PROPOSED NEBEL STREET BICYCLE FACILITIES
RANDOLPH ROAD TO MARINELLI ROAD

May 18, 2015
**Map illustrates existing and near future bicycle facilities forming a continuous route through White Flint connecting existing shared use paths.**
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
shifting gears for a better ride ahead
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 LANE

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 LAKES

**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 LAINES, PARKING WEST SIDE

- Retain approximately 20 parking spaces on west side
- Remove approximately 40 parking spaces on east side
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Travel lane buffer two-way separated bike lanes
### OPTION 3: TWO-WAY SEPARATED BIKE LANTES, PARKING WEST SIDE

<table>
<thead>
<tr>
<th>BENEFITS</th>
<th>LIMITATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bike lanes on east side of street</td>
<td>Removes approximately 40 parking spaces on east side</td>
</tr>
<tr>
<td>Only one crossing required at Randolph Road to access path</td>
<td>Added maintenance with posts</td>
</tr>
<tr>
<td>Striped buffer creates comfort</td>
<td>No parking adjacent to cycle track reduces buffer comfort</td>
</tr>
<tr>
<td>Simulates trail experience</td>
<td>No bike lane on west side of street</td>
</tr>
<tr>
<td>Vertical posts prevent motorists encroachments</td>
<td></td>
</tr>
<tr>
<td>Opportunity to shorten pedestrian crossings</td>
<td></td>
</tr>
<tr>
<td>Retains approximately 20 parking spaces on west side</td>
<td></td>
</tr>
</tbody>
</table>
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
shifting gears for a better ride ahead

bike lane buffer pedestrian crossing islands
**OPTION 4: TWO-WAY SEPARATED BIKE LANES, PARKING EAST SIDE**

<table>
<thead>
<tr>
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<tr>
<td>access path</td>
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</tr>
<tr>
<td>Parking buffer increases comfort</td>
<td>No bike lane on west side of street</td>
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<tr>
<td>Simulates trail experience</td>
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<tr>
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<tr>
<td>Retains approximately 40 parking spaces on east</td>
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<td>side</td>
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</tbody>
</table>

*shifting gears for a better ride ahead*
shifting gears for a better ride ahead
**TYPICAL SECTION**

**POSITIVE OUTCOME ANALYSES**

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

**Preferred Concept is Option 2**
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: NEAR TERM DESIGN**

**INTERSECTION AT RANDOLPH RD & NEBEL ST**

Bike lane removed to maintain 4 travel lanes.
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,

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