Appendix E: Range of Alternatives and Alternatives Screening Process

Alternatives

Alternatives Considered

There were a variety of alternatives considered during the PEL study.

- **No-Action Alternative** - The alternatives included a No-Action Alternative that would not modify Union Street from its current configuration.

The other alternatives explored were grouped into three categories as follows:

- **Maintain the Curb Alternatives** - The “maintain the curb” alternatives explored ways to modify the existing streetscape without modifying the existing curb line, roadway width, or existing overhead utility and lighting poles.
- **Move the Curb Alternatives** - The “move the curb” alternatives explored ways to modify the existing streetscape by shrinking the roadway footprint, moving the curb lines, and relocating the existing overhead utility and lighting poles.
- **Move the Curb and Maintain Utilities Alternatives** - The “move the curb and maintain utilities” alternatives explored ways to modify the existing streetscape by shrinking the roadway footprint and moving the curb lines but retaining the existing overhead utility and lighting poles in their current locations.

Alternatives Analysis

The alternatives development and evaluation process consisted of an iterative three-tiered screening process to rank how well the various alternatives met the identified purpose and need of the project. The evaluation process systematically identified the alternatives’ ability to meet the project purpose and need and document and document the potential for impacts and benefits among the various alternatives.

Tier 1 Screening

Findings: The No-Action Alternative would leave Union Street as it currently is and would not provide any additional sidewalk or flex space to help the roadway better function as a Main Street. It would not improve the movement of people, goods, and services along the corridor nor improve safety, which negatively impacts residents, business owners, and commuters along Union Street. The No-Action Alternative was dropped from consideration based on the Level 1 Screening.

Based on the tier one screening, the three alternatives that maintained the existing roadway footprint and curb locations along Union Street did not meet the purpose and need and were dismissed from further consideration. The limiting factors of these alternatives were that they did not provide increased sidewalk space for curbside management, space for frontage areas was not able to be provided in the streetscape for people to gather or shop/dine outdoors in the existing commercial areas, and they did not provide space for street trees along either side of the roadway to better shade the corridor.

Tier 2 Screening

For the tier two screening process, the remaining six alternatives were systematically ranked using measures of effectiveness to compare how well the alternatives met the purpose and need of this project. A ranking scale between one – three was used to rank the alternatives against one another for each measure of effectiveness (MOE). A one was the lowest score and three was the highest score awarded per measure of effectiveness. Each MOE score was totaled to get a final alternative “score” on how well the alternative met the purpose and need.

Tier 3 Screening

The tier three screening process focused on identifying which of the six scored alternatives were most preferred by the stakeholders and the public. The alternatives were presented to stakeholders and the public with their MOE scores and document the potential for impacts and benefits among the various alternatives. Stakeholders and the public were then asked to either identify the alternative as a preferred or undesirable option. This resulted in a stakeholder/public preference that identified Alternatives A and B as the top two performing alternatives (based on the MOE scoring) as the two most preferred alternatives. Either of these alternatives were determined to appropriately meet the purpose and need. The major differences between these two alternatives were that A would require the relocation of utility poles underground, which would be more costly and a longer project construction period and would place the bike lane along

the left side of the roadway. Alternative B would work around the above ground utilities to the greatest extent possible, to avoid additional project costs and shorten construction phasing, and place the bike lane on the right side of the roadway. The main cited reason of why people chose the more costly option to underground utilities was for aesthetic reasons.

Measures of Effectiveness

The measures of effectives used to compare alternatives were based on the Purpose and Need of this project focusing on Union Street functioning as a multi-modal main street. A ranking scale between 1 – 3 was used to compare the alternatives against one another for each measure of effectiveness (MOE). The lowest ranking per MOE was a 1 with 3 being the highest possible ranking. Each of the rankings were added to get total "points" per goal as stated in the purpose and need.

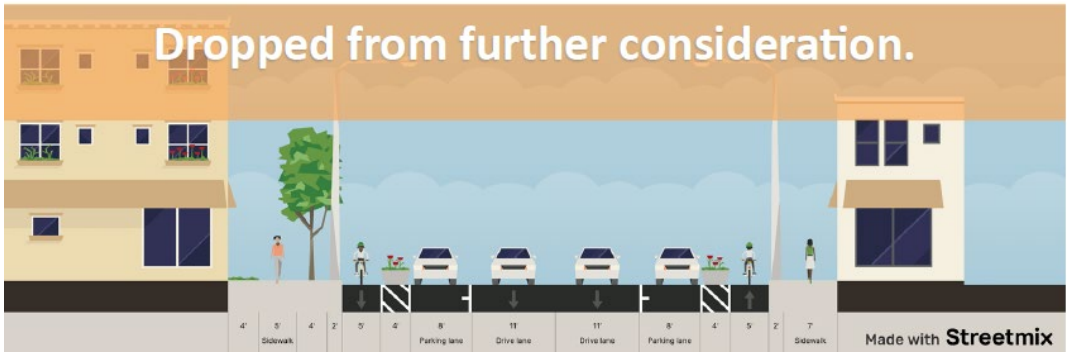
MOE	Alt A	Alt B	Alt C	Alt D	Alt E	Alt F
Better Function as Main Street	**9**	**8**	**8**	**8**	**8**	**7**
Greenspace / Shade Trees	3	2	3	3	3	2
Public Gathering Space / Business frontage Space	3	3	2	2	2	2
Streetscape Lighting	3	3	3	3	3	3
Multimodal Mobility	**22**	**20**	**18**	**17**	**17**	**17**
Pedestrian Improvements	**6**	**6**	**5**	**5**	**5**	**5**
ADA improvements	3	3	3	3	3	3
Sidewalk Space	3	3	2	2	2	2
Transit	**5**	**3**	**4**	**4**	**2**	**2**
Transit Delay (bike lane on west side could cause delays)	2	1	2	3	1	1
Space for Transit Amenities	3	2	2	1	1	1
Freight	**2**	**2**	**2**	**1**	**1**	**1**
Deliveries and Pick Ups	2	2	2	1	1	1
Vehicular	**4**	**4**	**3**	**5**	**3**	**3**
Level of Service (contra-flow bike lanes could reduce LOS)	2	2	1	2	1	1
On-Street Parking Capacity	2	2	2	3	2	2
Bicycle Improvements	**5**	**5**	**4**	**2**	**6**	**6**
Bicycle Level of Comfort	3	3	2	1	3	3
Access and connectivity	2	2	2	1	3	3
Total	**31**	**28**	**26**	**25**	**25**	**24**

Do NOT meet the Purpose and Need!

(Dropped from further consideration)

Maintain Curb Alternative 1: Back-in Parking with Separated Contraflow Bike Lane and Southbound shared lane

Maintain Curb Alternative 2: Parallel Parking with Separated Bike Lanes

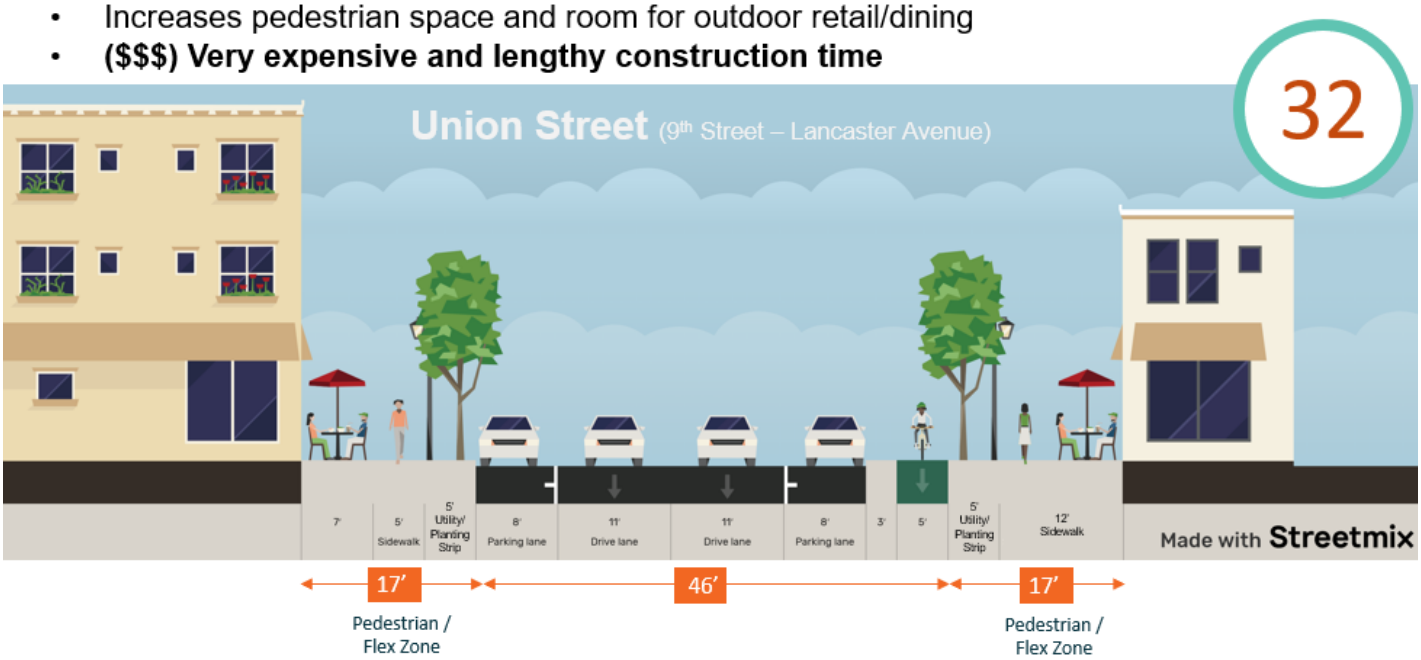


Maintain Curb Alternative 3: Parallel Parking with Two-Way Separated Bike Lanes

Alternative A:

Parallel Parking with Separated Southbound Bike Lane

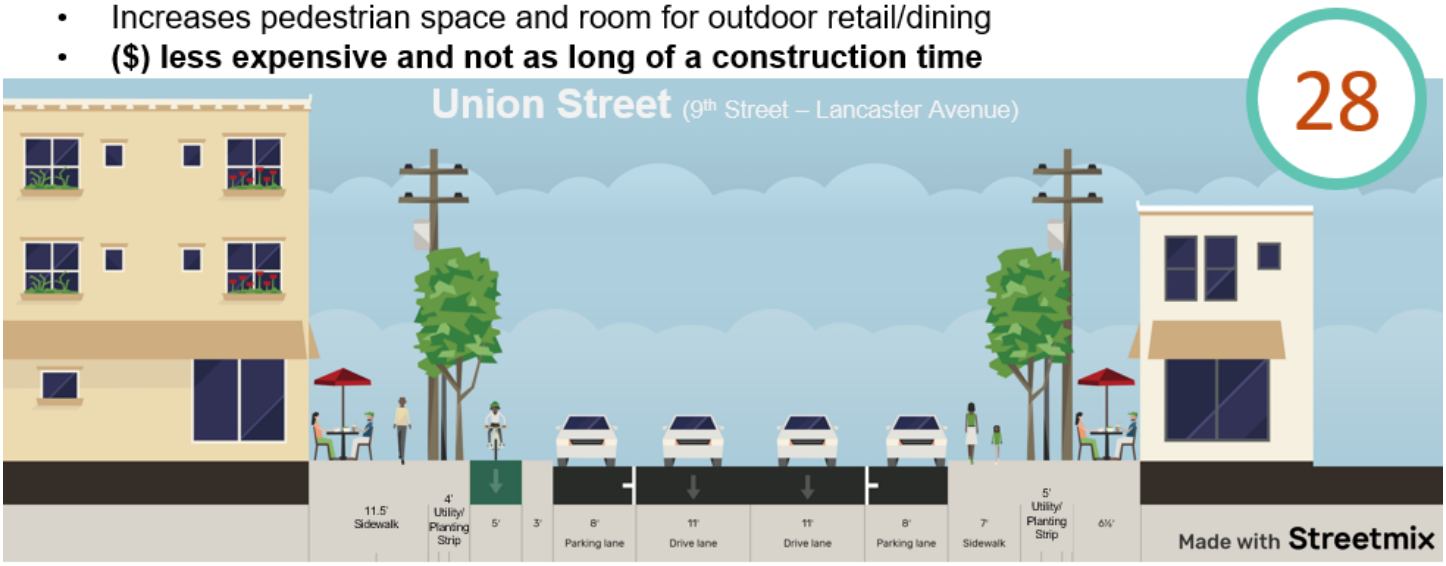
- Moves the curb
- Undergrounds utilities
- Increases pedestrian space and room for outdoor retail/dining
- **($$$) Very expensive and lengthy construction time**



Alternative B:

Parallel Parking with Southbound Separated Bike Lane

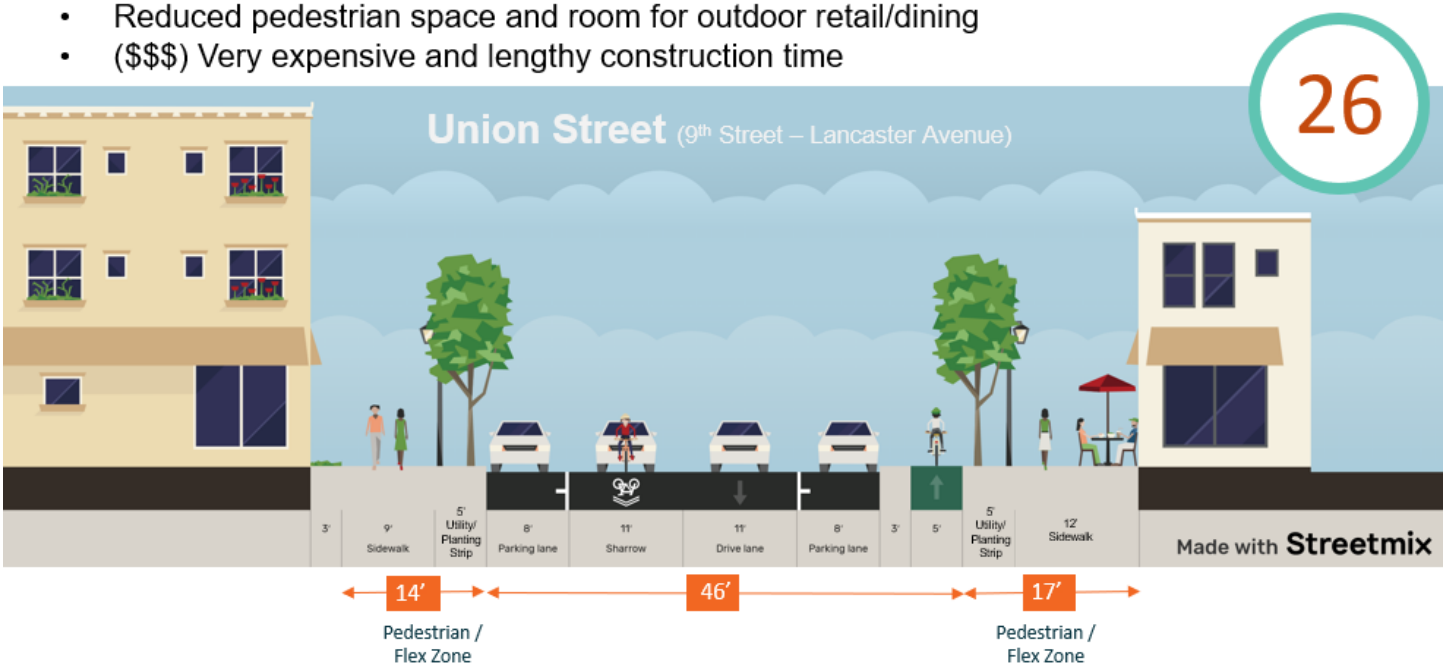
- Moves the curb
- Works around utilities
- Increases pedestrian space and room for outdoor retail/dining
- **($) less expensive and not as long of a construction time**



Alternative C:

Parallel Parking with Contraflow Separated Bike Lane and Southbound Shared Lane

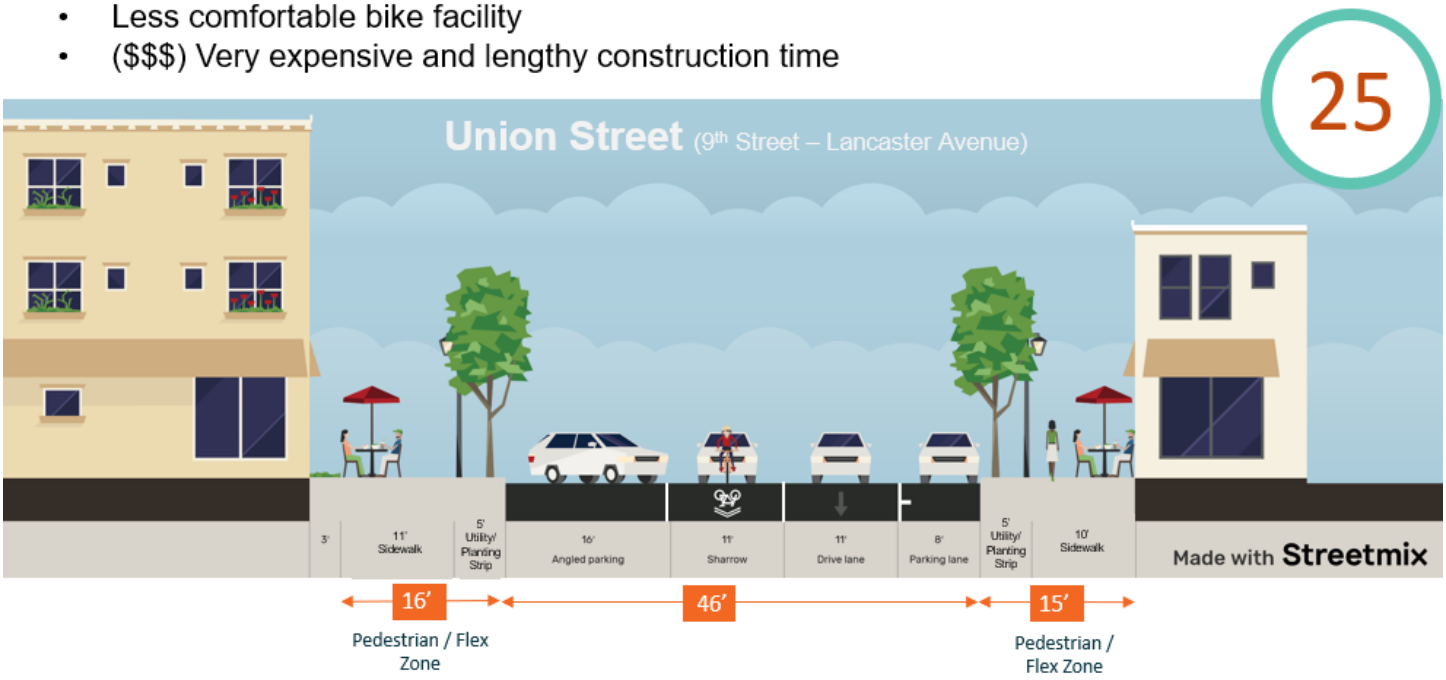
- Moves the curb
- Undergrounds utilities
- Reduced pedestrian space and room for outdoor retail/dining
- ($$$) Very expensive and lengthy construction time



Alternative D:

Back-in Angle Parking with Sidewalks and Shared Lane

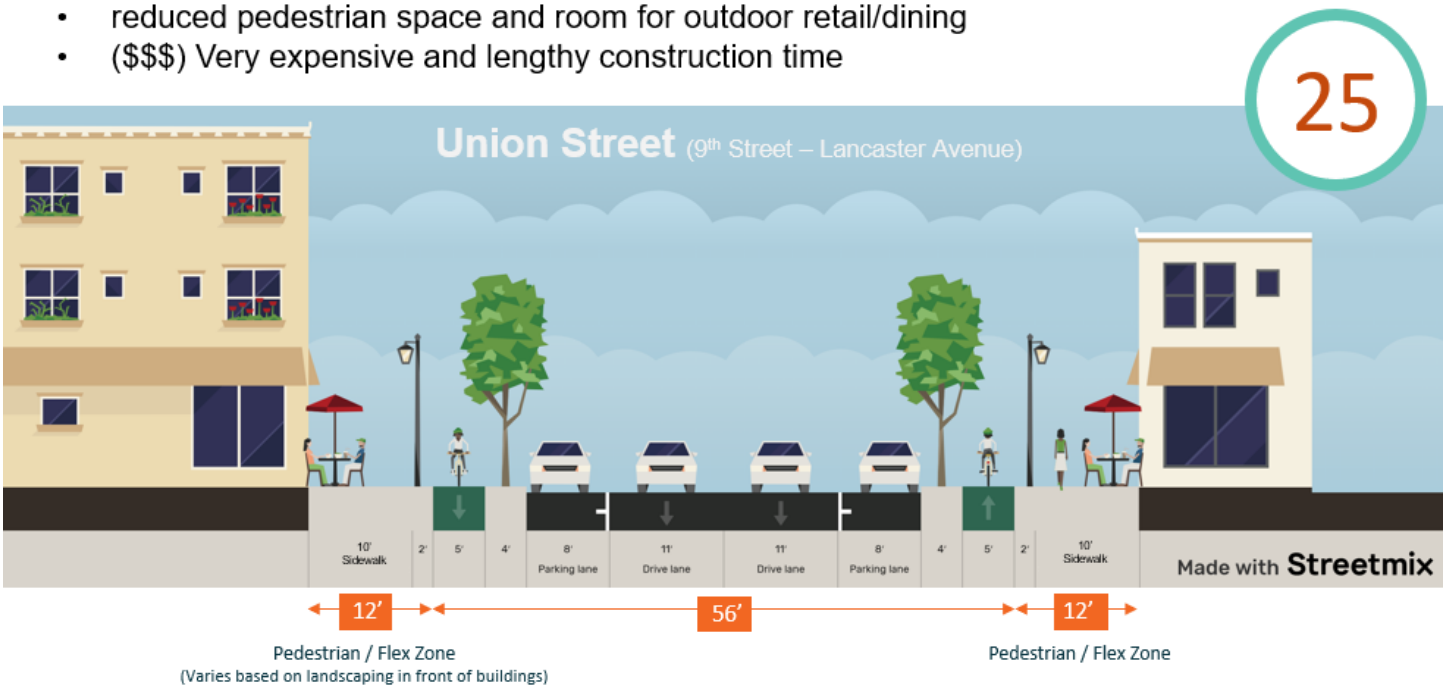
- Moves the curb
- Undergrounds utilities
- Less comfortable bike facility
- ($$$) Very expensive and lengthy construction time



Alternative E:

Parallel Parking with Raised Bike Lanes

- Moves the curb
- Undergrounds utilities
- reduced pedestrian space and room for outdoor retail/dining
- ($$$) Very expensive and lengthy construction time



Alternative F:

Parallel Parking with Separated Bike Lanes

- Moves the curb
- Works around utilities
- Less pedestrian space and room for outdoor retail/dining
- ($) less expensive and not as long of a construction time