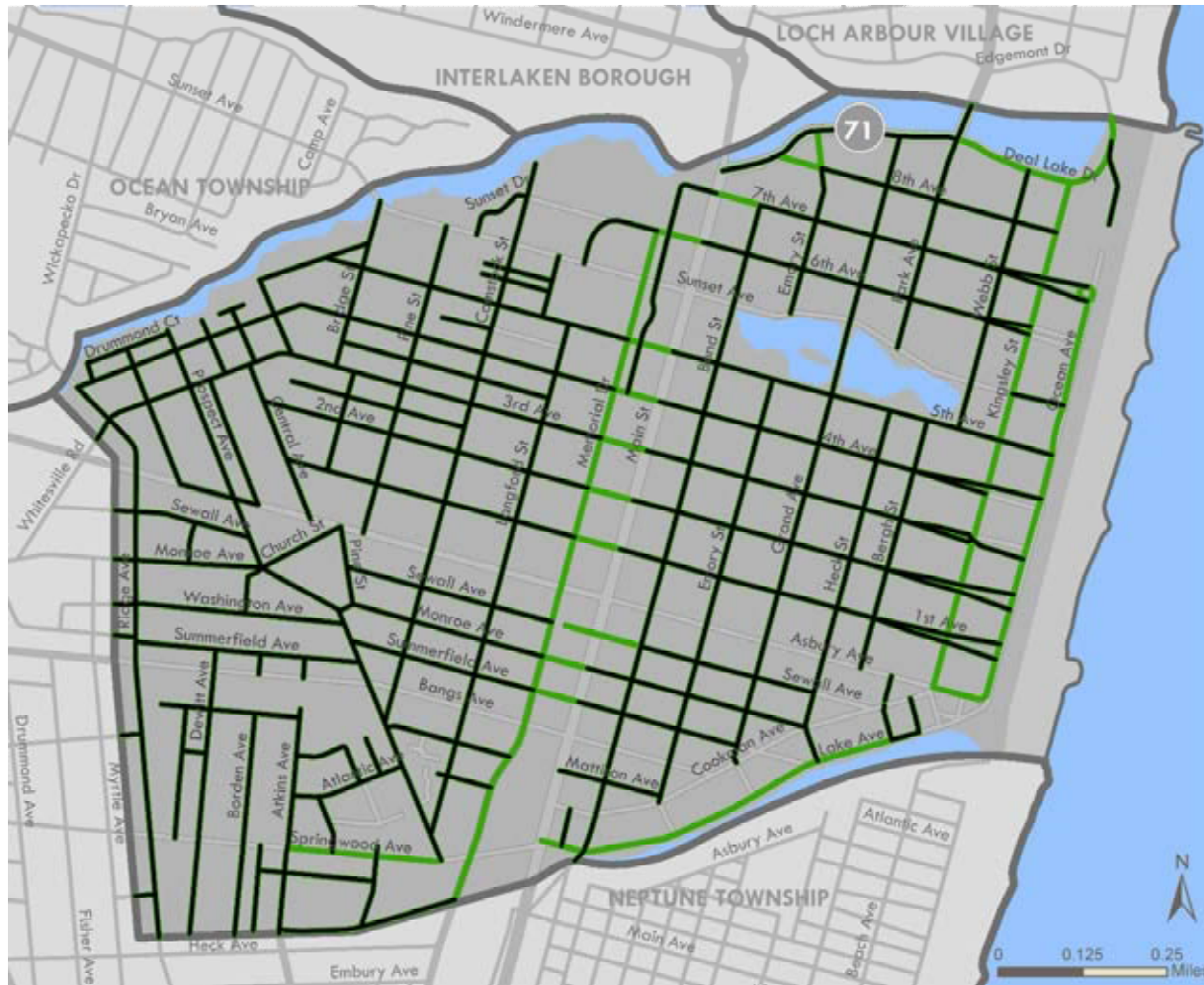


— Existing LTS 1 Roads



Plan for Walking and Biking

Bicycle Penalty – LTS 1 Proposed

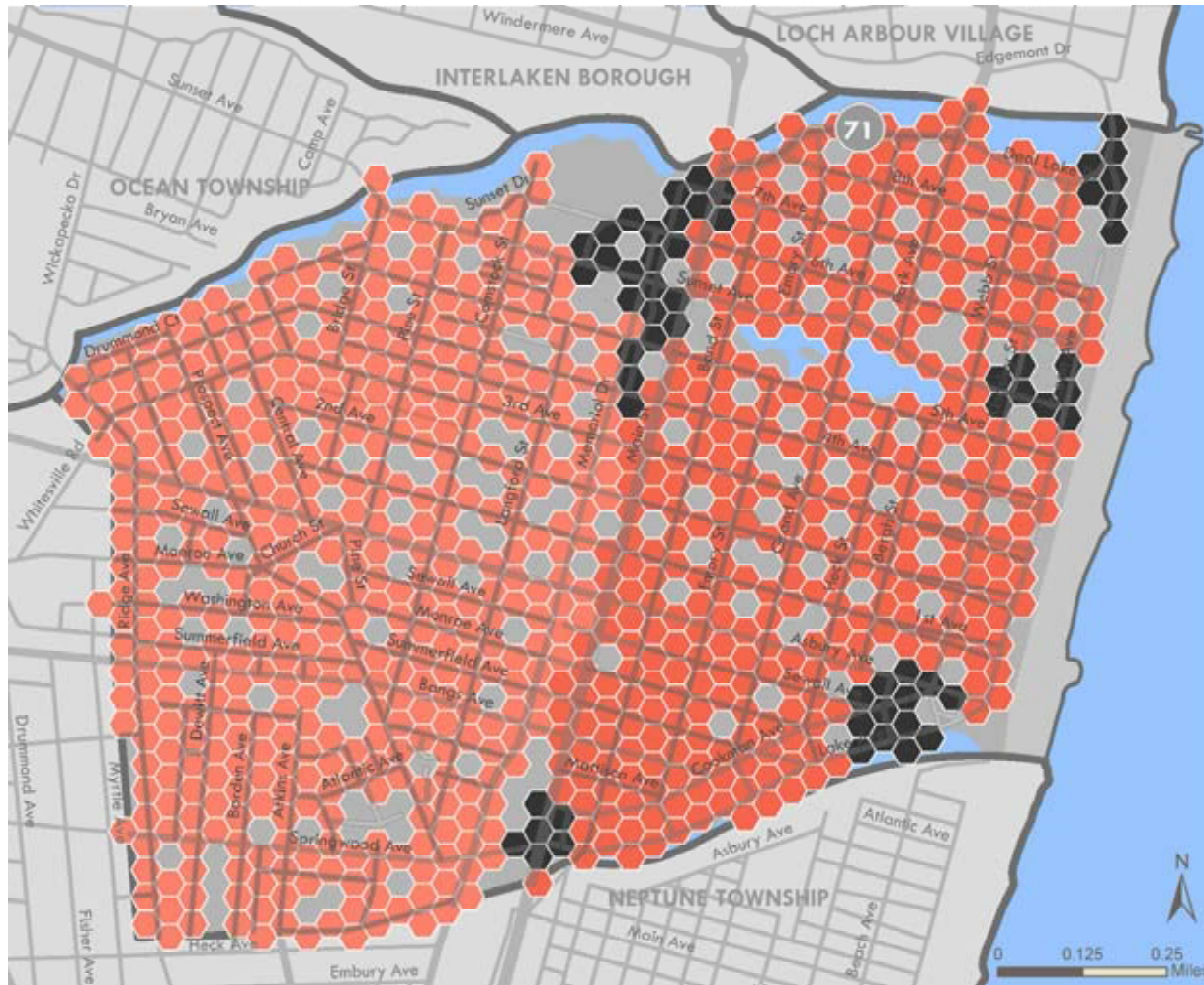


- Existing LTS 1 Roads
- Proposed LTS 1 Roads

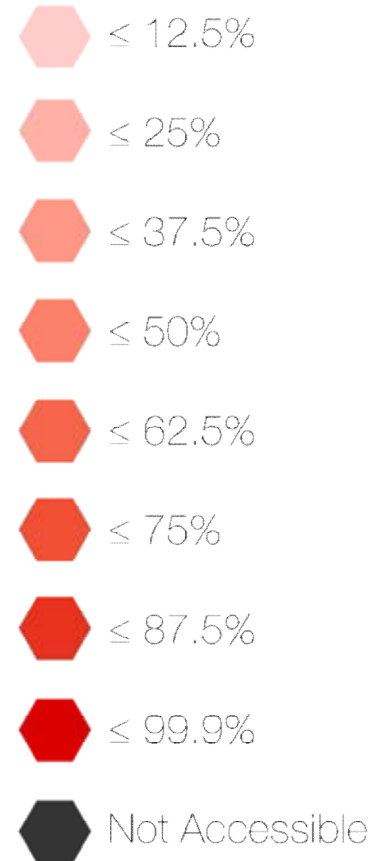


Plan for Walking and Biking

Bicycle Penalty - Existing



Bicycle Penalty

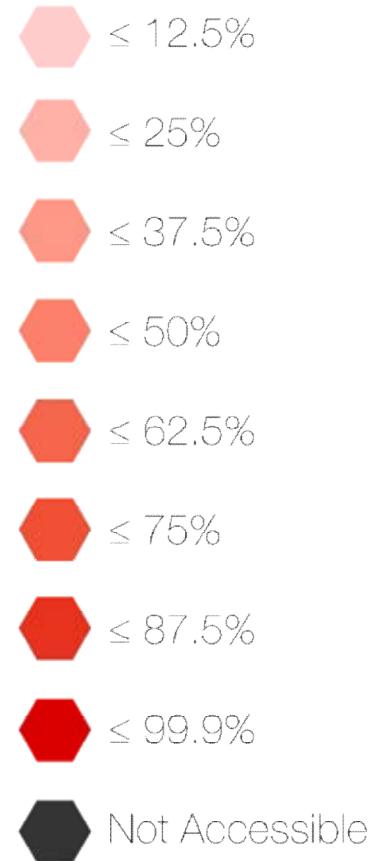


Plan for Walking and Biking

Bicycle Penalty - Proposed



Bicycle Penalty



Plan for Walking and Biking

Discussion



Plan for Walking and Biking

Next Steps

- » Incorporate Feedback
- » Draft Recommendations Report
- » Public Open House
- » Final Report
- » Implementation

