Orange Street Corridor Bike Lanes

CITY OF NEW HAVEN
JUSTIN ELICKER, MAYOR
BOARD OF ALDERS

East Rock Community Management Team meeting
December 20, 2023

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Meeting Agenda

- Introduction
  - ✓ Meeting Goals
  - ✓ Project Area
  - ✓ Existing Conditions
    - Roadway Geometry
    - Traffic Conditions
    - Land Use and Transportation
- Parking Utilization Study Findings
- Potential Bike Lane Alternatives
- Discussion

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Meeting Goals

1. Present findings of Parking Utilization Study
2. Present Potential Bike Lane Alternatives
3. Gather Community Feedback

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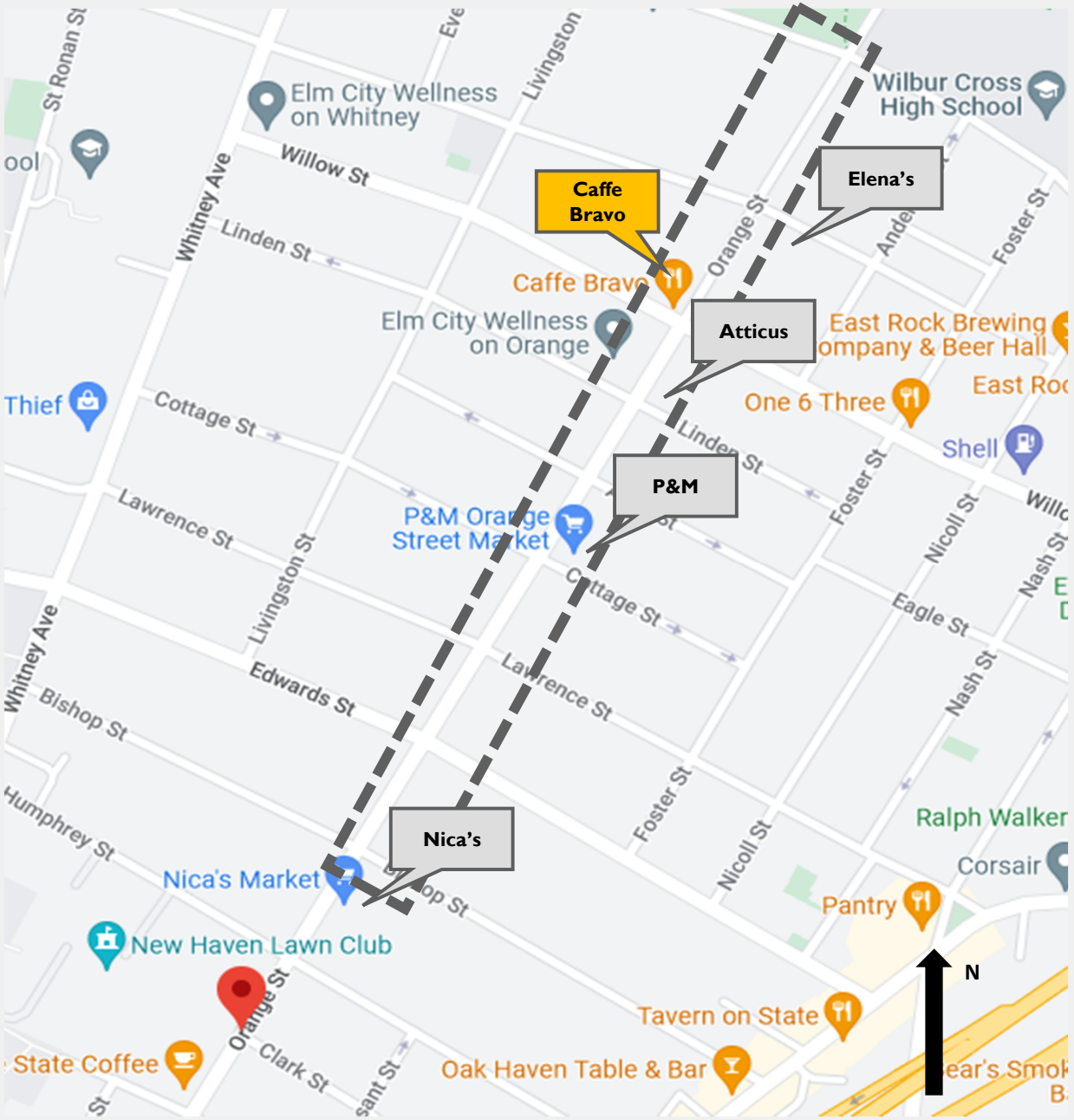
Project Area



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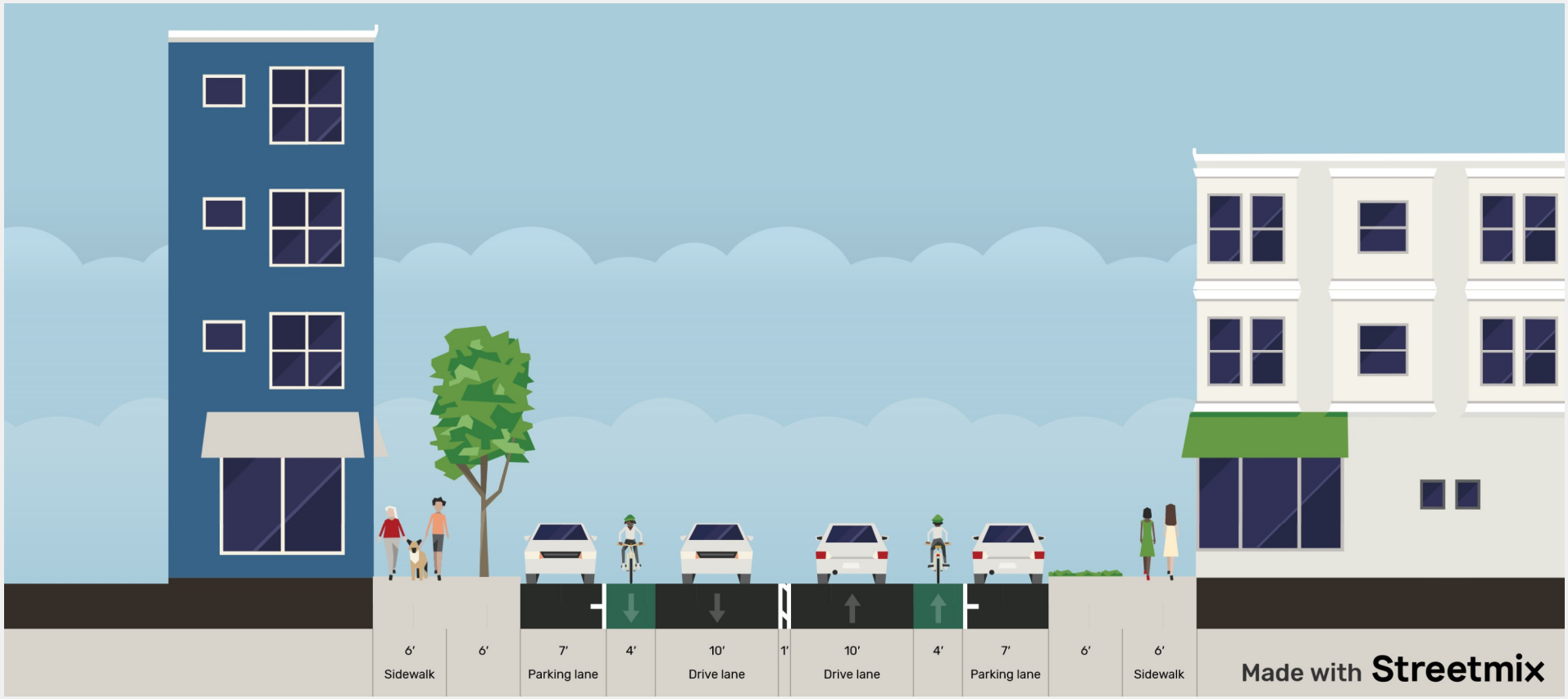
Existing Roadway Cross-section

Pre-paving



- Roadway width (42')
  - ✓ Parking on both sides (7' wide)
  - ✓ Bike lane between travel and parking lanes (4' wide)- **NOT STANDARD**
  - ✓ Travel lanes (10' wide)

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Existing Traffic Conditions

Crashes (last 5 years)

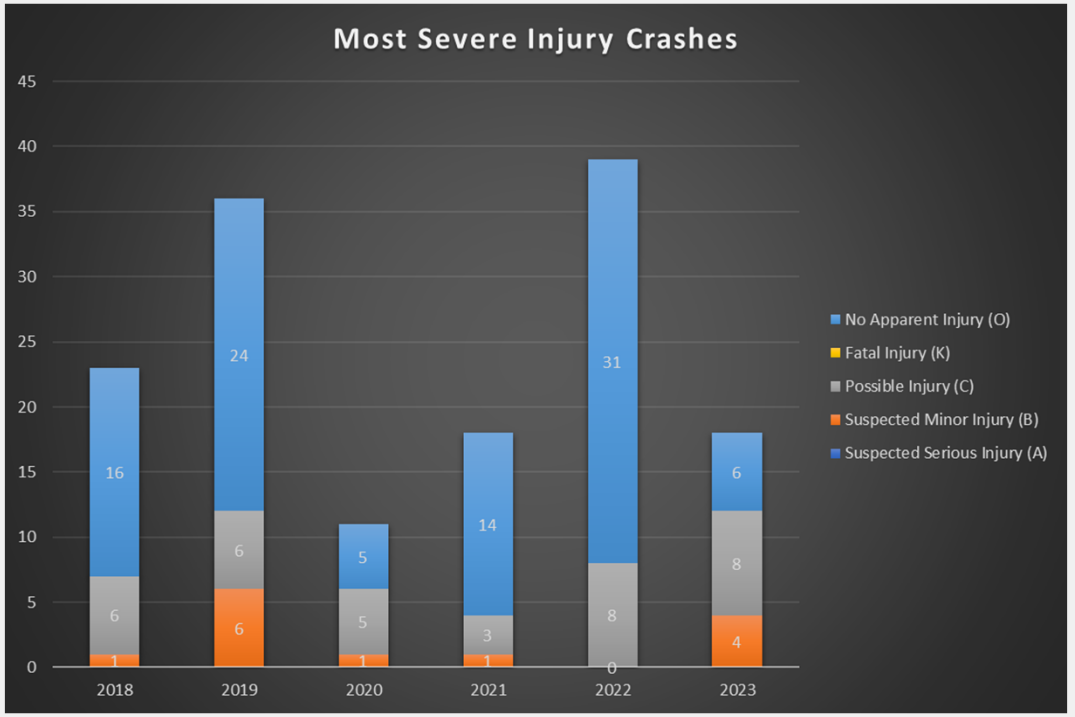
- 145 reported crashes
  - ✓ No fatal or serious injuries
  - ✓ 2/3 of crashes- Property Damage

Traffic Volumes

- 2021 AADT- 2800
  - ✓ Peak Hour ~240 vph (12-1 pm)
- 2016 AADT- 3400
  - ✓ Peak Hour ~320 vph (5-6 pm)

Speeds

- Speed Limit- 25 mph
- 85th percentile ~21 mph



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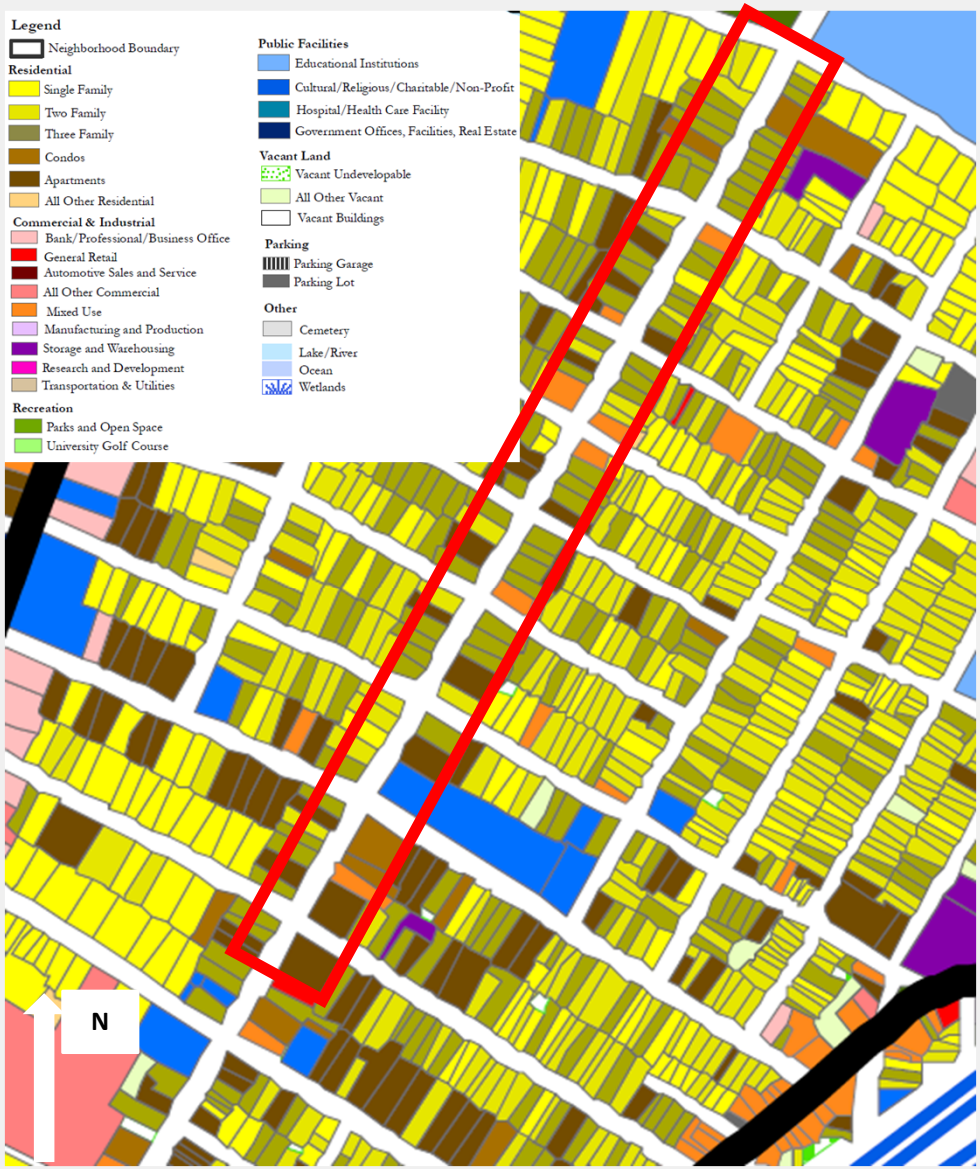
Existing Land Use and Transportation

- Land Uses
  - ✓ Mostly multi-family housing
  - ✓ Apartments
  - ✓ Businesses (restaurants, grocery)
- Transit
  - ✓ CT Transit (at every intersection, near side)
  - ✓ Yale Transit



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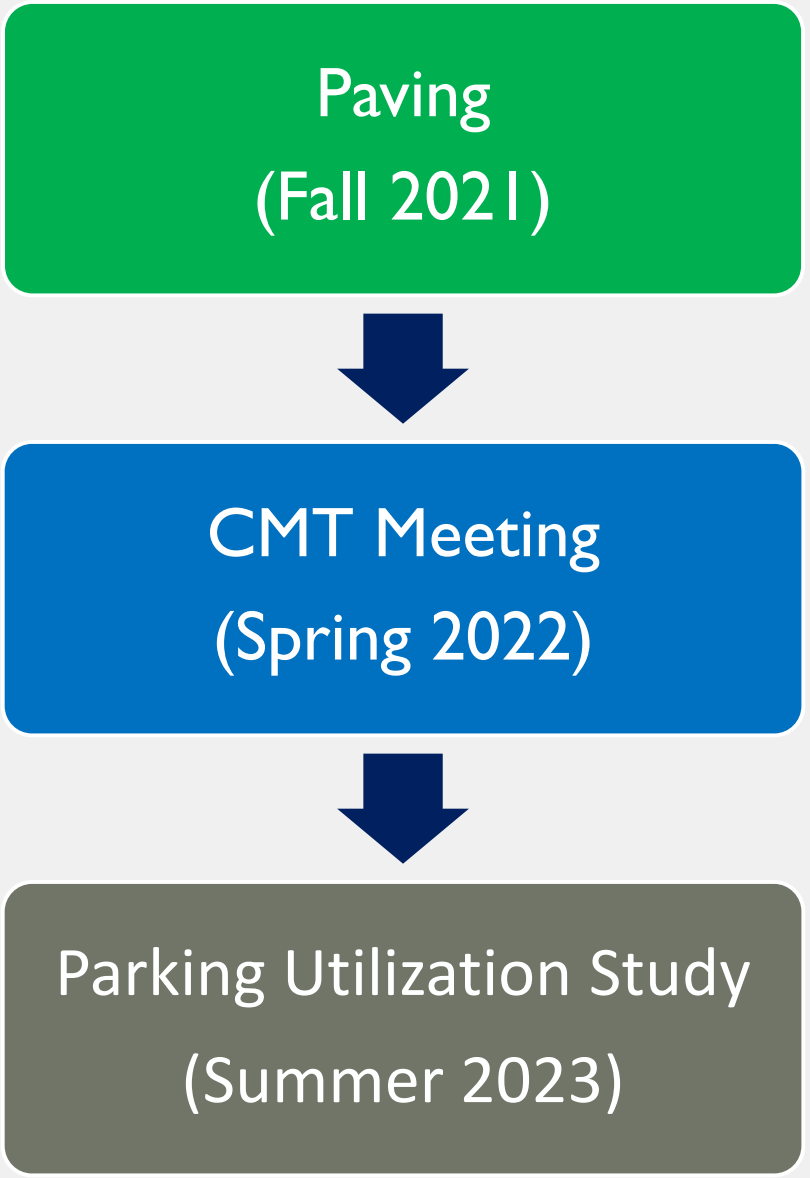
Project Timeline

- Roadway paved in late Fall 2021
- March 2022 CMT
  - ✓ Meeting to evaluate ways to redesign bike lanes
  - ✓ Preliminary Field Survey
  - ✓ Existing Conditions Analysis
  - ✓ Proposed Bike Lane Concepts
    1. East Side
    2. West Side
    3. East-West Side Combination
    4. Dynamic Parking (Off-peak)/Bike lane (Peak)
- Hourly Parking utilization data collection and analysis
  - ✓ May 2023



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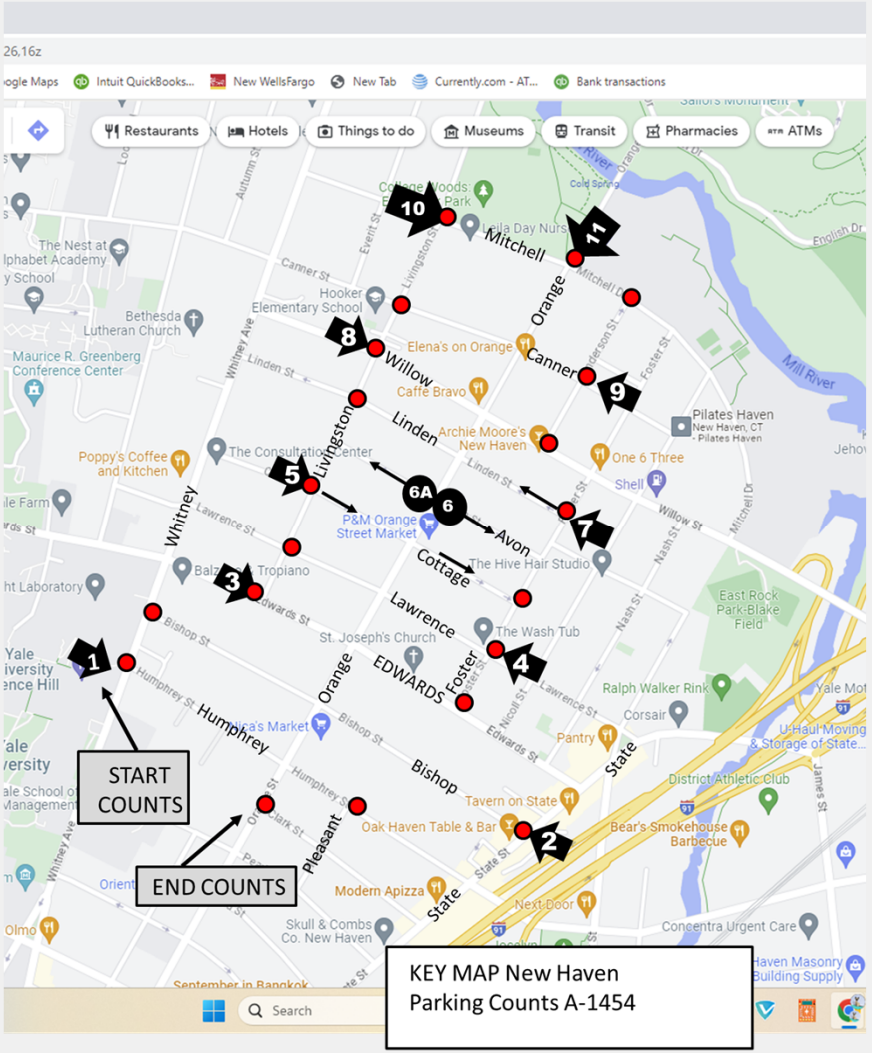
Parking Data Collection

Data Collected

- Hourly occupancy (7:00 AM- 7:00 PM)
  - ✓ Weekday- May 11, 2023 (Thursday)
  - ✓ Weekend- May 6, 2023 (Saturday)
- No parking zones- Bus stops, Hydrants
- Accessible parking spaces
- Loading/unloading spaces
- Residential permit and timed parking areas

Scope

- Orange Street- Humphrey to Cold Spring Streets
- All side streets along Orange Street



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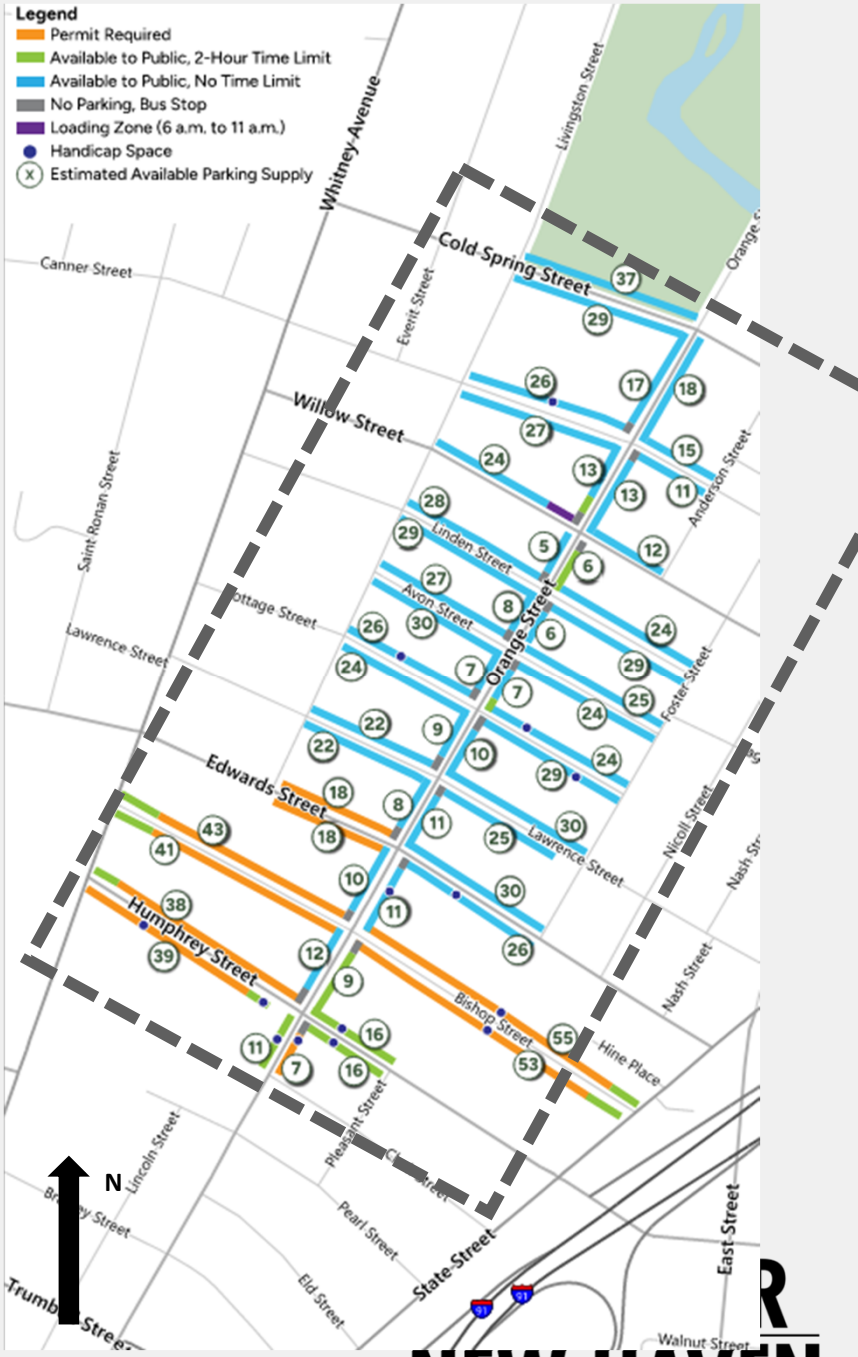
Existing Parking Utilization

Public Parking Limits

- Typically, no time limits
  - ✓ Limited Residential Parking Zones and 2- hour limits

Parking Supply

- ~1,191 spaces
  - ✓ ~199 spaces along Orange Street (17%)
  - ✓ ~992 spaces on side streets (83%)



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Existing Parking Utilization

Summary

- PEAK utilization (occupied spaces)
  - ✓ Occurs on Weekend (4:00-5:00 PM)
    - Project area- 764 (70% utilized)
    - Orange Street- 149 (73% utilized)
  - Hot spots along Orange street (based on Weekend Average Daily utilization)
    1. Willow to Linden- >100%
    2. Linden to Avon- 87%
    3. Cottage to Lawrence- 86%
    4. Edwards to Bishop- 88%

Conclusion

- At least 400 spaces still free during PEAK utilization in the project area

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Existing Parking Utilization

Weekend

			Percentage of Spaces Utilized												
Street Name	**Segment**	**Supply**	**7:00 AM**	**8:00 AM**	**9:00 AM**	**10:00 AM**	**11:00 AM**	**12:00 PM**	**1:00 PM**	**2:00 PM**	**3:00 PM**	**4:00 PM**	**5:00 PM**	**6:00 PM**	**Average**
Humphrey	Orange to Whitney	77	40%	39%	40%	45%	42%	43%	44%	48%	40%	44%	38%	39%	42%
	Orange to Pleasant	32	63%	59%	75%	88%	78%	88%	75%	66%	50%	63%	59%	63%	69%
Bishop	Orange to State	108	91%	90%	79%	74%	74%	69%	78%	78%	76%	81%	75%	81%	79%
	Orange to Whitney	84	54%	54%	52%	51%	48%	45%	42%	43%	45%	43%	35%	36%	46%
Edwards	Orange to Livingston	36	39%	36%	42%	36%	53%	42%	44%	39%	22%	25%	22%	22%	35%
	Orange to Foster	56	45%	43%	41%	41%	39%	55%	52%	59%	45%	52%	70%	66%	51%
Lawrence	Orange to Foster	55	62%	60%	56%	53%	55%	69%	65%	75%	69%	65%	65%	64%	63%
	Orange to Livingston	44	61%	59%	68%	75%	70%	39%	45%	45%	55%	55%	57%	61%	58%
Cottage	Orange to Livingston	50	58%	56%	58%	56%	58%	40%	50%	52%	42%	42%	46%	44%	50%
	Orange to Foster	53	98%	94%	92%	100%	98%	77%	77%	74%	72%	72%	68%	68%	83%
Avon	Orange to Livingston	57	72%	74%	74%	70%	70%	79%	86%	86%	88%	93%	88%	63%	79%
	Orange to Foster	49	73%	88%	78%	71%	69%	71%	69%	63%	69%	65%	76%	73%	72%
Linden	Orange to Foster	53	58%	57%	68%	75%	70%	94%	87%	83%	74%	75%	79%	83%	75%
	Orange to Livingston	57	79%	77%	72%	70%	70%	86%	81%	81%	75%	75%	81%	74%	77%
Willow	Orange to Livingston	24	100%	96%	0%	79%	79%	92%	83%	83%	83%	83%	96%	100%	81%
	Orange to Anderson	12	58%	58%	0%	42%	50%	58%	58%	67%	67%	75%	58%	67%	55%
Canner	Orange to Anderson	26	65%	58%	54%	50%	58%	62%	69%	81%	81%	100%	100%	115%	74%
	Orange to Livingston	53	70%	70%	51%	47%	53%	81%	66%	60%	66%	62%	64%	66%	63%
Mitchell	Orange to Livingston	66	0%	0%	0%	0%	0%	23%	30%	24%	30%	38%	42%	32%	18%
	Mitchell to Canner	35	37%	34%	37%	40%	37%	37%	40%	40%	49%	46%	54%	69%	43%
	Canner to Willow	26	54%	65%	54%	42%	50%	38%	46%	73%	73%	88%	65%	104%	63%
	Willow to Linden	11	136%	118%	118%	109%	118%	145%	164%	145%	118%	136%	118%	127%	130%
	Linden to Avon	14	100%	100%	79%	86%	79%	107%	93%	93%	93%	64%	71%	79%	87%
	Avon to Cottage	14	86%	86%	86%	79%	93%	79%	100%	93%	86%	79%	57%	64%	82%
Orange	Cottage to Lawrence	19	100%	95%	74%	63%	68%	105%	95%	89%	89%	100%	84%	68%	86%
	Lawrence to Edwards	19	63%	58%	53%	47%	63%	53%	47%	42%	42%	47%	37%	42%	50%
	Edwards to Bishop	21	76%	81%	76%	76%	76%	90%	100%	86%	105%	105%	90%	90%	88%
	Bishop to Humphrey	21	57%	52%	52%	57%	52%	95%	62%	67%	67%	67%	33%	38%	58%
	Humphrey to Clark	19	84%	74%	74%	84%	84%	47%	58%	68%	68%	58%	74%	74%	71%
Total		***1191***	*63%*	*63%*	*58%*	*59%*	*60%*	*64%*	*64%*	*64%*	*62%*	*64%*	*63%*	*6%*	*2%*
	Orange Street	*199*	*72%*	*70%*	*64%*	*63%*	*66%*	*72%*	*72%*	*73%*	*74%*	*75%*	*65%*	*74%*	*70%*

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Parking Reorganization- Micro analysis

- Micro-level (Block by block) analysis to evaluate parking impacts of:
  i. Removing 50% of vehicles from Orange Street;
  ii. Relocating them to adjacent side streets

- Analysis scenarios (Weekday/Weekend)
  1. Typical Conditions
  2. Worst-case scenario

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Parking Reorganization- Micro analysis

Summary

- Typical Weekday and Weekend
  - ✓ Vehicles reallocated to Humphrey, Bishop, Edwards, and Lawrence streets.
    - In some cases, to Cottage, Avon and Linden streets
  - ✓ +300 unutilized spaces still available in the project area
- Worst case scenario: What if all blocks experienced peak demand at the same time?
  - ✓ 150-250 unutilized spaces still available in the project area

Conclusion

- Removing and reallocating spaces feasible with minor impacts to side streets

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Future Parking Utilization*

Weekend

			Percentage of Spaces Utilized												
Street Name	Segment	Supply	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Average
Humphrey	Orange to Whitney	77	51%	39%	48%	57%	52%	45%	44%	48%	40%	44%	38%	39%	45%
	Orange to Pleasant	32	63%	78%	75%	84%	78%	84%	84%	81%	66%	72%	78%	81%	77%
Bishop	Orange to State	108	85%	85%	79%	74%	74%	69%	78%	78%	76%	81%	75%	81%	78%
	Orange to Whitney	84	64%	62%	55%	55%	50%	58%	46%	49%	51%	43%	35%	36%	50%
Edwards	Orange to Livingston	36	39%	58%	42%	36%	53%	42%	44%	39%	58%	39%	50%	50%	46%
	Orange to Foster	56	57%	43%	54%	54%	52%	73%	73%	75%	45%	75%	70%	66%	61%
Lawrence	Orange to Foster	55	75%	65%	56%	67%	55%	73%	65%	75%	69%	65%	65%	64%	66%
	Orange to Livingston	44	70%	82%	73%	77%	80%	66%	48%	66%	55%	57%	57%	61%	66%
Cottage	Orange to Livingston	50	80%	78%	78%	64%	82%	68%	86%	66%	60%	64%	66%	44%	70%
	Orange to Foster	53	85%	85%	85%	85%	85%	79%	77%	74%	83%	81%	72%	77%	81%
Avon	Orange to Livingston	57	72%	84%	84%	81%	82%	84%	84%	84%	84%	84%	84%	77%	82%
	Orange to Foster	49	86%	86%	78%	82%	80%	86%	86%	80%	78%	82%	84%	82%	82%
Linden	Orange to Foster	53	79%	74%	68%	75%	70%	85%	85%	85%	85%	85%	85%	85%	80%
	Orange to Livingston	57	84%	81%	81%	82%	84%	84%	84%	84%	84%	84%	84%	84%	83%
Willow	Orange to Livingston	24	83%	83%	0%	79%	79%	83%	83%	83%	83%	83%	83%	83%	76%
	Orange to Anderson	12	83%	83%	67%	42%	50%	75%	83%	83%	83%	83%	83%	83%	75%
Canner	Orange to Anderson	26	85%	81%	54%	50%	58%	85%	69%	85%	81%	85%	85%	85%	75%
	Orange to Livingston	53	75%	70%	57%	47%	57%	81%	85%	85%	81%	85%	85%	81%	74%
Mitchell	Orange to Livingston	66	0%	0%	0%	0%	0%	23%	30%	24%	33%	44%	52%	70%	23%
	Mitchell to Canner	18	72%	67%	72%	78%	72%	72%	78%	78%	83%	83%	83%	83%	77%
	Canner to Willow	13	85%	85%	85%	85%	85%	77%	85%	85%	85%	85%	85%	85%	84%
	Willow to Linden	6	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
	Linden to Avon	7	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%
	Avon to Cottage	7	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%
Orange	Cottage to Lawrence	10	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
	Lawrence to Edwards	10	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	70%	80%	79%
	Edwards to Bishop	11	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%
	Bishop to Humphrey	11	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	64%	73%	80%
	Humphrey to Clark	10	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
Total		*1095*	*69%*	*68%*	*63%*	*65%*	*65%*	*69%*	*70%*	*70%*	*67%*	*70%*	*69%*	*69%*	*68%*
	Orange Street	*103*	*81%*	*80%*	*81%*	*82%*	*81%*	*80%*	*82%*	*82%*	*83%*	*83%*	*80%*	*82%*	*81%*

*Parking supply remains unchanged on Side streets after ~100 spaces removed on Orange street

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Potential Bike Lane Design Alternatives

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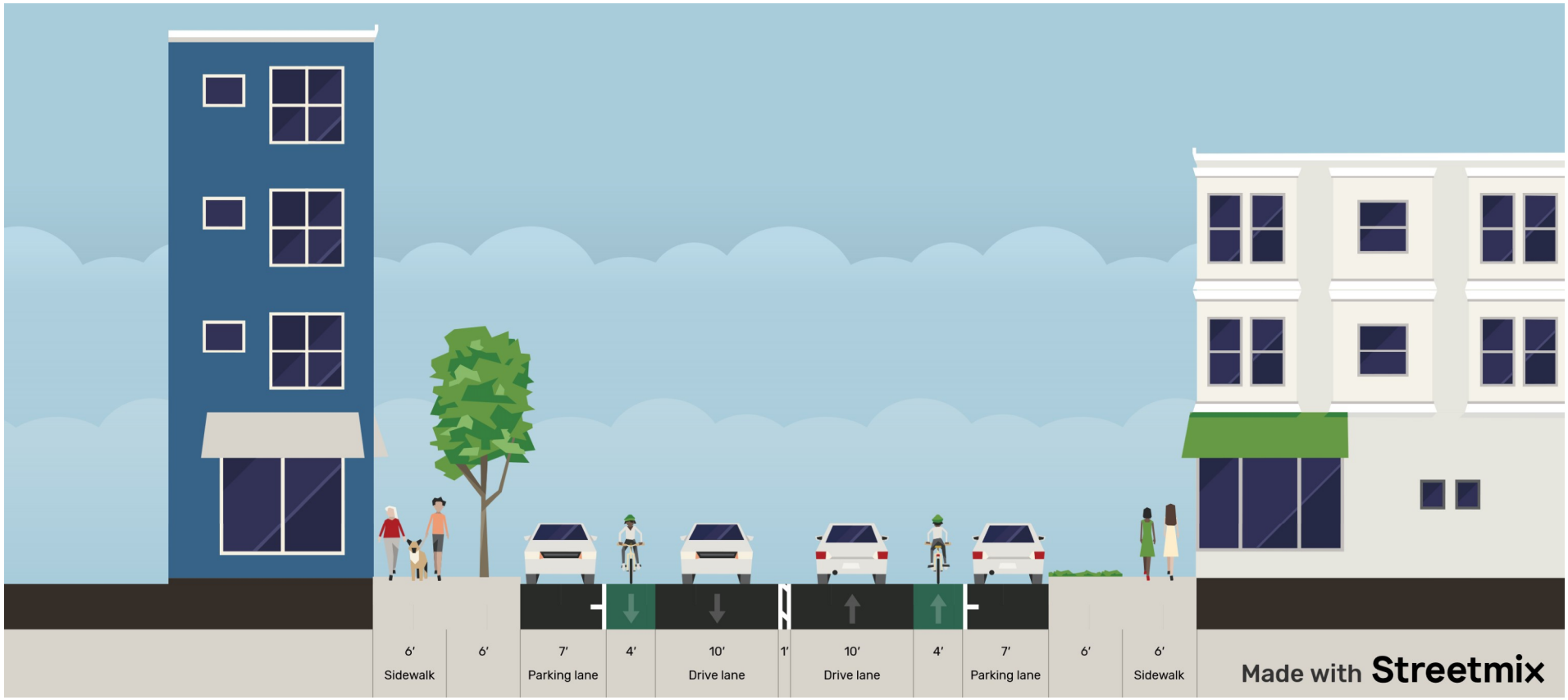
No-Build (Do Nothing)- Alternative 1

Maintain Pre-paving 4’ Bike lanes



- Roadway width (42’)
  - ✓ Parking on both sides (7’ wide)
  - ✓ Bike lane between travel and parking lanes (4’ wide)- **NOT STANDARD**
  - ✓ Travel lanes (10’ wide)

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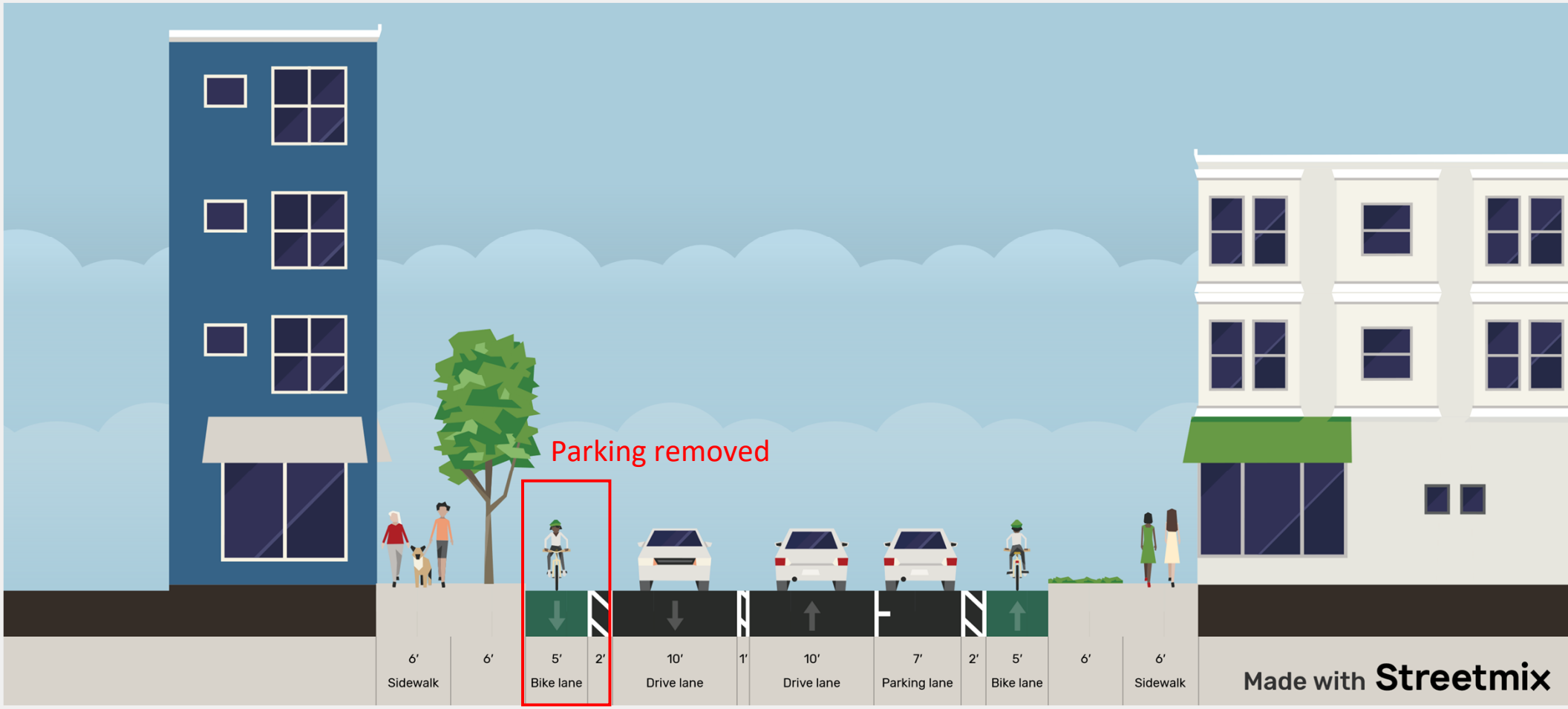
Alternative 2

West-side (even-side) Parking removed



- Roadway width (42’)
  - ✓ Parking removed on West-side (even numbered side)
  - ✓ Parking retained on East-side (odd numbered side) (7’ wide)
  - ✓ Buffer separated (2.5’) bike lanes (5’ wide) on both sides
    - East-side (odd numbered side) Bike lane is parking protected
  - ✓ Travel lanes (10’ wide)

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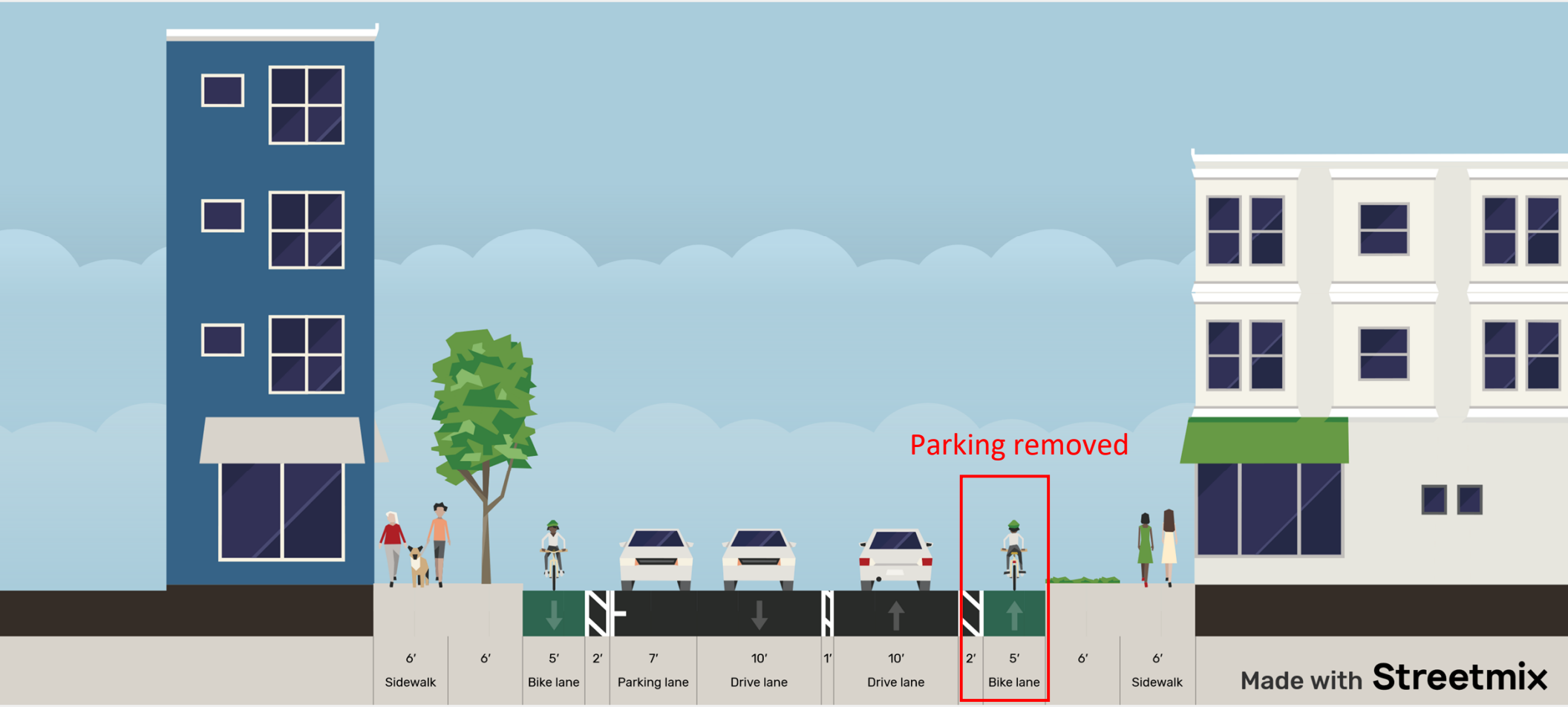
Alternative 3

East-side (odd-side) Parking removed



- Roadway width (42’)
  - ✓ Parking removed on East-side (odd numbered side)
  - ✓ Parking retained on West-side (even numbered side) (7’ wide)
  - ✓ Buffer separated (2.5’) bike lanes (5’ wide) on both sides
    - West-side (even numbered side) Bike lane is parking protected
  - ✓ Travel lanes (10’ wide)

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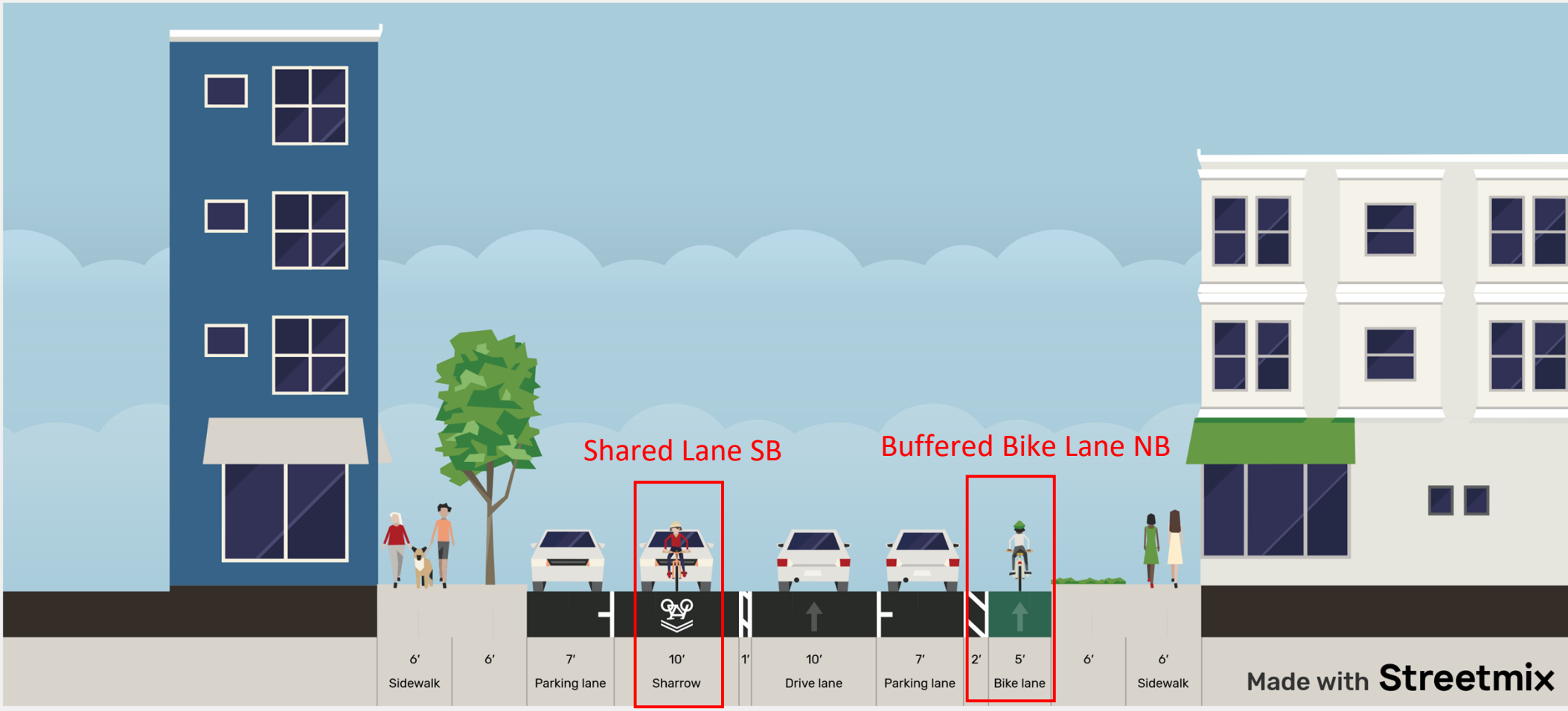
Alternative 4

Parking retained. Buffered Bike Lane NB and Shared Bike Lane SB



- Roadway width (42’)
  - ✓ Parking on both sides (7’wide)
  - ✓ Parking Protected Buffered (2.5’) bike lane (5’ wide) on East-side (odd-numbered side)
  - ✓ Shared Bike lane on West-side with Travel lanes (10’ wide)

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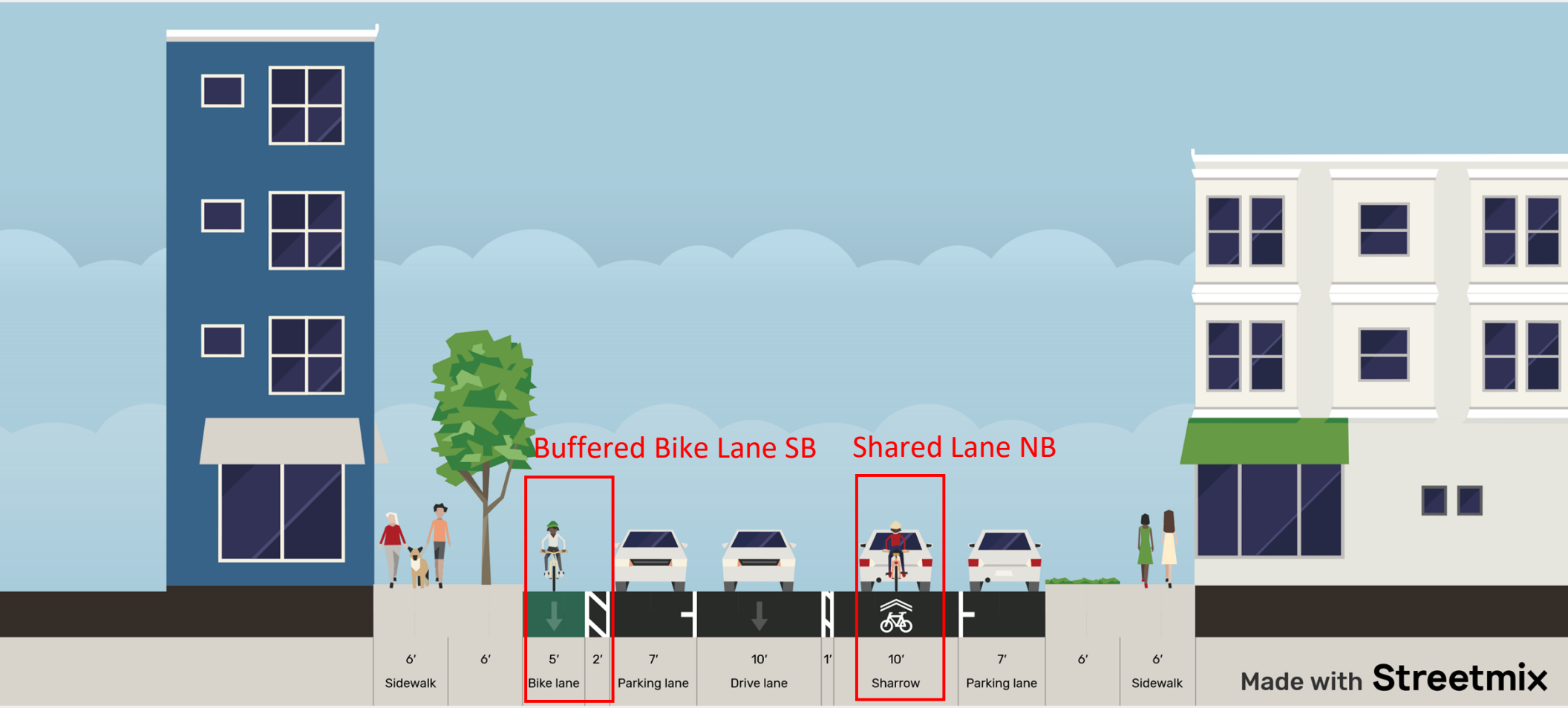
Alternative 5

Parking retained. Buffered Bike Lane SB and Shared Bike Lane NB



- Roadway width (42’)
  - ✓ Parking on both sides (7’wide)
  - ✓ Parking Protected Buffered (2.5’) bike lane (5’ wide) on West-side (even-numbered side)
  - ✓ Shared Bike lane on East-side with Travel lanes (10’ wide)

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For Questions or Comments please email:
orangestreetbikelanes@newhavenct.gov

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