



Route 9 at Kingsbury Street

Wellesley, MA

Presented by
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March 16, 2016



Agenda

- Existing Conditions
 - Geometry
 - Volumes: Origin – Destination Counts
- Proposed Options
- Safety

Existing Conditions

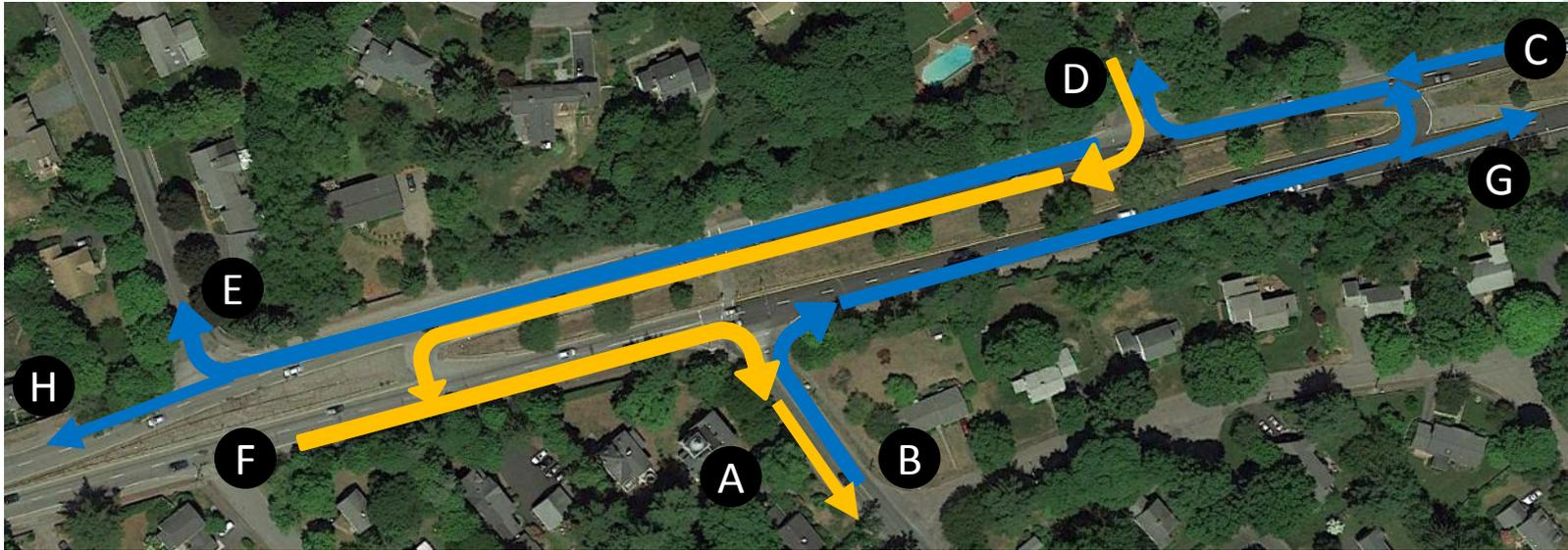
- Existing Geometry
 - 2 lanes in each direction
 - Eastbound and westbound U-turn lanes
 - Northbound: Right-turn only



Existing Conditions

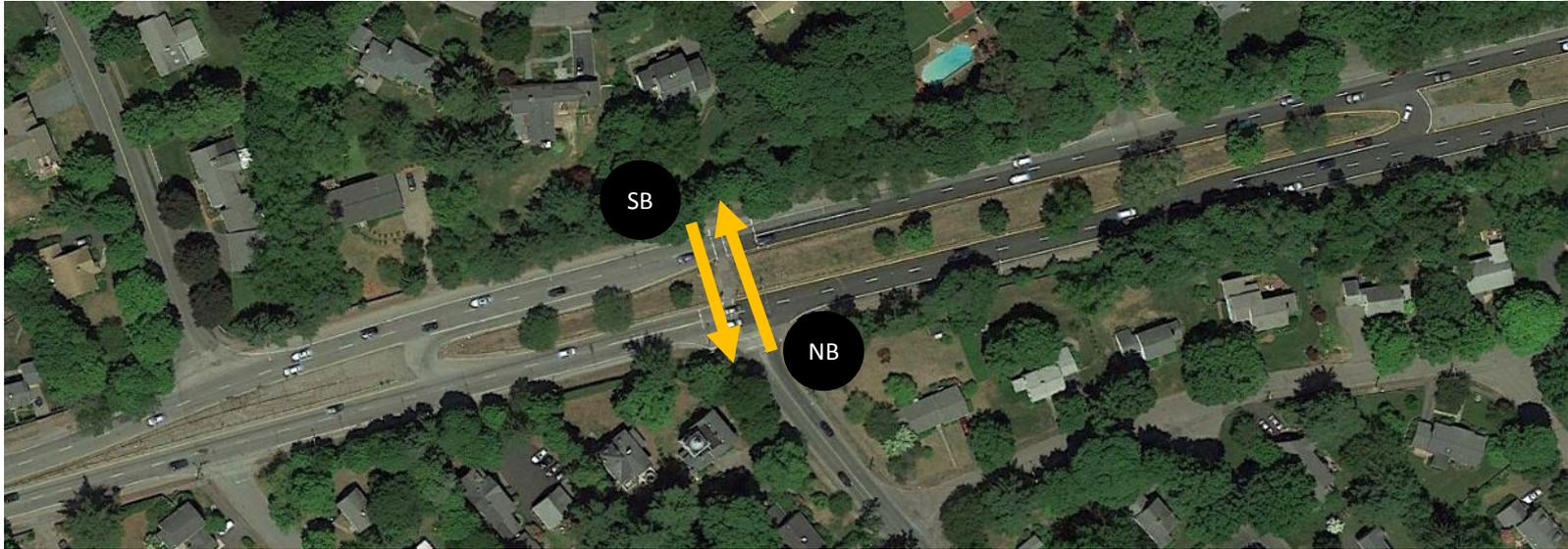


Origin-Destination Study



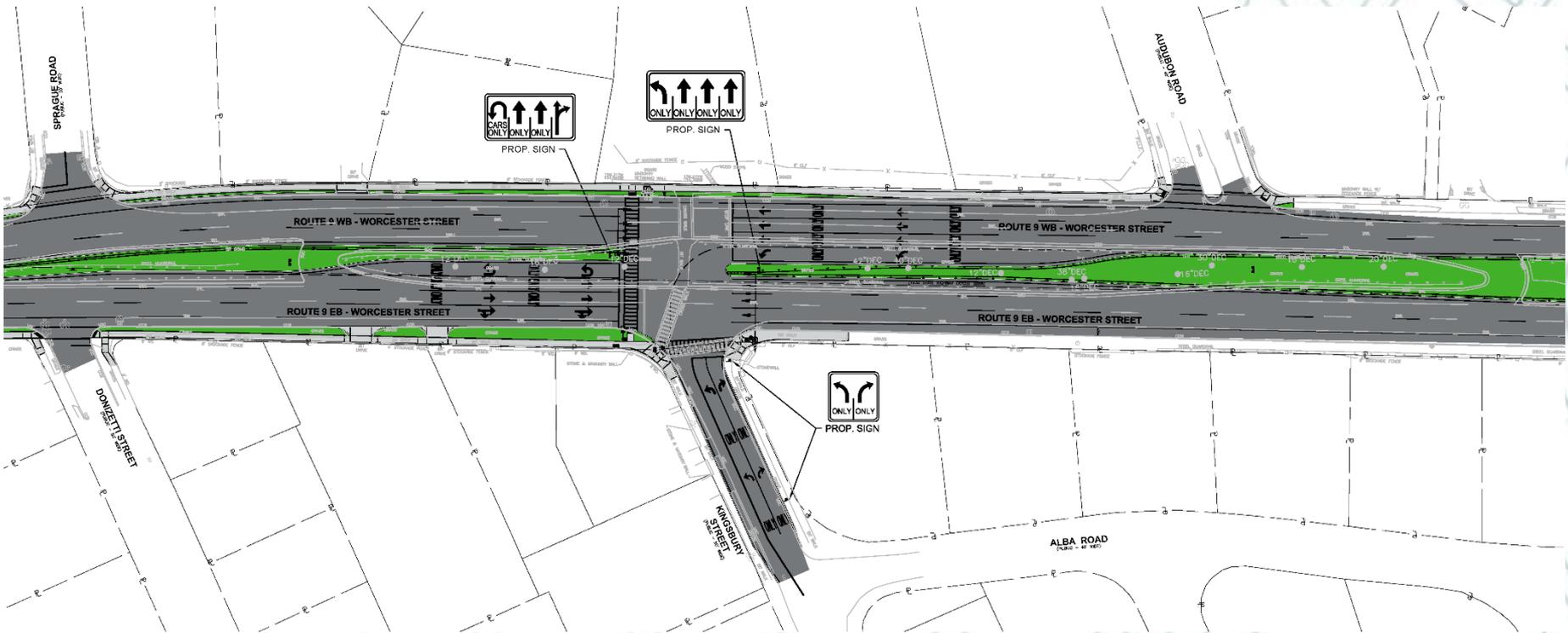
From	To	Morning (7:00 – 8:00 AM)	Midday (2:15 – 3:15 PM)	Evening (4:15 – 5:15 PM)
B – Kingsbury Street	D – Audubon Road	18	25	15
	E – Sprague Road	6	7	7
	G – Route 9 EB	141	144	124
	H - Route 9 WB	60	81	52
C – Route 9 WB	A – Kingsbury Street	74	102	73
D – Audubon Rd		31	18	18
F – Route 9 EB		179	203	193

Pedestrian/Bicyclist Activity

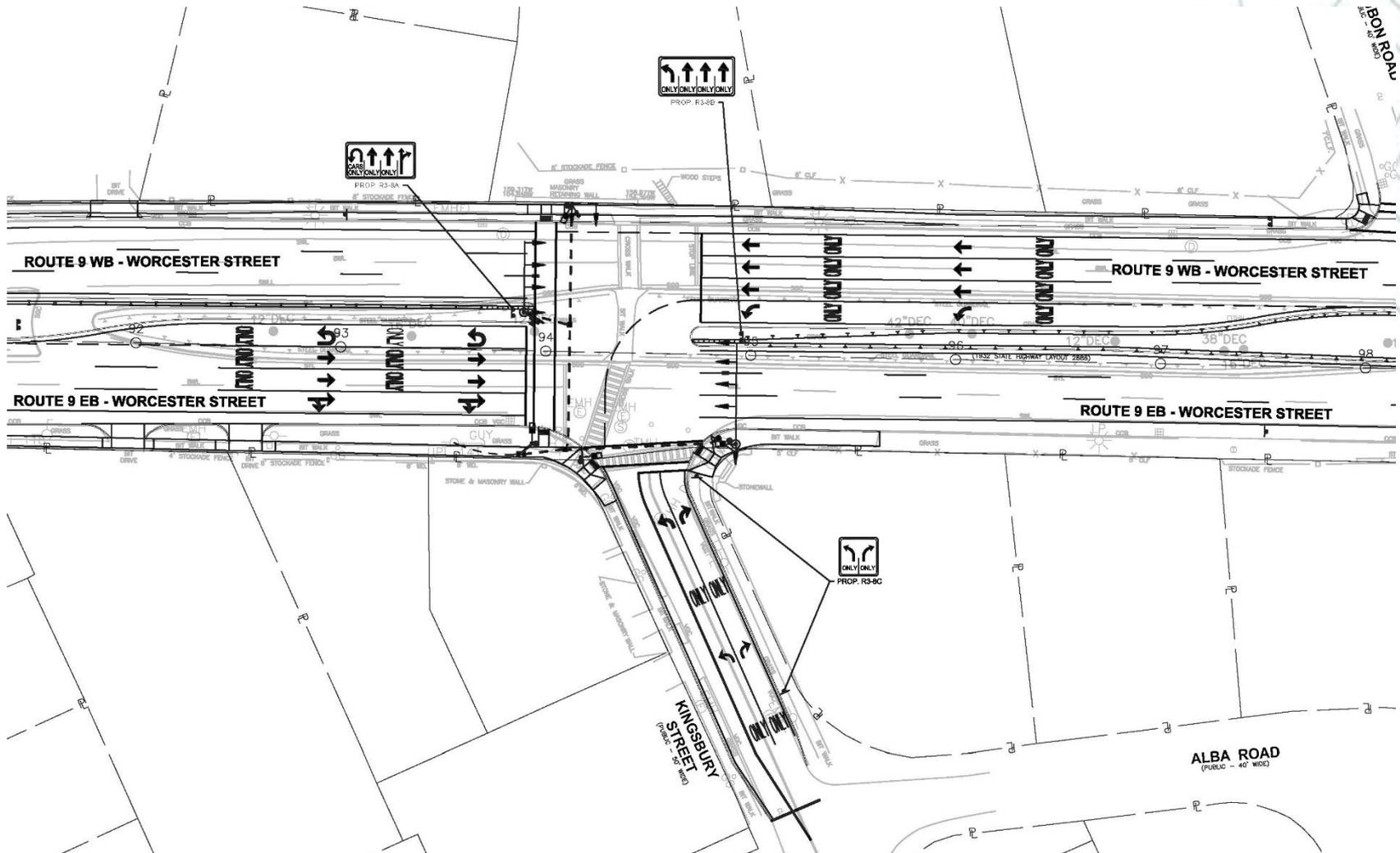


Peak Hour	Northbound (NB)		Southbound (SB)		Total		Grand Total
	Peds	Bicyclists	Peds	Bicyclists	Peds	Bicyclists	
Morning (7:00 - 8:00 AM)	0	0	16	1	16	1	17
Midday (2:15 - 3:15 PM)	30	1	0	1	30	2	32
Evening (4:15 - 5:15 PM)	3	2	1	0	4	2	6

MassDOT Option A

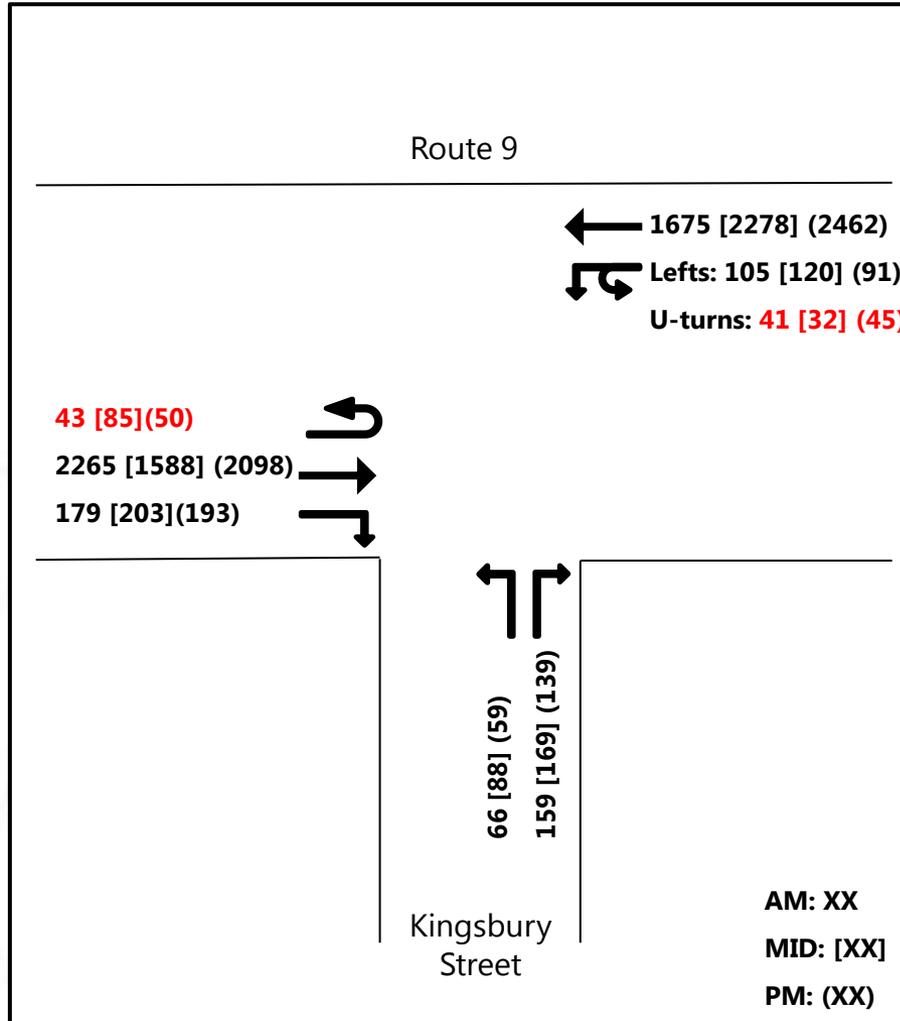


MassDOT Option A



Volume Summary

2016 Volumes



* 2016 Midday Peak = 2:15 – 3:15 PM

MassDOT Option A

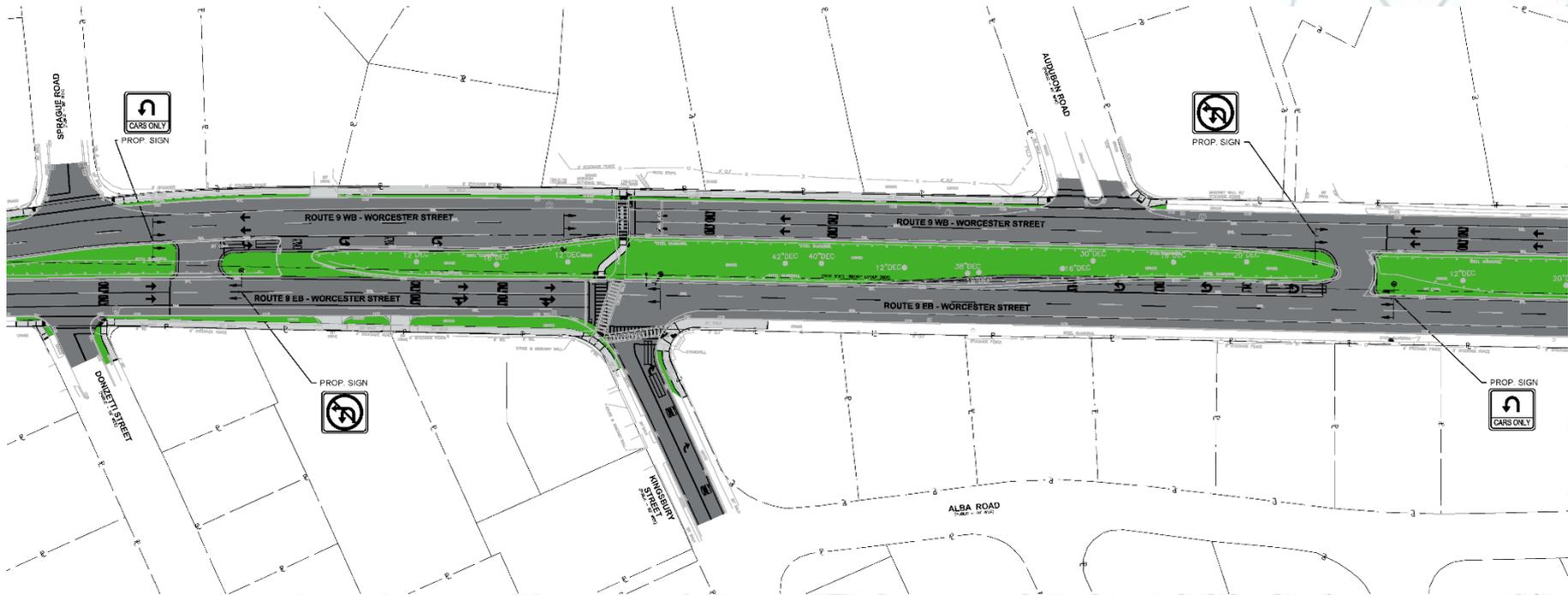
- Option improves mobility and safety by providing direct left-turns to and from Kingsbury Street
- Option increases delay and queuing on all approaches
- Option provides single-stage, exclusive pedestrian crossing of Route 9
- Option requires median modifications, Kingsbury Street and slight Route 9 widening
- Option reduces connectivity between Kingsbury Street and Audobon and Sprague Roads



MassDOT Option A

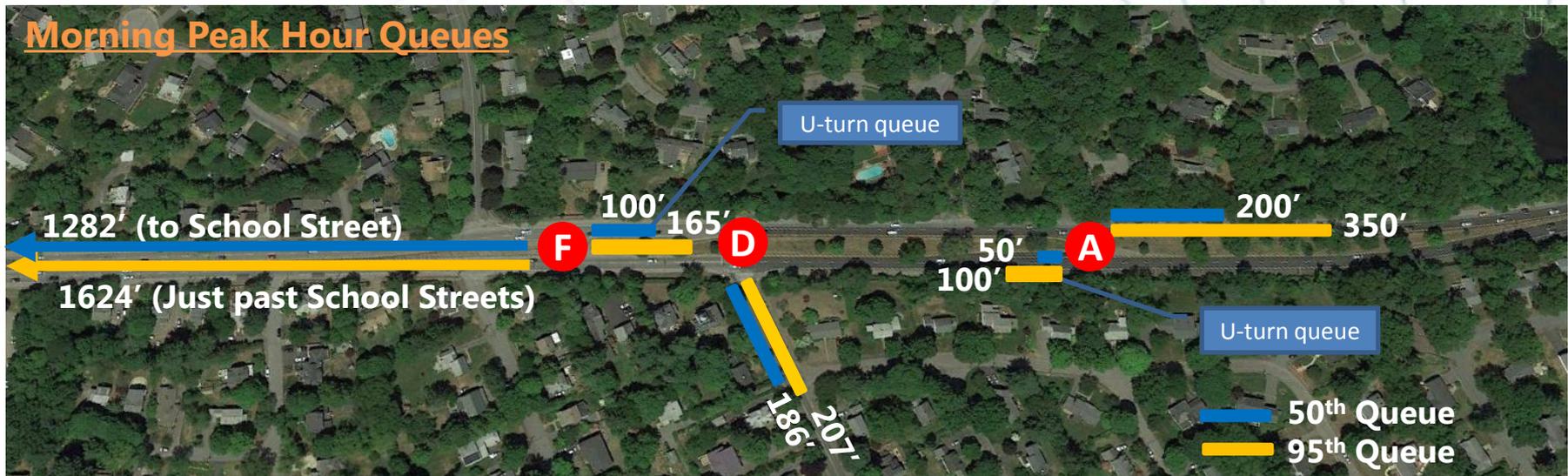


MassDOT Option B



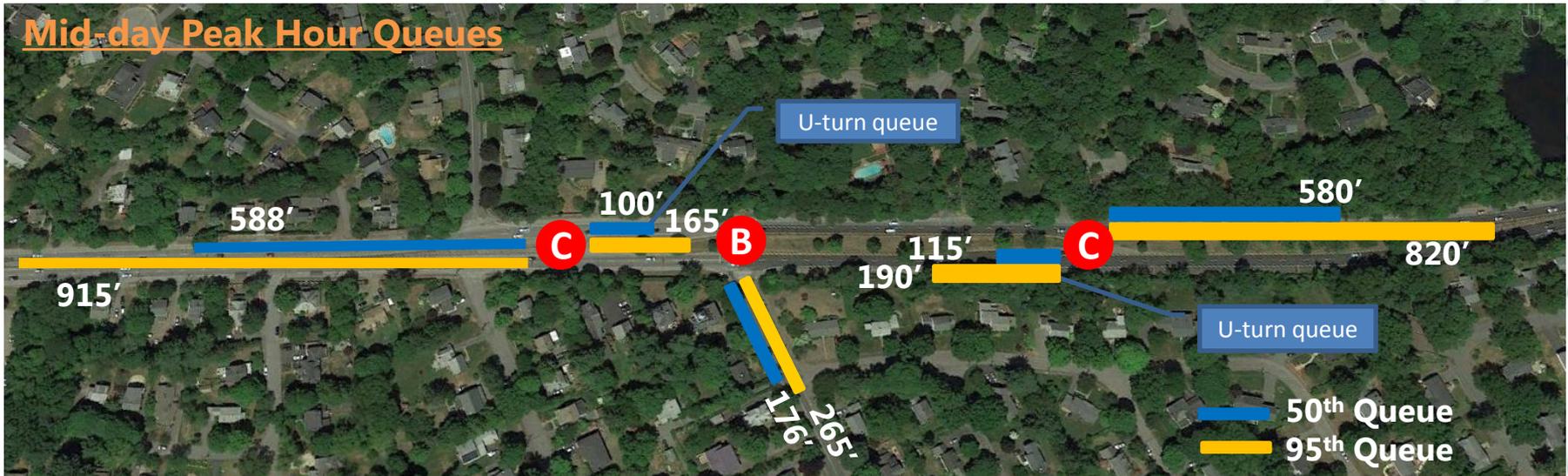
MassDOT Option B

- Option improves safety by providing traffic control at existing U-turn locations
- Option increases delay and queuing on Route 9 WB
- Option maintains existing two-stage pedestrian crossing of Route 9
- Option requires lengthening of U-turn storage and three signal locations

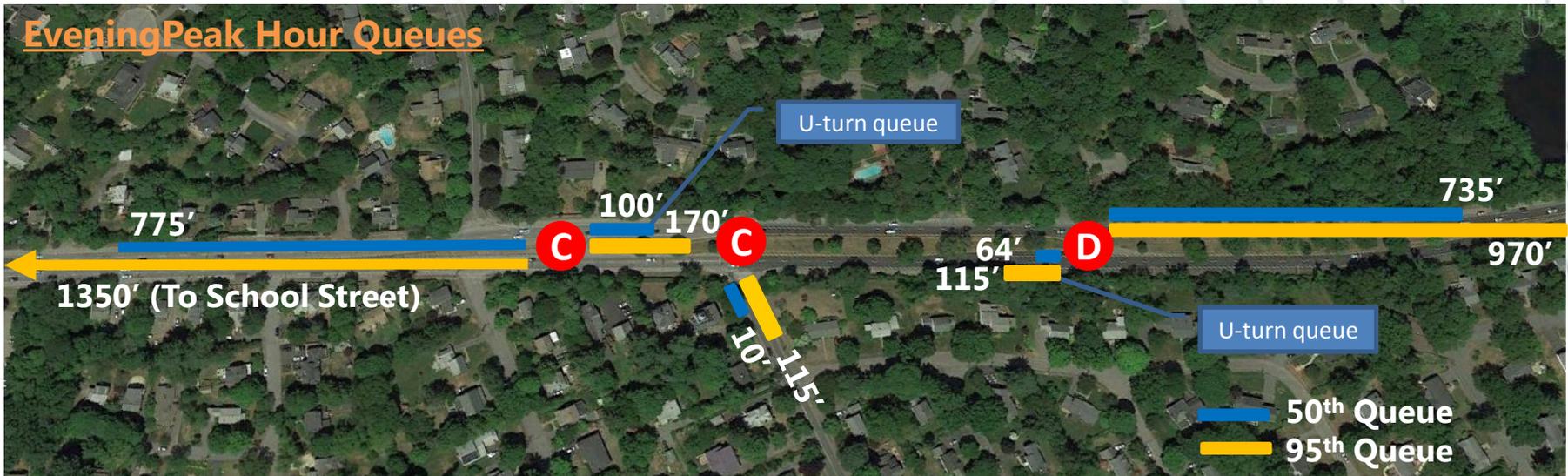


MassDOT Option B

Mid-day Peak Hour Queues



Evening Peak Hour Queues

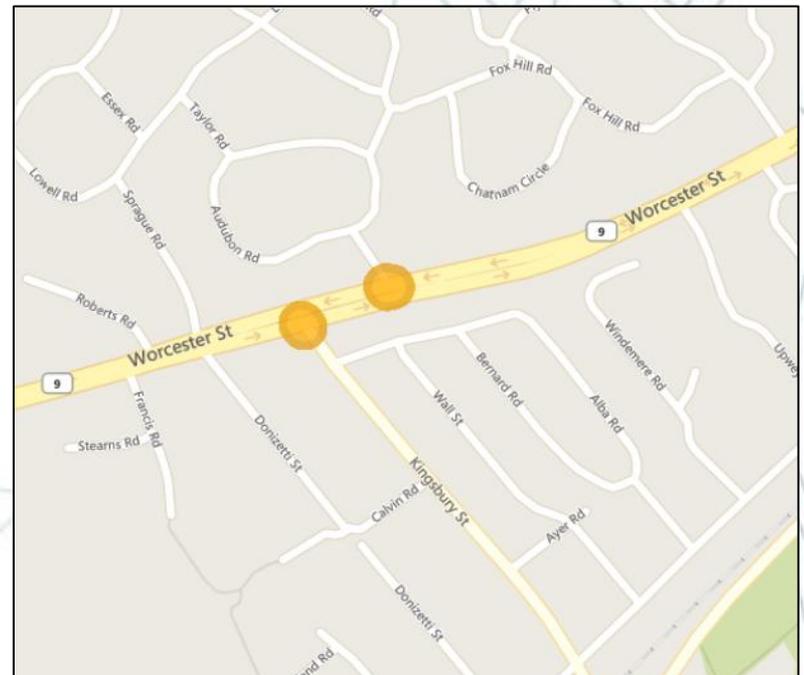


Operational Comparison

Option	AM Peak Hour		Mid-day Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS	Delay	LOS
Existing Conditions	41	D	24	C	25	C
Option A	137	F	107	F	111	F
Option B (Route 9 WB U-turn)	92	F	23	C	28	C
Option B (Route 9 @ Kingsbury)	55	D	11	B	23	C
Option B (Route 9 EB U-turn)	10	A	33	C	52	D

Safety- Crash Data

- Average Crash Rate for Town of Wellesley (District 6)
 - Signalized Intersections: 0.70
 - Unsignalized Intersections: 0.53
- No RSA conducted
- HSIP Cluster 2011-2013
 - Route 9 at Kingsbury Street
 - Route 9 at Audubon Road
- Wellesley Police Department
 - 2011-2015: Total of 102 crashes
 - 48% Rear end crashes
 - 52% Non-rear end crashes



Source: MassDOT

Safety - Comparison

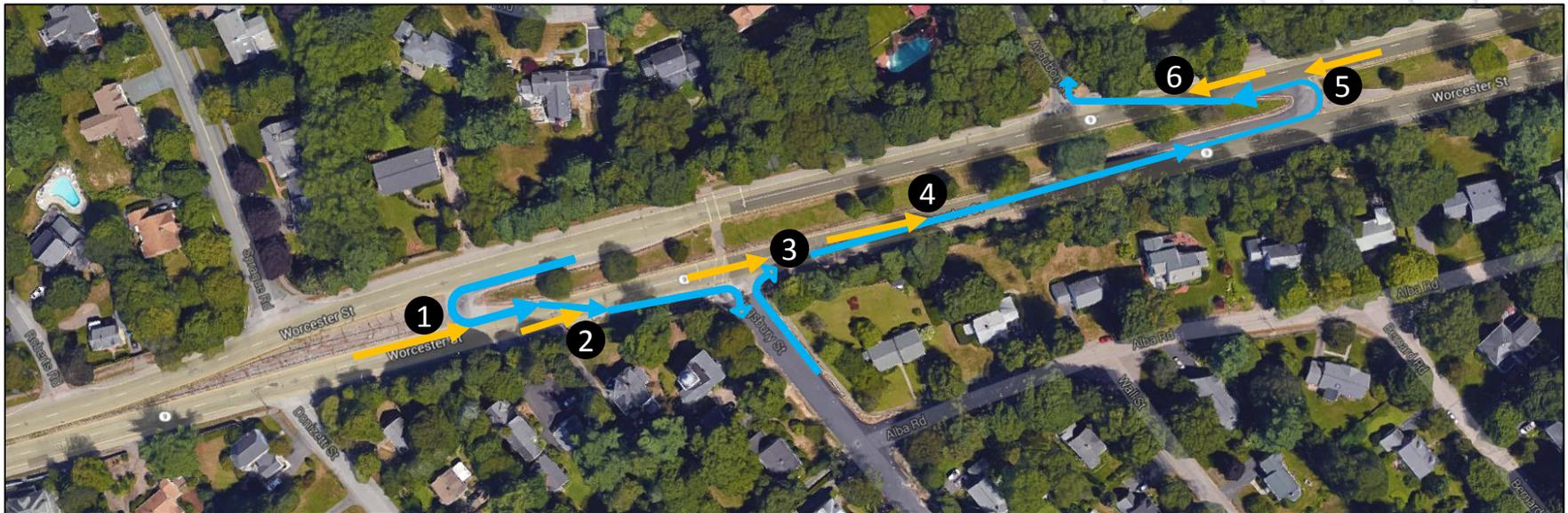
- Route 9 at Overbrook Drive
- Route 9 at Washington Street (Route 16)

	Route 9 at				
	Overbrook Drive		Kingsbury Street	Washington Street	
	2005-2009	2011-2015	2011-2015	2006-2010	2011-2015
No. of Crashes	52	42	102	165	96
Average	10.4	14.0	20.4	33.0	19.2
Crash Rate	0.54	0.64	0.98	1.64	0.95

Source: 2011 – 2015 Crash Data from Wellesley Police Department

Safety - Minimize Conflict Points

- Eliminate U-turns along Route 9
- Minimize conflict points
- Standard Unsignalized to Signalized: CMF = 0.68
 - Option could reduce injury crashes by up 30%, compared to a conventional 3-legged, stop controlled intersection



Questions and Comments

