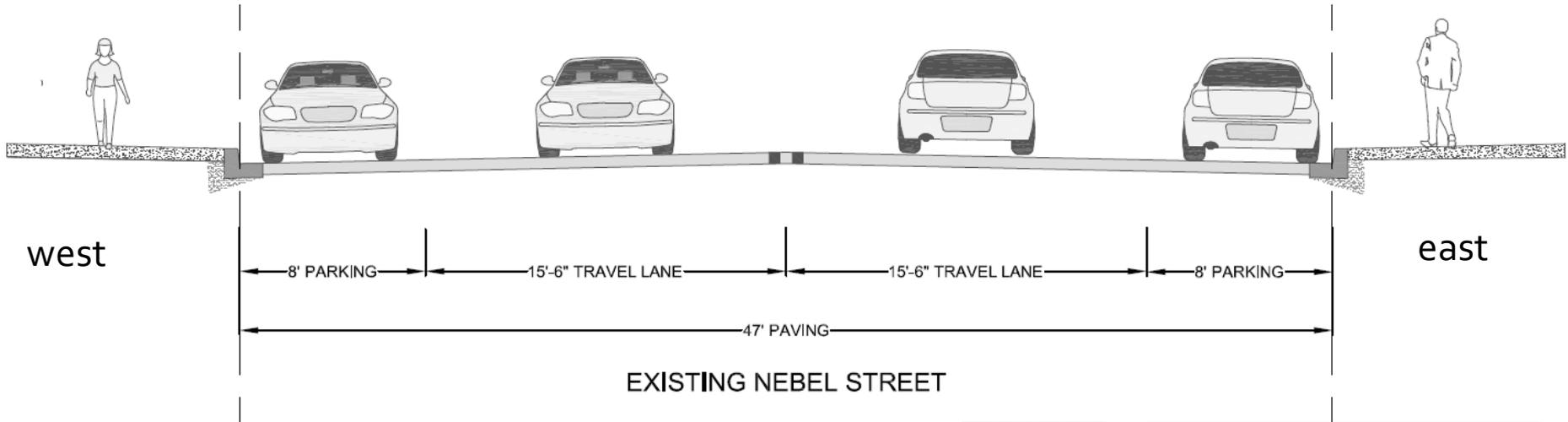


**PROPOSED NEBEL
STREET BICYCLE
FACILITIES**

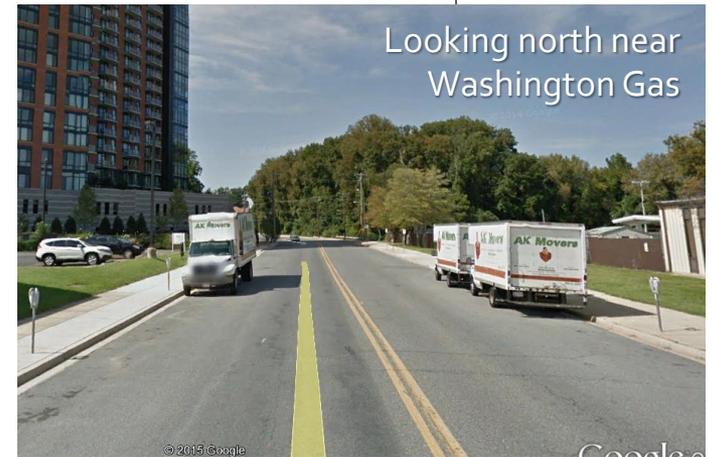
RANDOLPH ROAD TO MARINELLI ROAD



EXISTING CONDITIONS



- No existing bicycle accommodation
- Wide travel lanes
- Parking allowed on both sides
 - Approximately 20 spaces on west side
 - Approximately 40 spaces on east side



PROJECT SCOPE

Project Scope

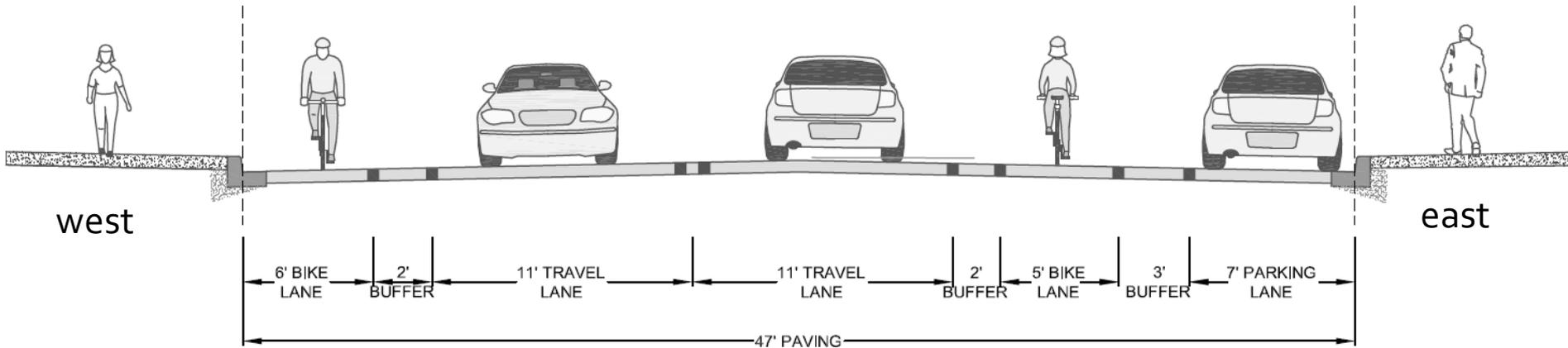
Identify bikeway options and select preference for a retrofit within existing 47 to 48 foot curb-to-curb pavement

Options Considered

1. One-way Buffered Bike Lanes
2. One-way Separated Bike Lanes
3. Two-way Separated Bike Lanes with Parking on West Side
4. Two-way Separated Bike Lanes with Parking on East Side

Analyses: Benefits/limitations of each option considering impacts to bicyclist safety/comfort, pedestrian safety/comfort, motorist capacity, and on-street parking impacts

OPTION 1: BUFFERED BIKE LANES



- Retain approximately 40 parking spaces on east side
- Remove approximately 20 parking spaces on west side



travel lane

buffer

bike lane

buffer

parking lane

OPTION 1: BUFFERED BIKE LANES

BENEFITS

Bike lane on both sides of street

Striped buffer creates comfort

Narrowed travel lanes can slow traffic speeds

Randolph Road intersection functions similar to today

Retains approximately 40 parking spaces on east side

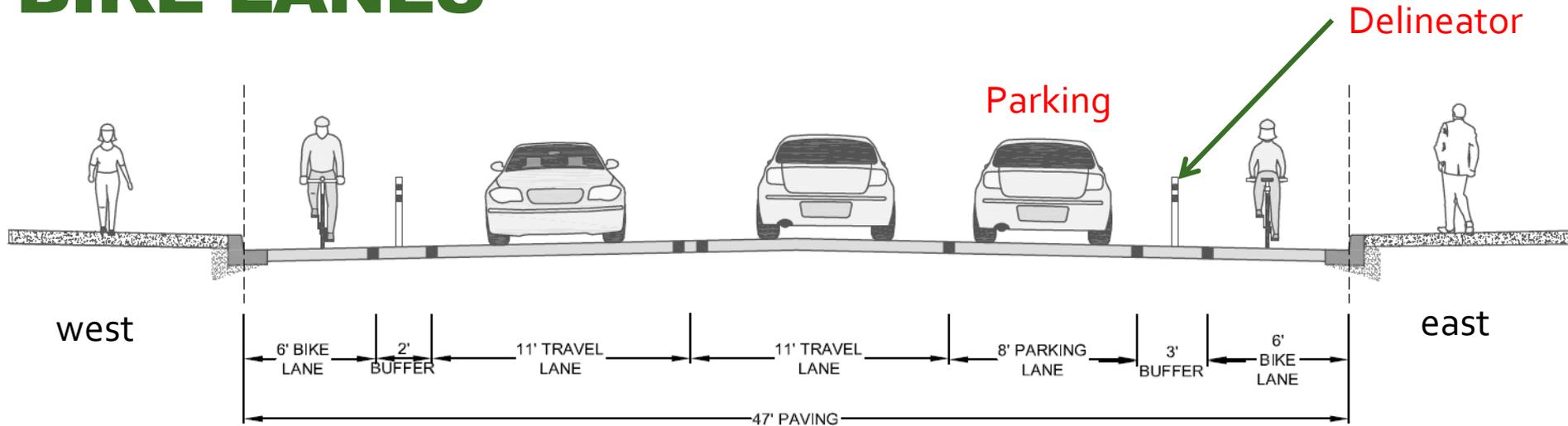
LIMITATIONS

Removes approximately 20 parking spaces on west side

No vertical separation may result in encroachment or parking by motor vehicles

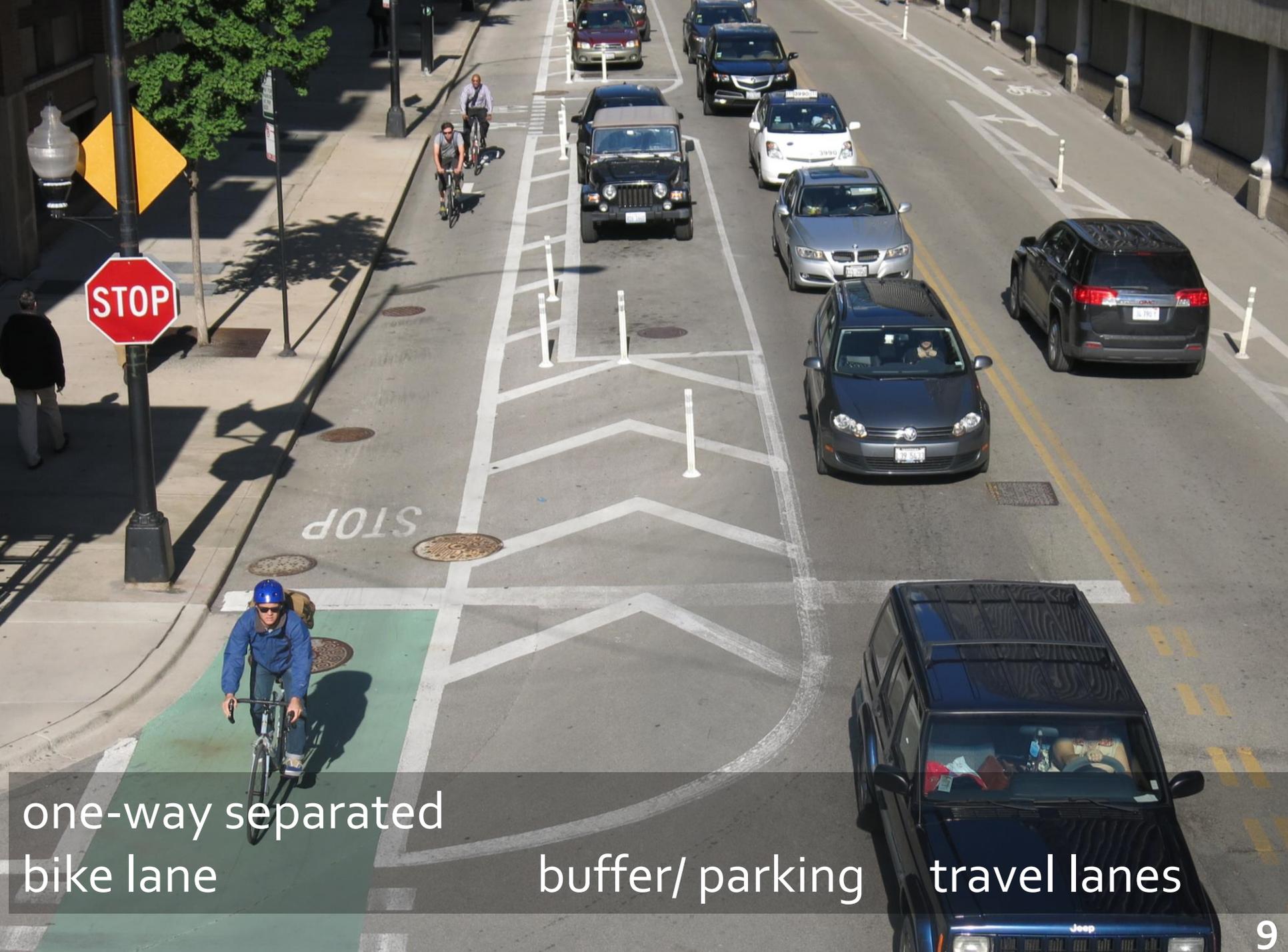
Bicyclists must transition from path to bike lanes requiring 2 crossings

OPTION 2: ONE-WAY SEPARATED BIKE LANES



Same design as buffered bike lane with following changes:

- Swap location of parking with bike lane on east side
- Add vertical flexible delineator in buffer



one-way separated
bike lane

buffer/ parking

travel lanes

OPTION 2: ONE-WAY SEPARATED BIKE LANES

BENEFITS

Bike lane on both sides of street

Striped buffer creates comfort

Narrowed travel lanes can slow traffic speeds

Randolph Road intersection functions similar to today

Vertical posts prevent motorists encroachments

Retains approximately 40 parking spaces on east side

Opportunity to shorten pedestrian crossings

LIMITATIONS

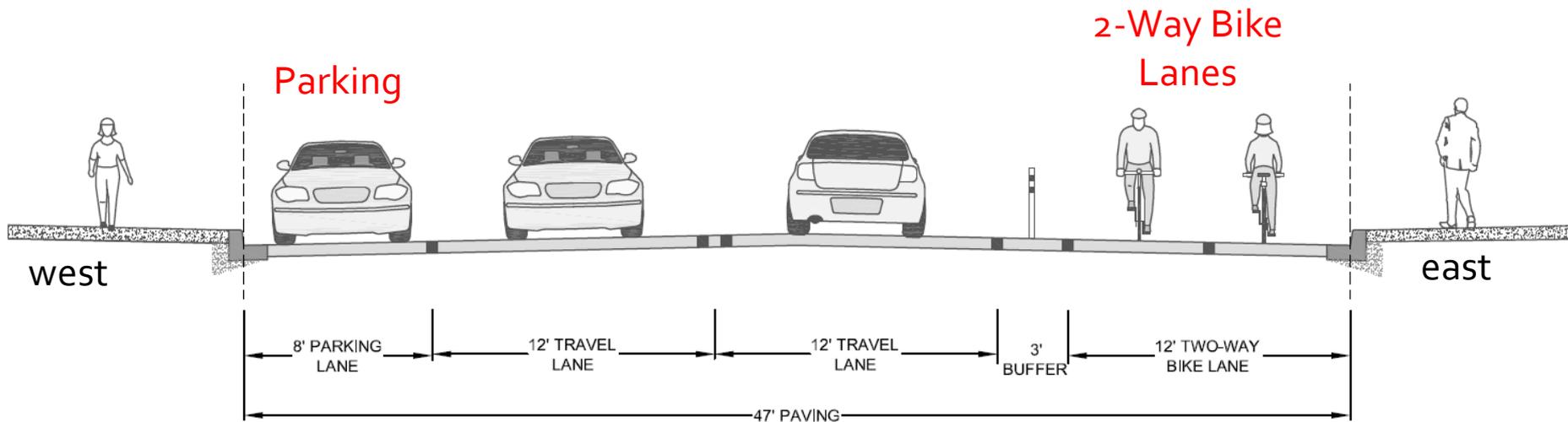
Removes approximately 20 parking spaces on west side

Bicyclists must transition from path to bike lanes requiring 2 crossings

Added maintenance with posts



OPTION 3: TWO-WAY SEPARATED BIKE LANES, PARKING WEST SIDE



- Retain approximately 20 parking spaces on west side
- Remove approximately 40 parking spaces on east side



Travel lane buffer

two-way separated
bike lanes

OPTION 3: TWO-WAY SEPARATED BIKE LANES, PARKING WEST SIDE

BENEFITS

Bike lanes on east side of street

Only one crossing required at Randolph Road to access path

Striped buffer creates comfort

Simulates trail experience

Vertical posts prevent motorists encroachments

Opportunity to shorten pedestrian crossings

Retains approximately 20 parking spaces on west side

LIMITATIONS

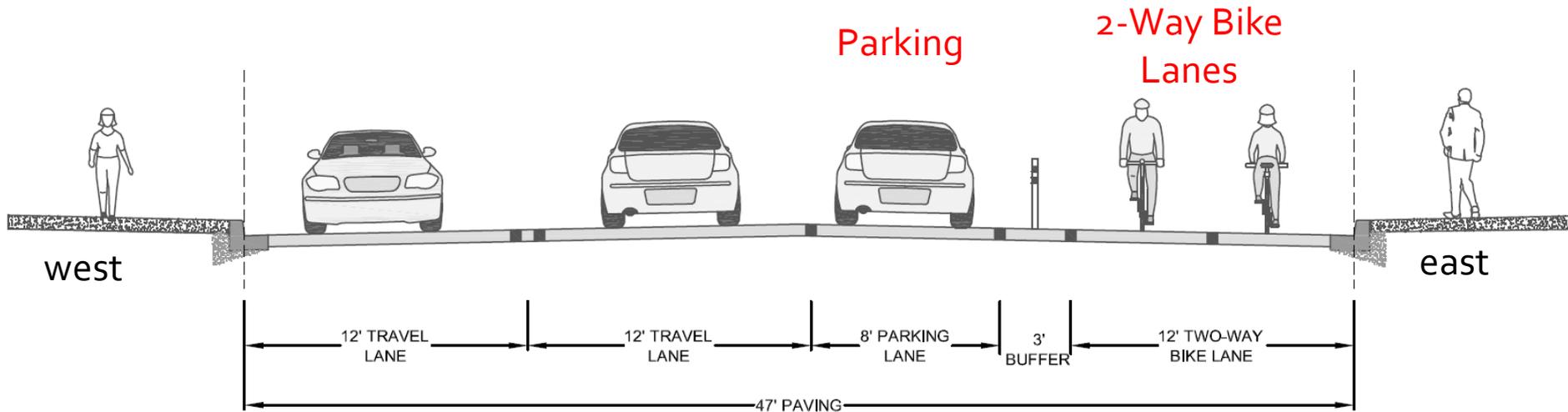
Removes approximately 40 parking spaces on east side

Added maintenance with posts

No parking adjacent to cycle track reduces buffer comfort

No bike lane on west side of street

OPTION 4: TWO-WAY SEPARATED BIKE LANES, PARKING EAST SIDE



- Remove approximately 20 parking spaces on west side
- Retain approximately 40 parking spaces on east side

(creating parking buffer to bike lanes)





parking lane buffer

two-way separated
bike lanes



bike lane

buffer

pedestrian
crossing islands

OPTION 4: TWO-WAY SEPARATED BIKE LANES, PARKING EAST SIDE

BENEFITS

Bike lanes on east side of street

Only one crossing required at Randolph Road to access path

Parking buffer increases comfort

Simulates trail experience

Vertical posts prevent motorists encroachments

Opportunity to shorten pedestrian crossings

Retains approximately 40 parking spaces on east side

LIMITATIONS

Removes approximately 20 parking spaces on west side

Added maintenance with posts

No bike lane on west side of street



TYPICAL SECTION POSITIVE OUTCOME ANALYSES

Item of Analyses	1	2	3	4
Option is physically viable in near term	X	X	X	X
Vertical protection provided		X	X	X
Parking provided adjacent to cycle track to increase buffer comfort		X		X
Opportunity to significantly shorten pedestrian crossings		X		X
Provides bike access to both sides of the street	X	X		
Simplifies access to path on east side of Nebel north of Randolph Road			X	X
Simplifies access to bike lanes and shared lanes	X	X		
Retains parking on both sides of street	--	--	--	--
Requires minimal changes to Randolph Road signal timing	X	X		

Preferred Concept is Option 2

Buffered

1 -Way Separated

2 -Way Separated
(parking west side)

2 -Way Separated
(parking east side)



CONSULTANT RECOMMENDATION

- **Install 1-way separated bike lanes on both sides of street (Option 2)**
 - ✓ Simplifies crossing of Randolph Road and transitions to other streets
 - ✓ Simplifies short term retrofit
 - ✓ Maximizes comfort
- **Maintain parking on east side of street (approx. 40 spaces)**

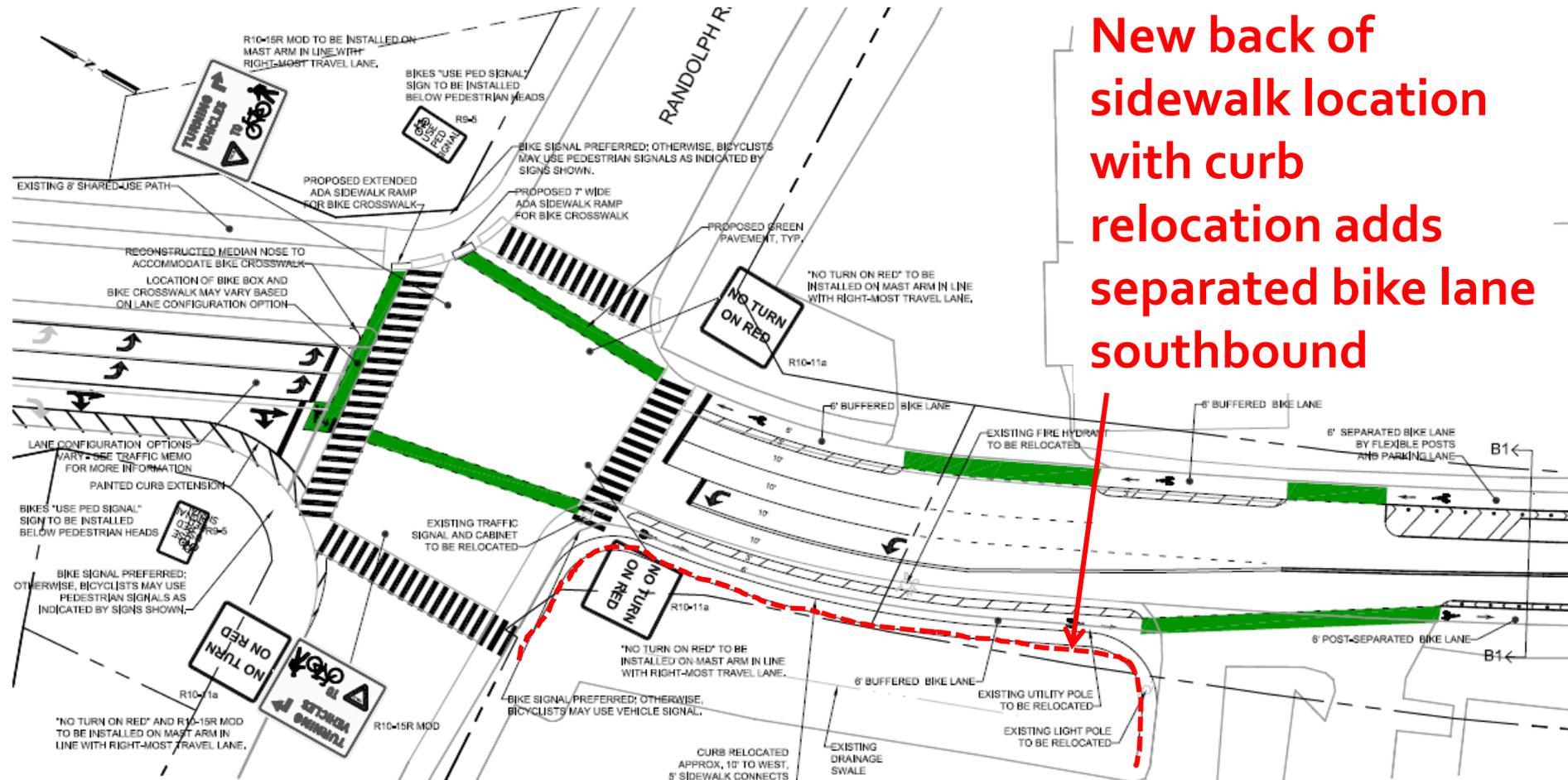
Pinch Point at Northbound Approach to Randolph Road



OPTION 2: LONG TERM DESIGN

INTERSECTION AT RANDOLPH RD & NEBEL ST

New back of sidewalk location with curb relocation adds separated bike lane southbound



COMMENTS/QUESTIONS?

Thank You,

Contact Info:

Montgomery County Department of Transportation
Division of Transportation Engineering

Bruce Johnston, P.E.

Bruce.johnston@montgomerycountymd.gov

Patricia Shepherd, A.I.C.P.

Patricia.shepherd@montgomerycountymd.gov