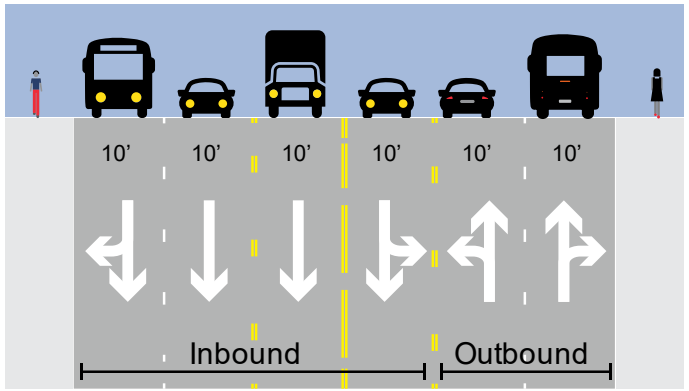
Connecticut Avenue NW
Reversible Lane Operations and Safety Study
Initial Concept Alternatives Presentation

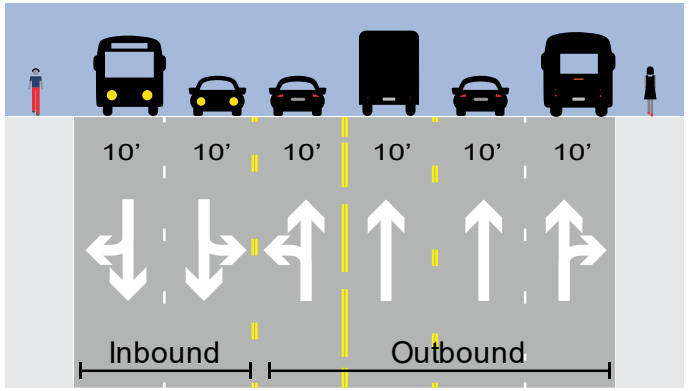
June 11th, 2020

Existing Conditions (Pre-COVID): Overview

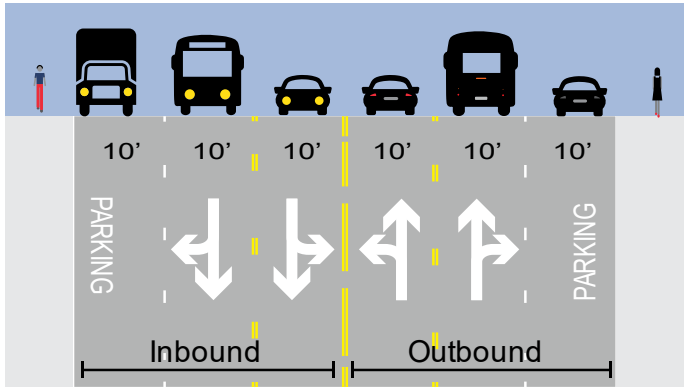
AM Peak



PM Peak



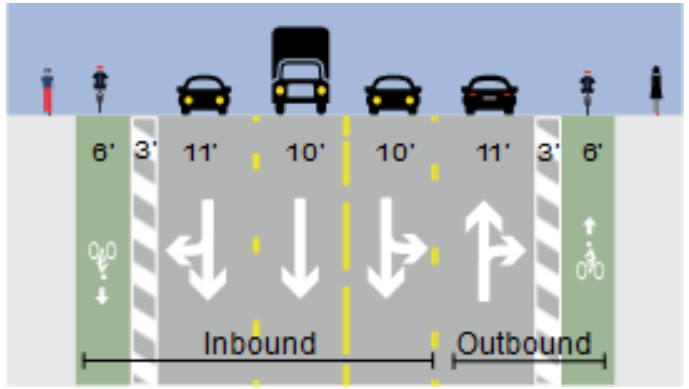
Off Peak



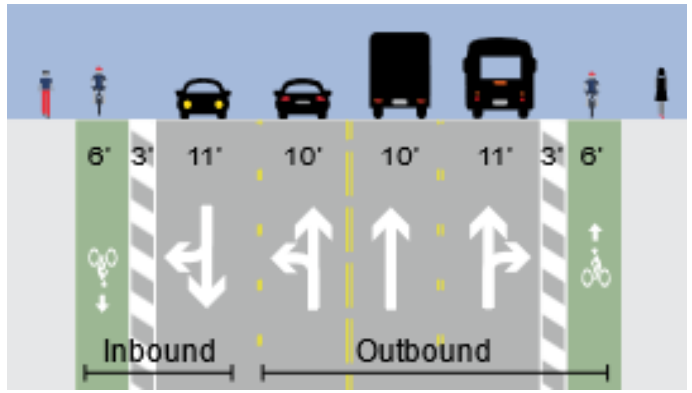
	AM Peak		Mid Day		PM Peak	
	Inbound	**Outbound**	**Inbound**	**Outbound**	**Inbound**	**Outbound**
Travel Lanes Six (6) 10-foot lanes	4 lanes	2 lanes	2 travel lanes in each direction; parking on east and west sides of Connecticut Avenue		2 lanes	4 lanes

Concept A: Overview

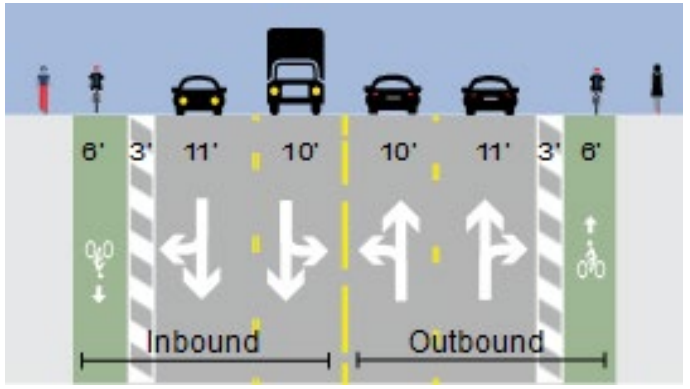
AM Peak



PM Peak



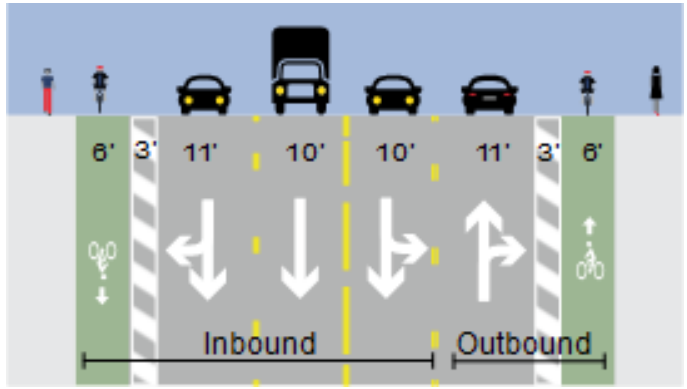
Off Peak



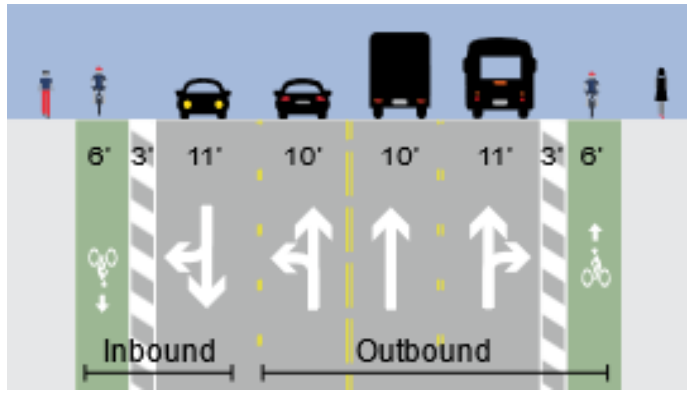
Travel Lanes (Inbound/Outbound)			Bike Lanes	Parking/ Curbside	Bus
AM	PM	MD			
3 / 1	1 / 3	2 / 2	One-way protected bike lane (PBL) on east and west sides of corridor (10-foot PBL)	No parking/ curbside facilities	Curbside bus stops

Concept A: Pros and Cons

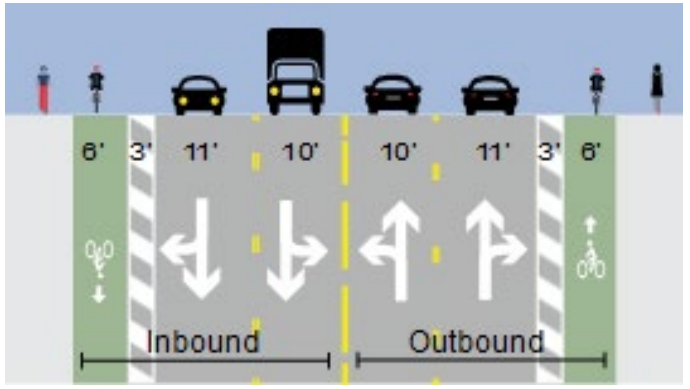
AM Peak



PM Peak



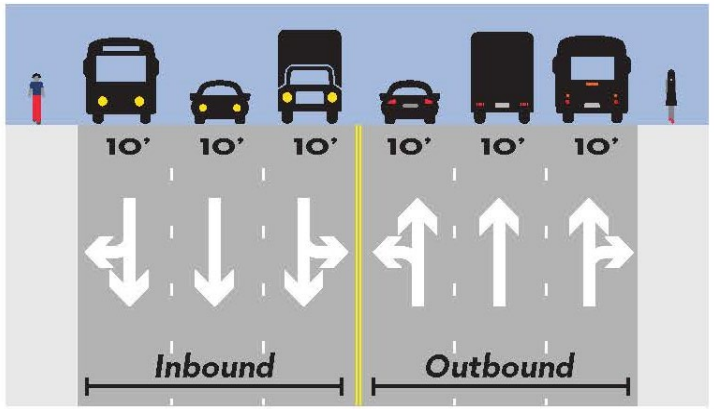
Off Peak



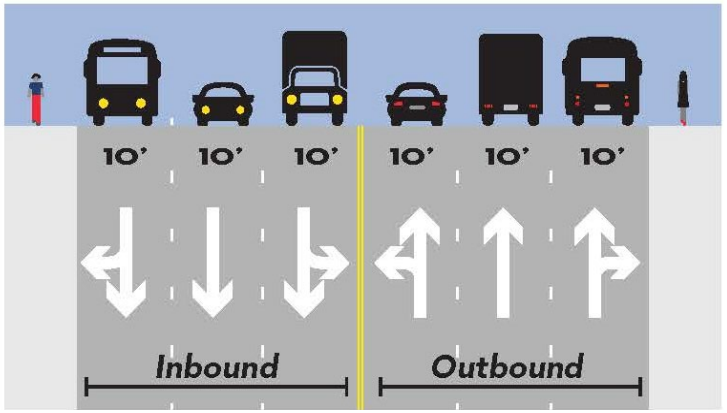
	Pros	Cons
Vehicle Operations	• Limited loss of peak period/peak direction capacity (compared to other concepts)	• Retains reversible lane system • Reduced peak period/non-peak direction capacity • No dedicated turn lanes/turn restrictions required
Bicycle Facilities	• Includes Protected Bicycle Lane	
Curbside		• Loading zone difficulties • No parking anytime
Safety		• Mixing zone conflicts between buses and bikes • Turning traffic must yield to pedestrians and bicycles/no protected signal phase

Concept B: Overview

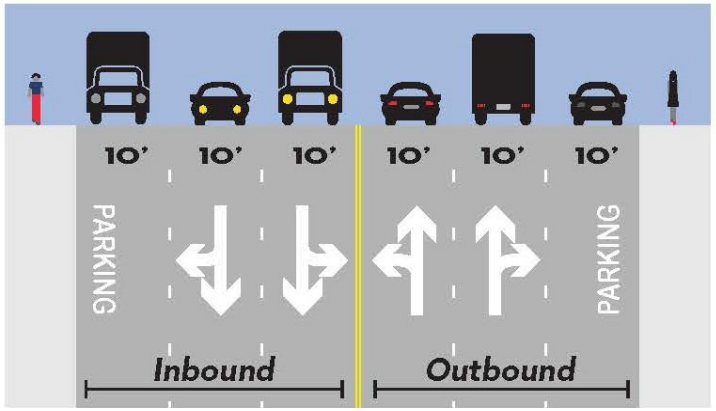
AM Peak



PM Peak



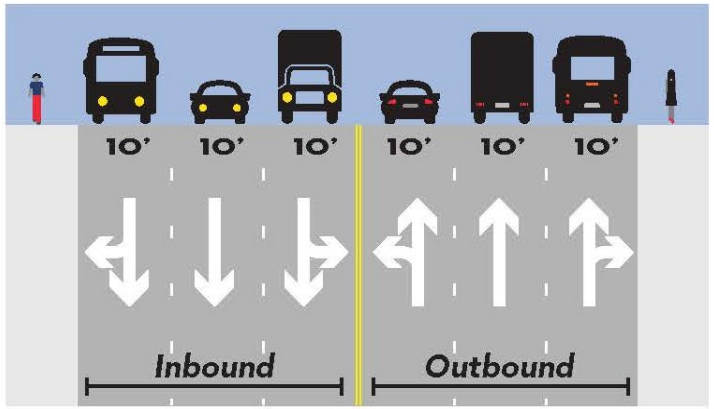
Off Peak



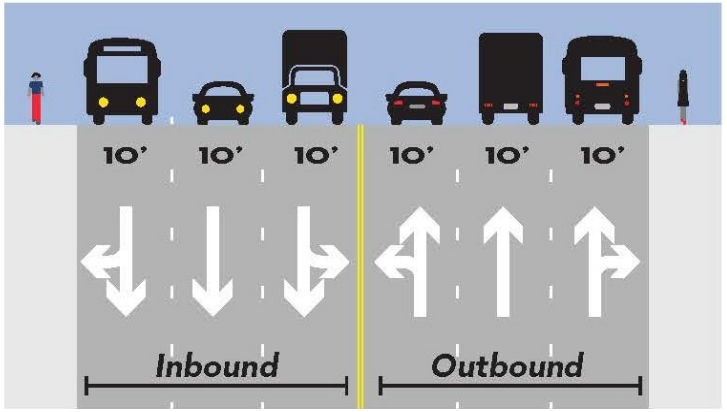
Travel Lanes (Inbound/Outbound)			Bike Lanes	Parking/ Curbside	Bus
AM	PM	MD			
3 / 3	3 / 3	2 / 2	No PBL	Off-peak parking	Curbside bus stops

Concept B: Pros and Cons

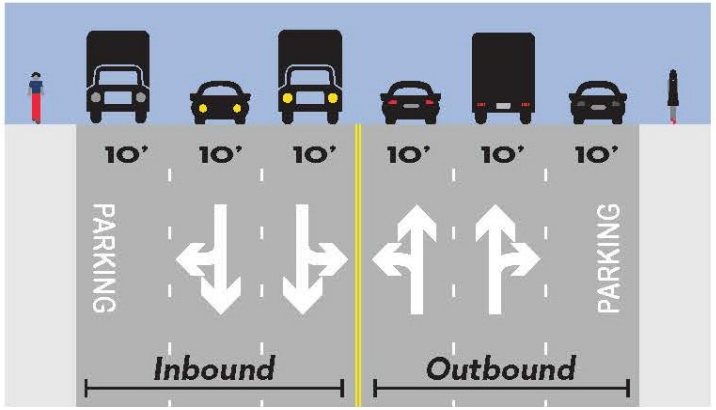
AM Peak



PM Peak



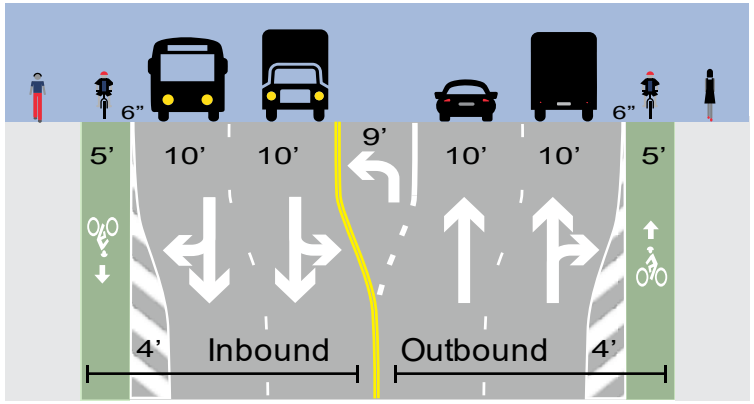
Off Peak



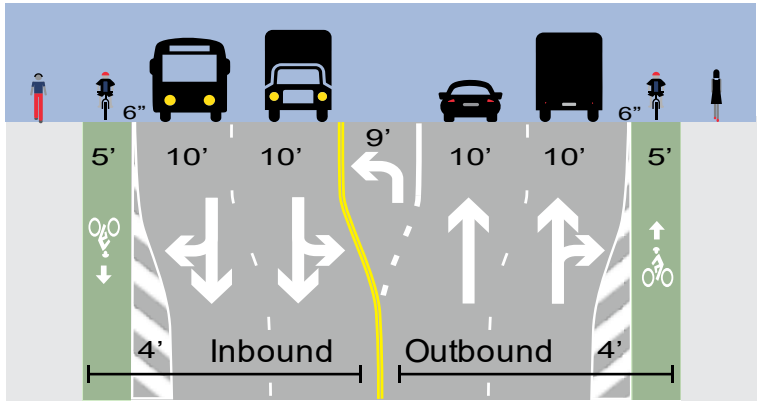
	Pros	Cons
Vehicle Operations	• Limited loss of peak period/peak direction capacity compared to other alternatives	• No dedicated turn lanes/maintains existing condition • Excess capacity in the peak period/non-peak direction
Bicycle Facilities		• No Protected Bicycle Lane
Curbside	• Retains parking and loading zones on both sides of Connecticut Avenue (off-peak)	
Safety	• Removes Reversible Lane System	

Concept C: Overview

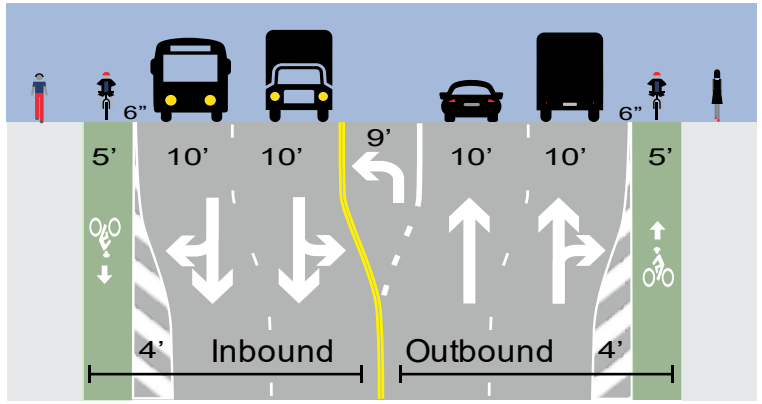
AM Peak



PM Peak



Off Peak

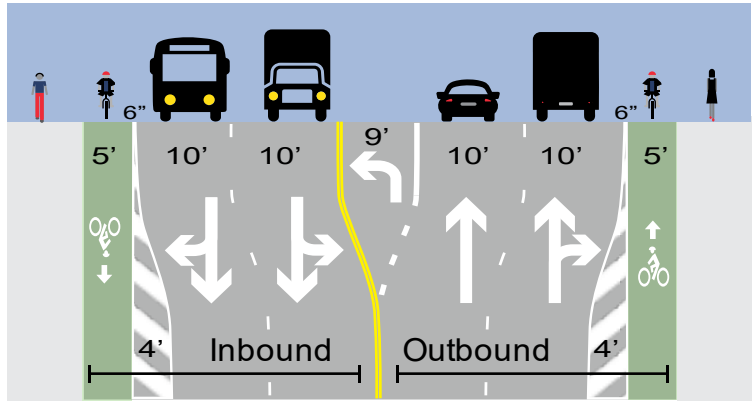


Travel Lanes (Inbound/Outbound)			Bike Lanes	Parking/ Curbside	Bus
AM 2/2	PM 2/2	MD 2/2	One-way PBL on east and west sides of corridor (2, 5-foot PBLs with varying buffers to accommodate left turn pockets)	No parking/ curbside facilities	Curbside bus stops (can accommodate floating bus islands)

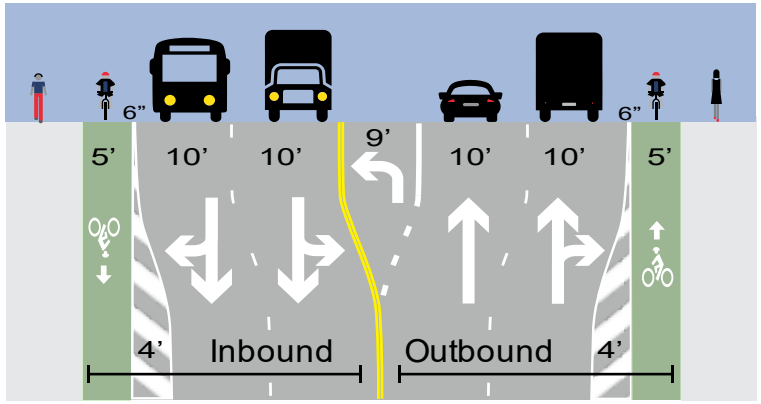
Updated cross section would have 6-3-11-10-10-11-3-6

Concept C: Pros and Cons

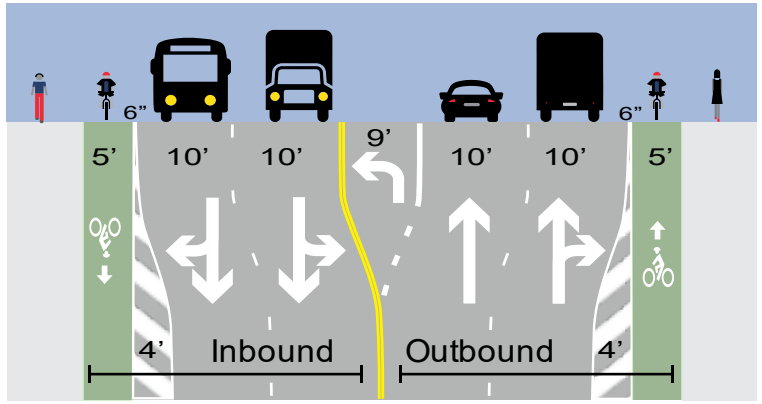
AM Peak



PM Peak



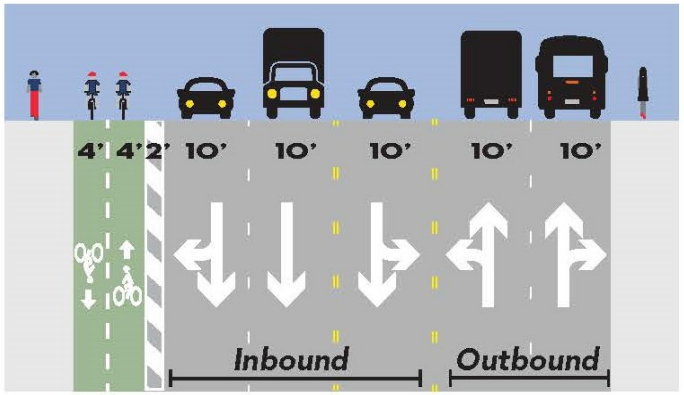
Off Peak



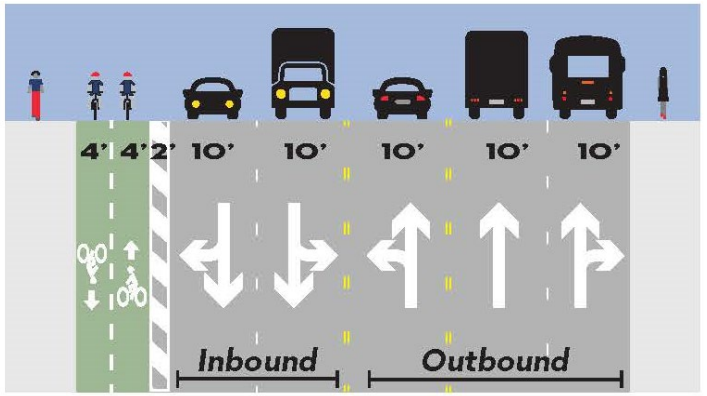
	Pros	Cons
Vehicle Operations	• Lane usage consistent all day • Shifts in bike lane buffers provides dedicated left turn lanes • Can accommodate floating bus islands	• Shift in lanes and narrowing of travel lanes and buffer area widths to accommodate left turn pockets/ potential bus floating islands
Bicycle Facilities	• Includes Protected Bicycle Lane	
Curbside		• Loading zone difficulties • No parking anytime
Safety	• Removes Reversible Lanes • Potential reduction in crashes • Safer facility for cyclists	• Mixing zone conflicts between buses and bikes • Turning traffic yielding to pedestrians and bicycles/no protected signal phase, safety implications

Concept D: Overview

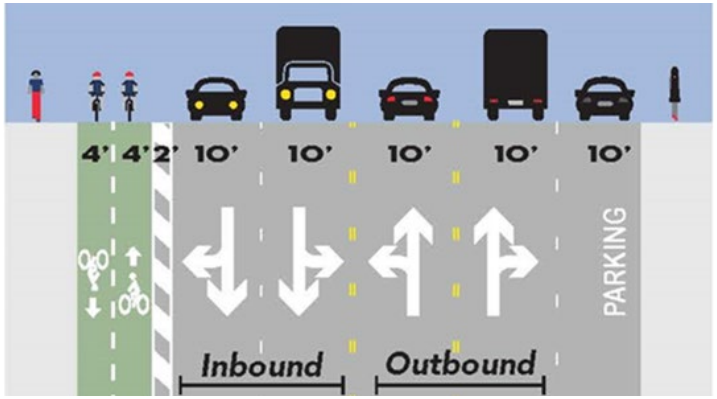
AM Peak



PM Peak



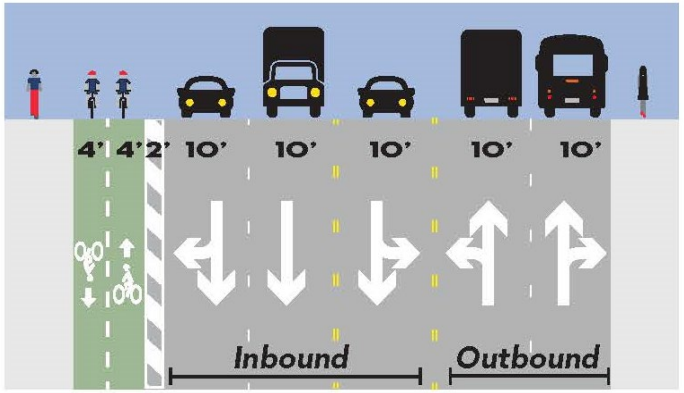
Off Peak



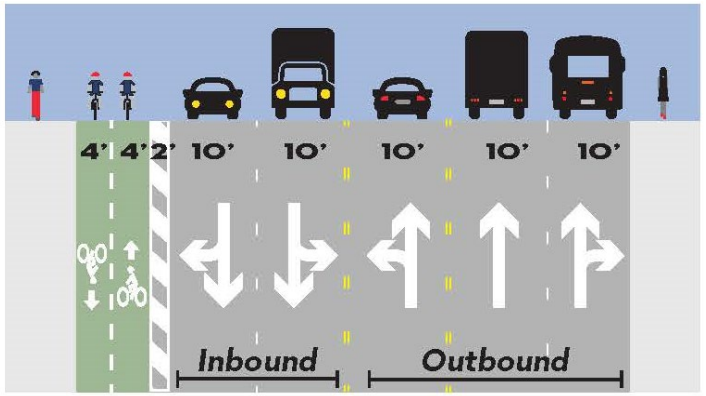
	Travel Lanes (Inbound/Outbound)			Bike Lanes	Parking/ Curbside	Bus
	AM	PM	MD			
Concept D Five 10-foot travel lanes	3 / 2	2 / 3	2 / 2	PBL on west side (Two 4-foot bike lanes with 2-foot buffer)	Off-peak period parking on east side During the off-peak period the center lane can be repurposed as pedestrian refuge medians. However, there would be no parking allowed.	Curbside bus stops

Concept D: Pros and Cons

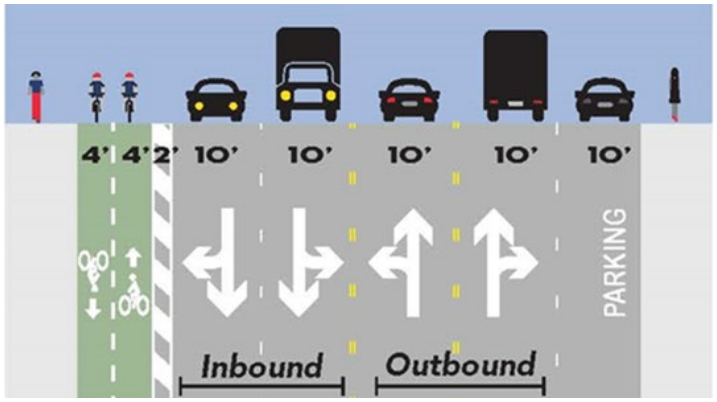
AM Peak



PM Peak



Off Peak



	Pros	Cons
Vehicle Operations	• Limited loss of peak period/peak direction capacity compared to other options	• Protected left turn phases at locations with northbound left turns • Turn restriction considerations • Traffic Lanes unbalanced
Bicycle Facilities	• Protected Bicycle Lanes provided	• Southbound bicycle lanes conflict at bus stops • Visibility for right turning vehicles and bicyclists in same direction
Curbside	• Option to alternate left-turn lane with parking in off-peak period	
Safety	• Removes one (1) reversible lane	• Design dimensions less than desired standard

Concept Alternatives Comparison

	Existing	Concept A	Concept B	Concept C	Concept D
Number of peak period, peak direction travel lanes/peak period, non peak direction travel lanes	4/2	3/1	3/3	2/2	3/2
Number of peak period, peak direction lanes reduced compared to current roadway configuration	--	-1	-1	-2	-1
Number of non-peak period travel lanes, each direction	2/2	2/2	3/3	2/2	2/2
Total number of travel lanes/Dimensions	6/10’	2/11’ and 2/10’	6/10’	4/10’, 1-9’ turn lane	5/10’
On-Street Parking	Yes, off-peak on both sides	No Parking	Yes, off-peak on both sides	No Parking	Option: Retain off-peak on east side if no turn lane
Protected Cycle Lanes (PBL)	No	Yes, 2,6’ or partial	No	Yes, 2-5’ or partial	Yes, 2-4’, west side
PBL Buffer Area	NA	4’	NA	6” to 4’ (variable)	2’
Safety	Existing 2 rev. lanes	Retains 2 rev. lanes	Removes both lanes	Removes Both lanes	Removes One lane
Turn Lanes	Shared	Shared	Shared	Option: 9’ center turn lane/ refuge island	Option: Substitute LTL for parking at various locations
Design dimensions below standards	No	No	No	Some	Some