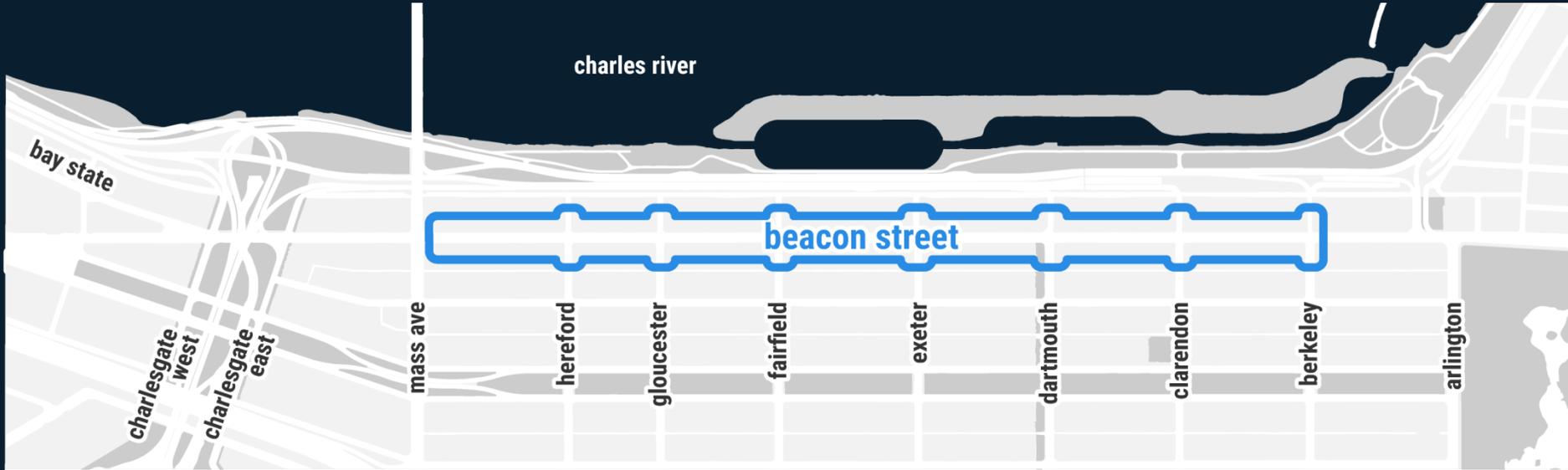


BEACON ST REDESIGN

June 12, 2017

Commonwealth Salon, Boston Public Library

PROJECT FOCUS



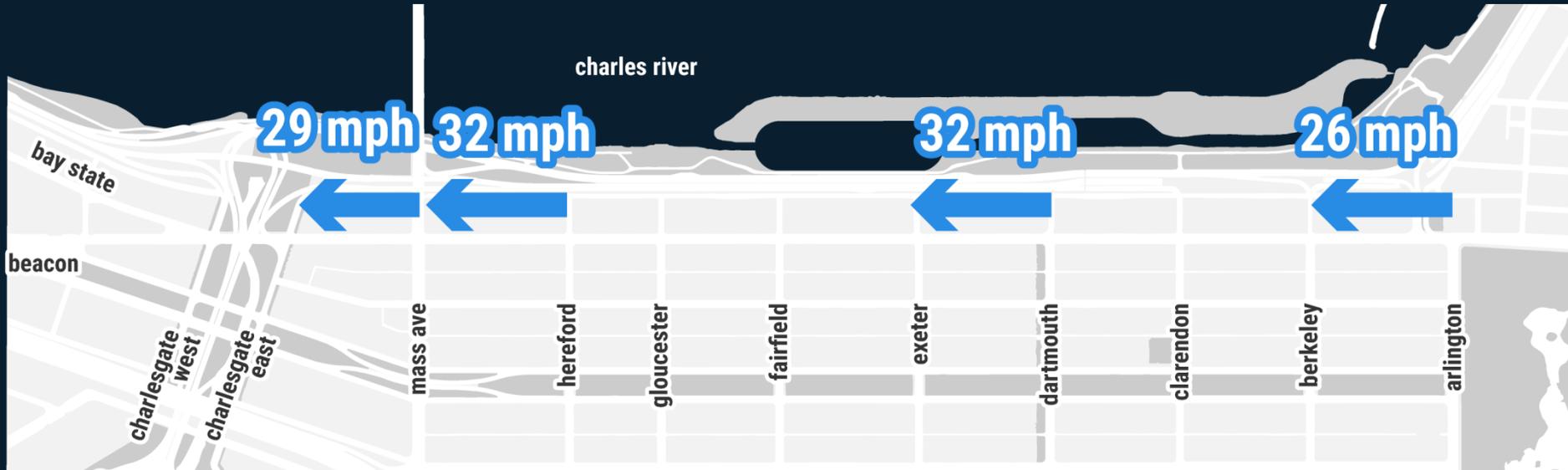
WORK TO DATE

- Public meeting June 2016
- Online survey
- Data collection, field visits
- Alternative development

PROJECT GOALS

- Manage vehicle speeds
- Reduce number and severity of crashes
- Increase walking comfort

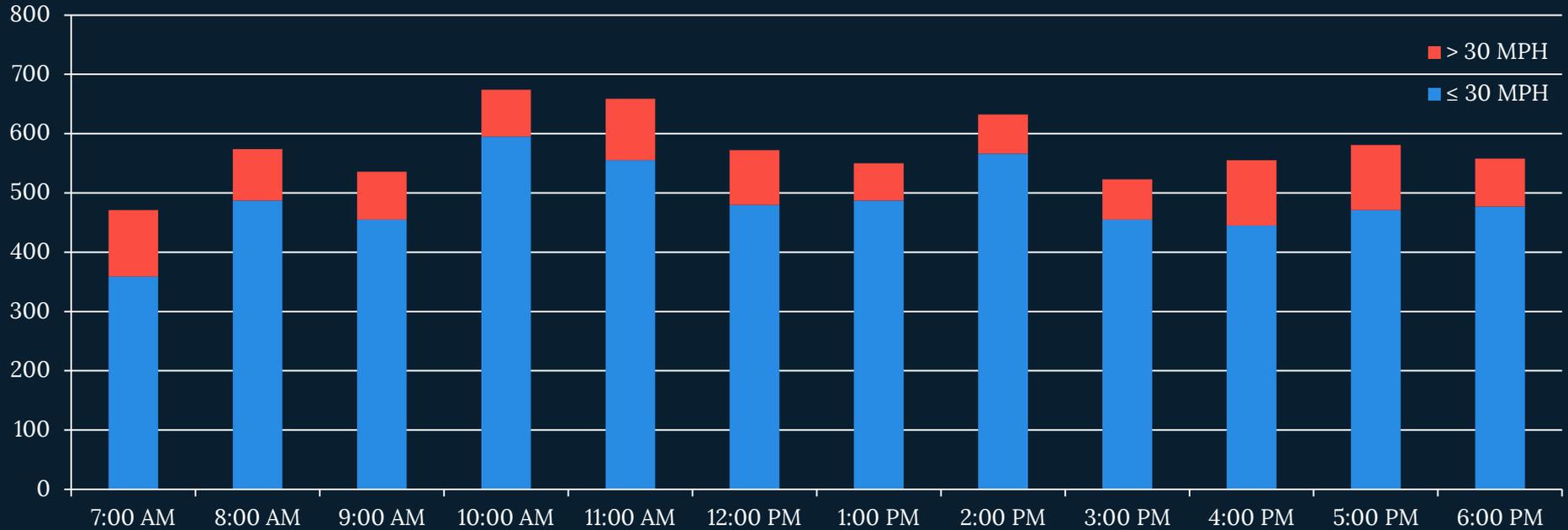
85% PERCENTILE AUTO SPEEDS



24-hour averages from Tuesday March 29 through Thursday March 31, 2016
High: 51°, Mostly Cloudy | High: 59°, Partly Cloudy | High: 71°, Mostly Cloudy

HEREFORD TO MASS AVE

From 7 am to 7 pm, 15.3% of drivers exceeded 30 MPH.

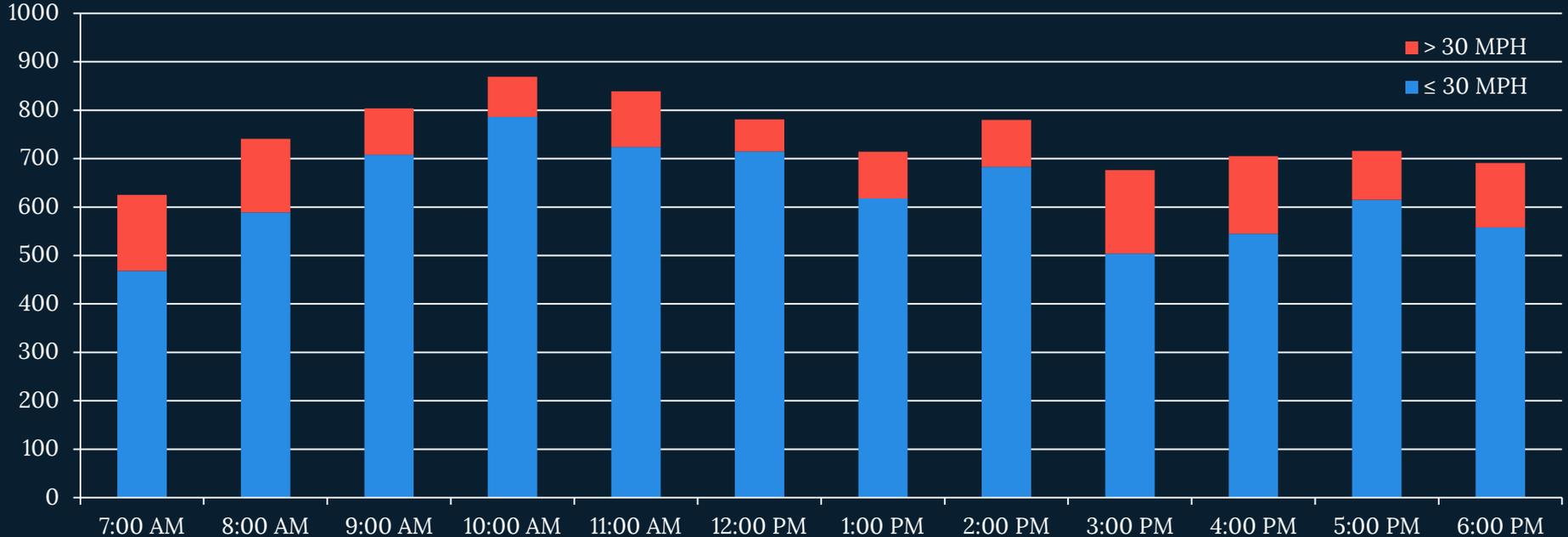


Wednesday, March 30, 2016
High: 59°, Partly Cloudy



DARTMOUTH TO EXETER

From 7 am to 7 pm, 16% of drivers exceeded 30 MPH.

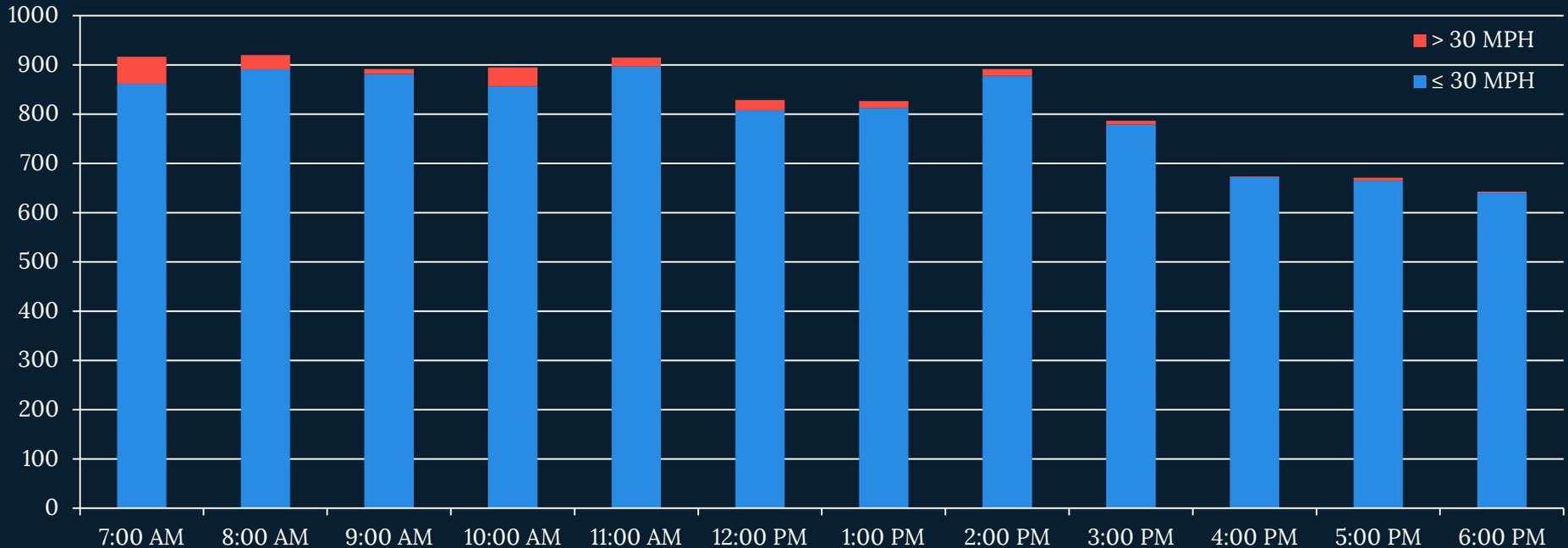


Wednesday, March 30, 2016
High: 59°, Partly Cloudy

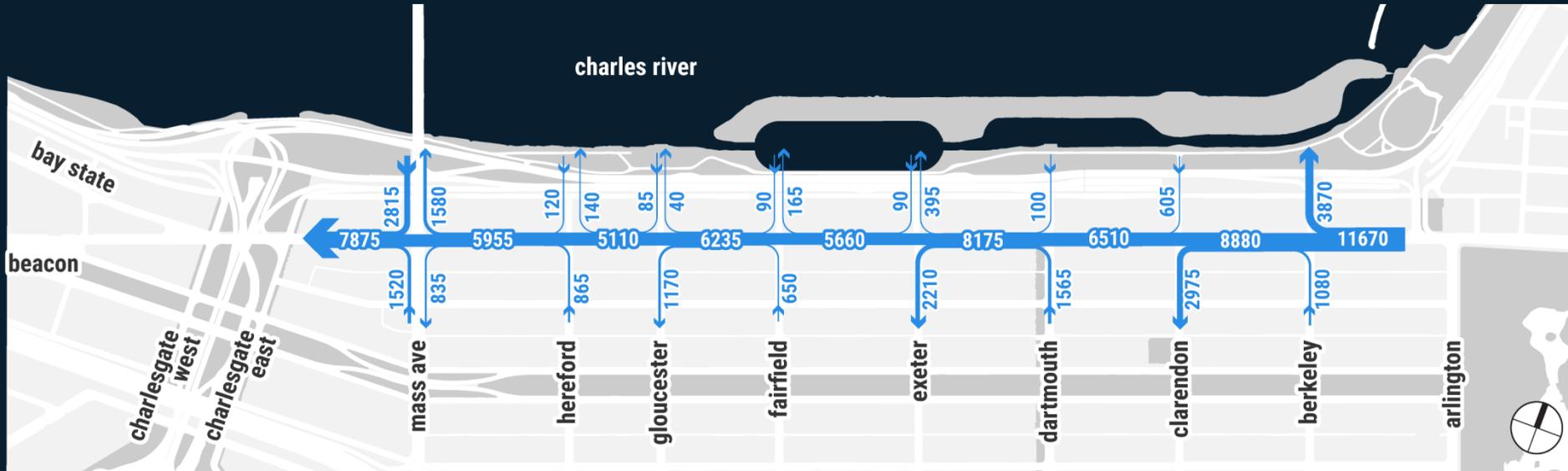


ARLINGTON TO BERKELEY

From 7 am to 7 pm, 2.2% of drivers exceeded 30 MPH.

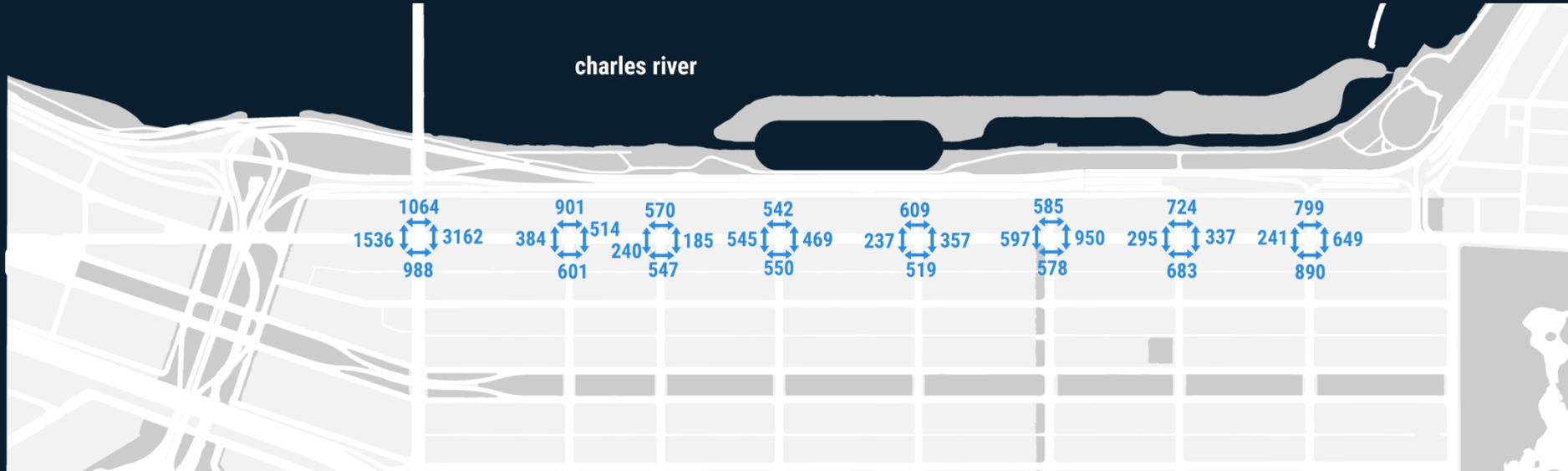


WEEKDAY AUTO VOLUMES (7 AM - 7 PM)



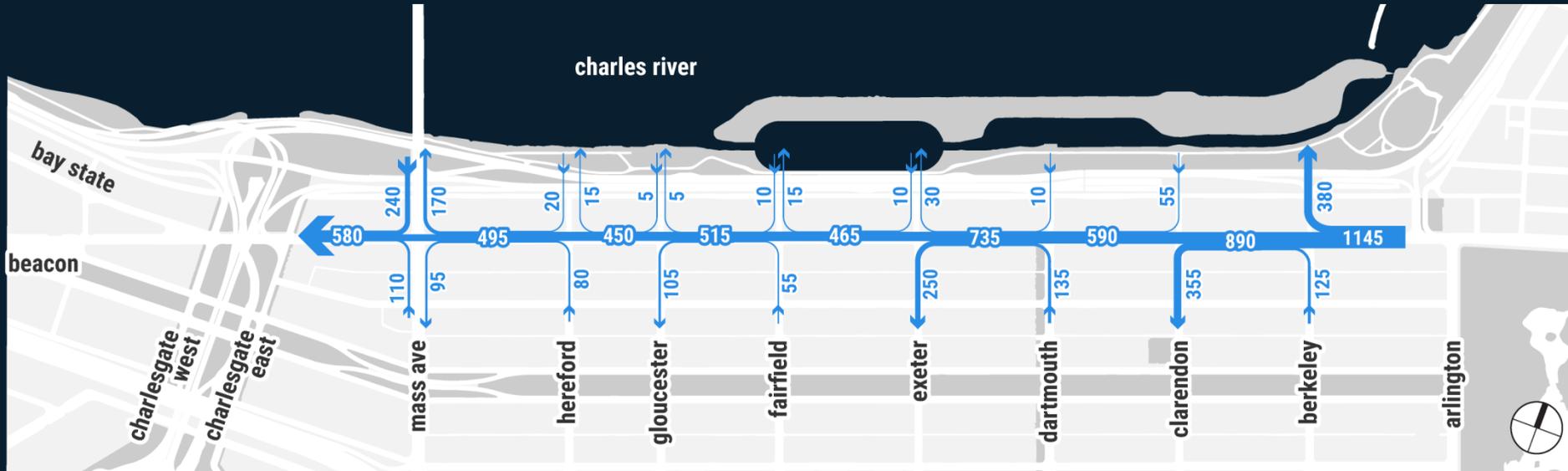
Thursday April 27, 2017
High: 55°, Overcast

WEEKDAY WALK VOLUMES (7 AM - 7 PM)



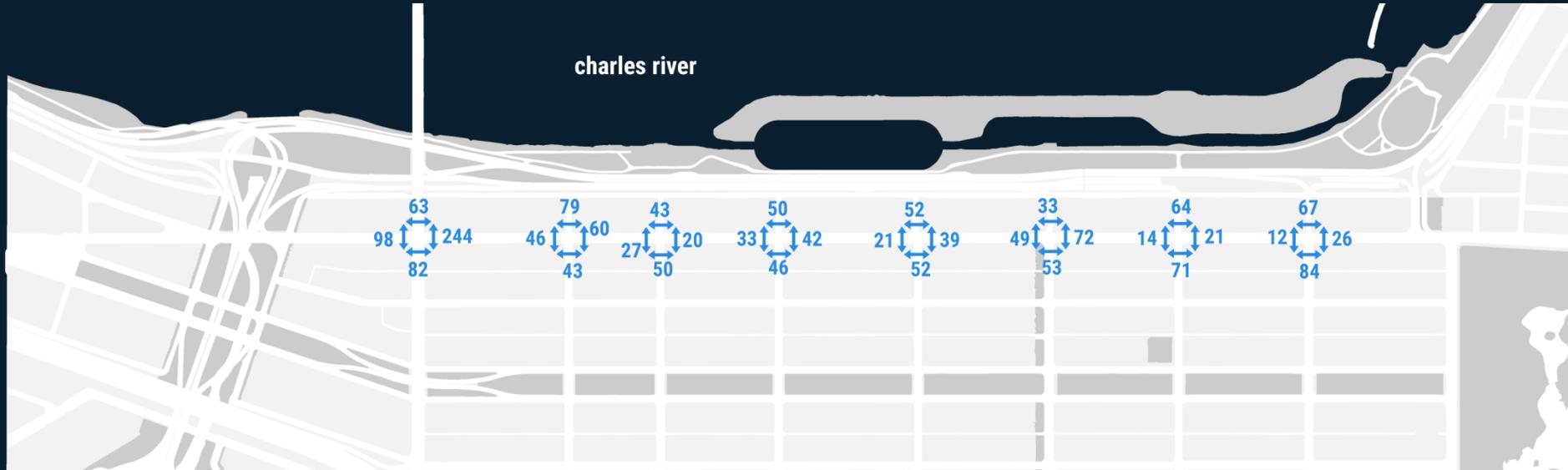
Thursday April 27, 2017
High: 55°, Overcast

AM PEAK AUTO VOLUMES (8 - 9 AM)

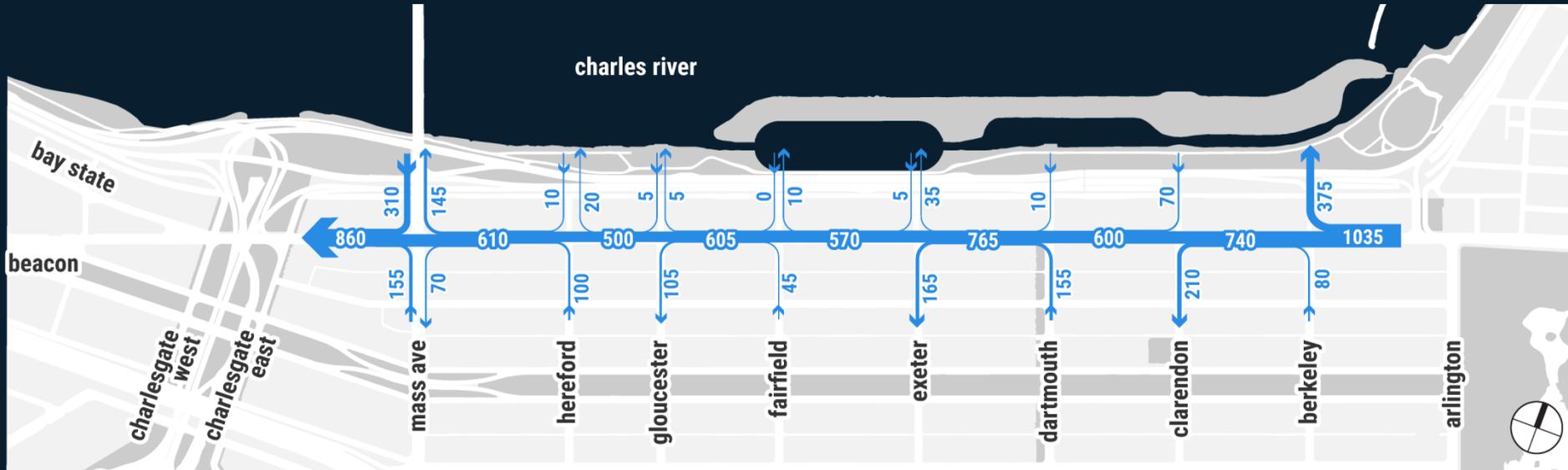


Thursday April 27, 2017
High: 55°, Overcast

AM PEAK WALK VOLUMES (8 - 9 AM)

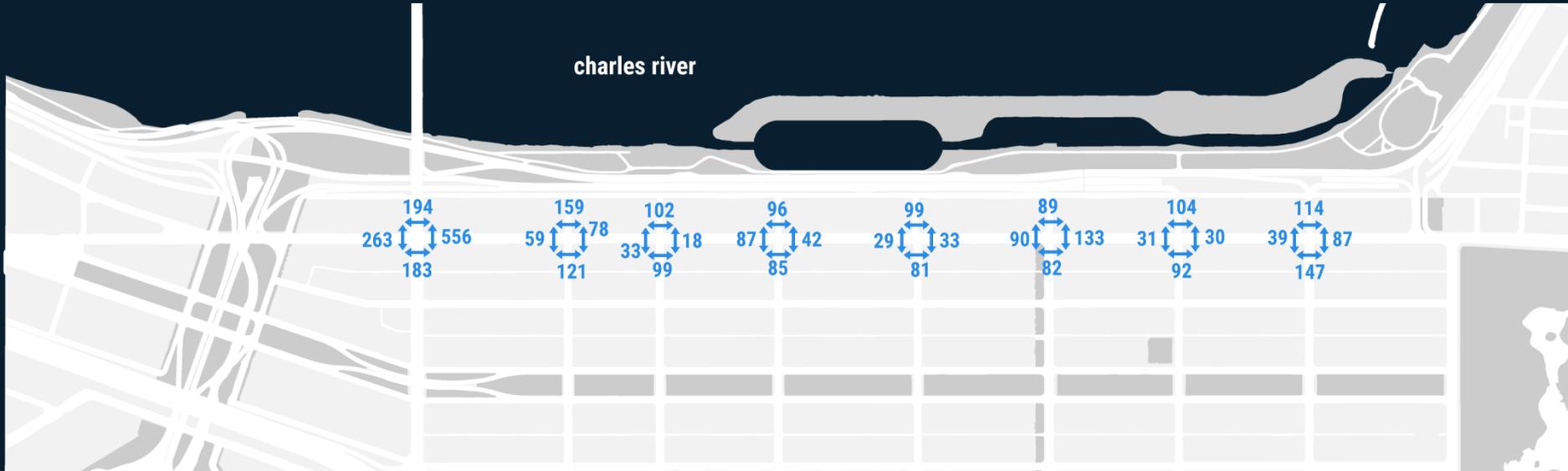


PM PEAK AUTO VOLUMES (5 - 6 PM)



Thursday April 27, 2017
High: 55°, Overcast

PM PEAK WALK VOLUMES (5 - 6 PM)



TOOLS TO MANAGE SPEEDS

*We can manage vehicular speeds through the **design** of a street. There are three general categories:*

- Street narrowing
- Horizontal deflection
- Vertical deflection

SPEED MANAGEMENT: NARROWING

Narrowing streets slows drivers by creating friction along the edges, and can be accomplished by real or apparent narrowing.

- ✓ Narrower lanes
- ✓ Fewer lanes
- ✓ Sense of “enclosure”
 - Trees, lighting, furniture, buildings
- ✓ Curb extensions
- ✓ Crossing islands



SPEED MANAGEMENT: HORIZONTAL

Horizontal deflection slows drivers by forcing a zig-zag motion that is uncomfortable at high speeds.

- ✘ Chicanes or other serpentine design
- ✓ Crossing islands
- ✘ Modern roundabouts, neighborhood traffic circles

SPEED MANAGEMENT: VERTICAL

Vertical deflection slows drivers by changing the profile of a street. Vertical deflection forces drivers to go up and over something.

- ✘ Speed humps*
- ✘ Speed tables/tabled intersections*

ADDITIONAL TOOLS

ENFORCEMENT

- Police enforcement is a valuable tool, most effective in combination with engineering changes.
- Automated enforcement requires state legislative action. It is potentially a longer-term tool.
- Parking enforcement curbs use of potentially dangerous locations, such as being too close to a crosswalk or double-parking.

EDUCATION

- Encourage safe and predictable user behavior with street teams.
- Changing social norms through peer-to-peer discussions and citywide campaigns



PROJECT PROPOSAL

- Investigate signal timing/phasing to provide head start to people walking

PROJECT PROPOSAL

- Investigate signal timing/phasing to provide head start to people walking
- Open sight lines at intersections

PROJECT PROPOSAL

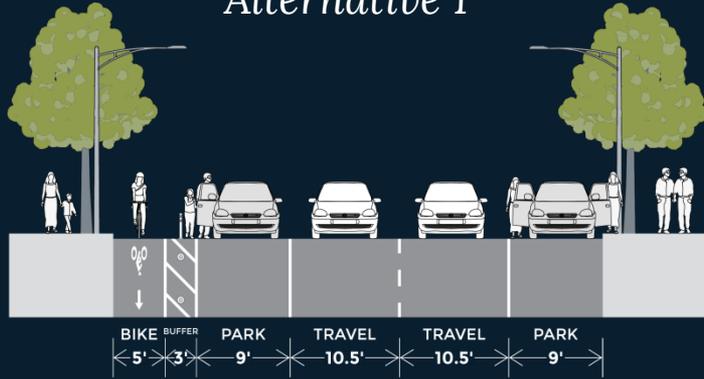
- Investigate signal timing/phasing to provide head start to people walking
- Open sight lines at intersections
- Reallocate one lane of general travel between Berkeley and Mass Ave

PROJECT PROPOSAL

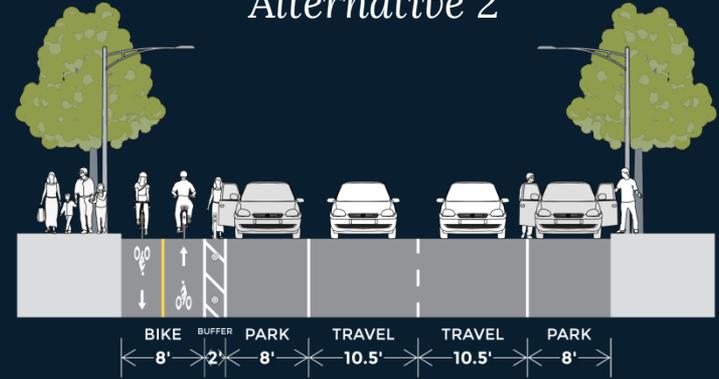
- Investigate signal timing/phasing to provide head start to people walking
- Open sight lines at intersections
- Reallocate one lane of general travel between Berkeley and Mass Ave
- Formalize right-turn only lane between Arlington and Berkeley

DESIGN ALTERNATIVES

Alternative 1



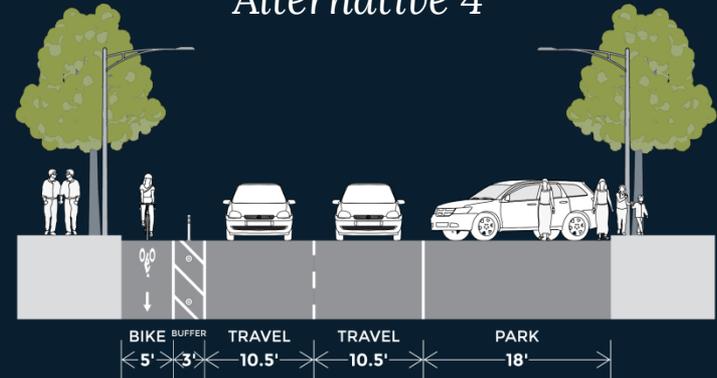
Alternative 2



Alternative 3



Alternative 4



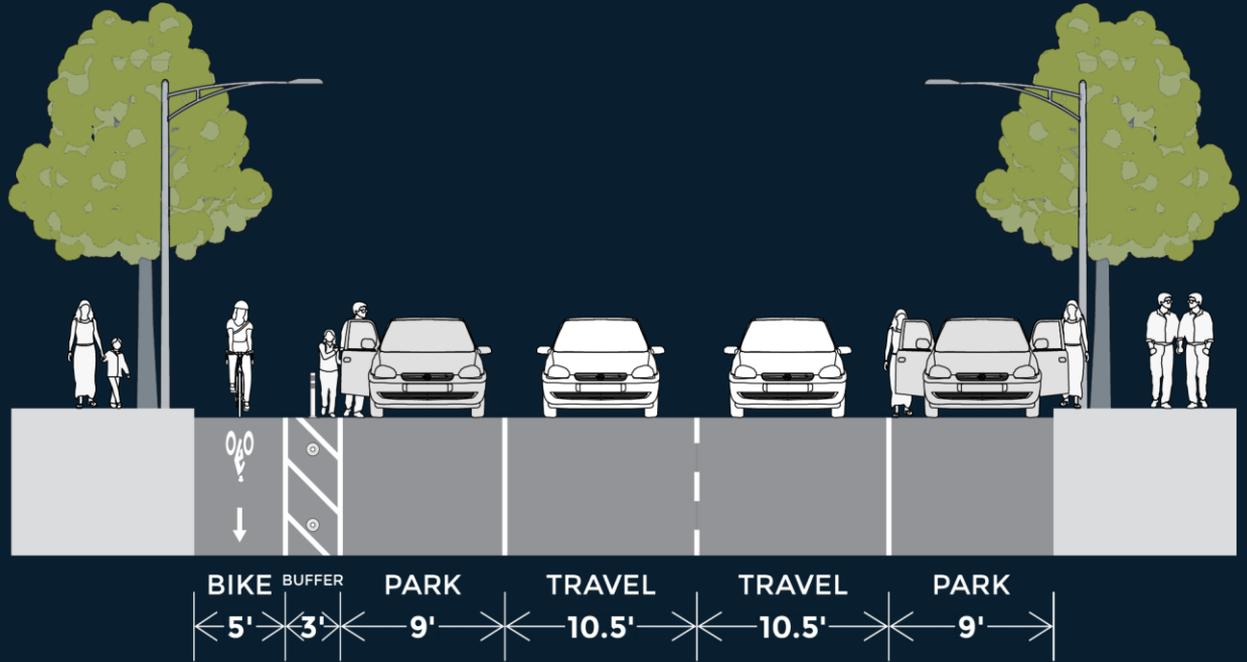
CONSIDERATIONS

- **Improved safety**
- **Speed management**
- **Pedestrian comfort**
- Bicyclist comfort
- Quick buildability
- Parking impacts
- Signal changes
- User delay

ALTERNATIVE 1

CONSIDERATIONS

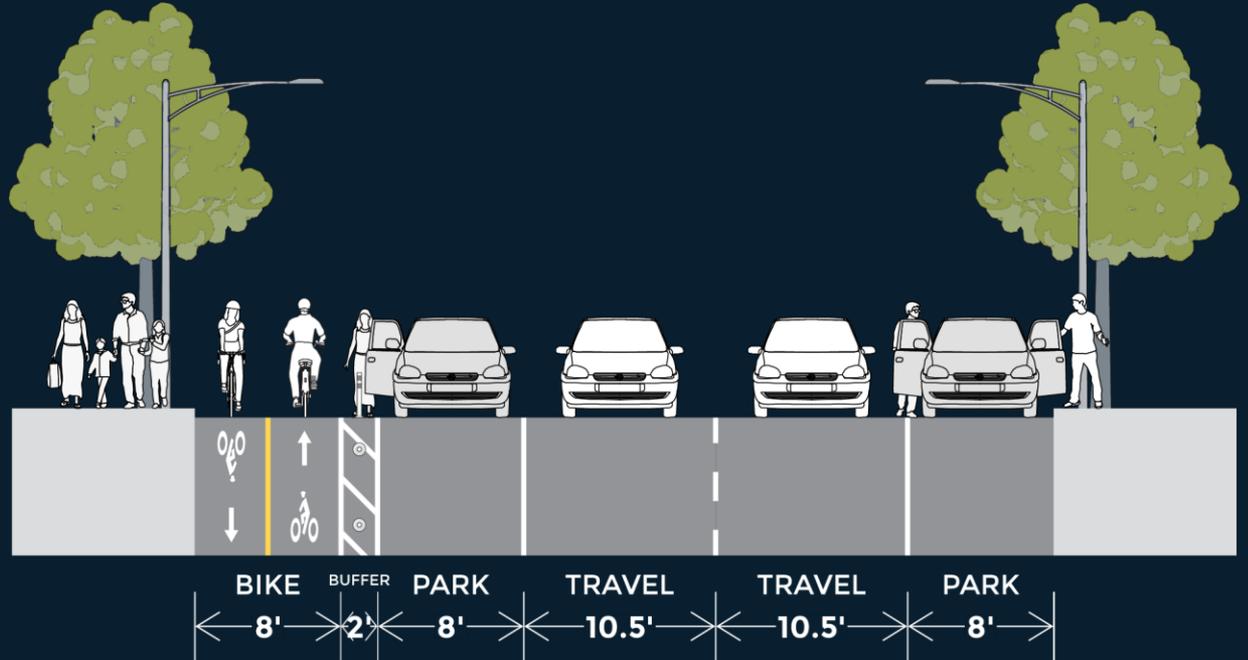
Improved safety	★ ★ ★
Speed management	★ ★ ★
Pedestrian comfort	★ ★ ★
Bicyclist comfort	★ ★ ☆
Quick buildability	★ ★ ★
Parking impacts	★ ★ ★
Signal changes	★ ★ ☆
User delay	★ ★ ★



ALTERNATIVE 2

CONSIDERATIONS

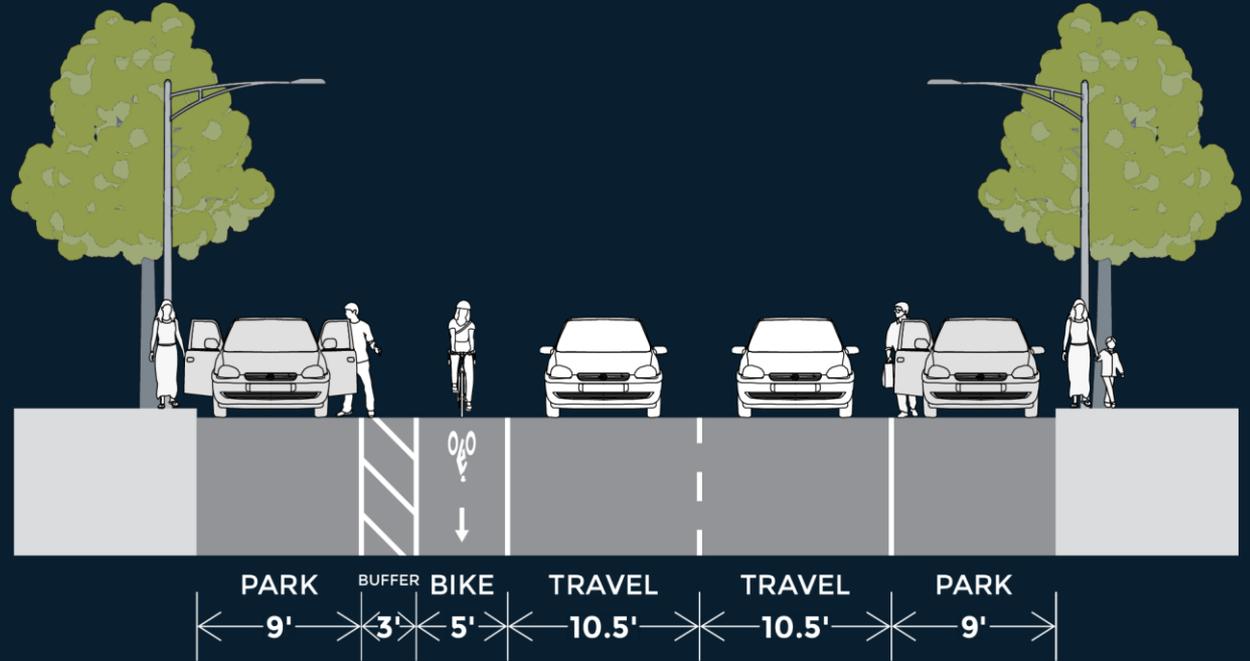
Improved safety	★ ★ ★
Speed management	★ ★ ★
Pedestrian comfort	★ ★ ☆
Bicyclist comfort	★ ★ ☆
Quick buildability	★ ☆ ☆
Parking impacts	★ ★ ★
Signal changes	★ ☆ ☆
User delay	★ ☆ ☆



ALTERNATIVE 3

CONSIDERATIONS

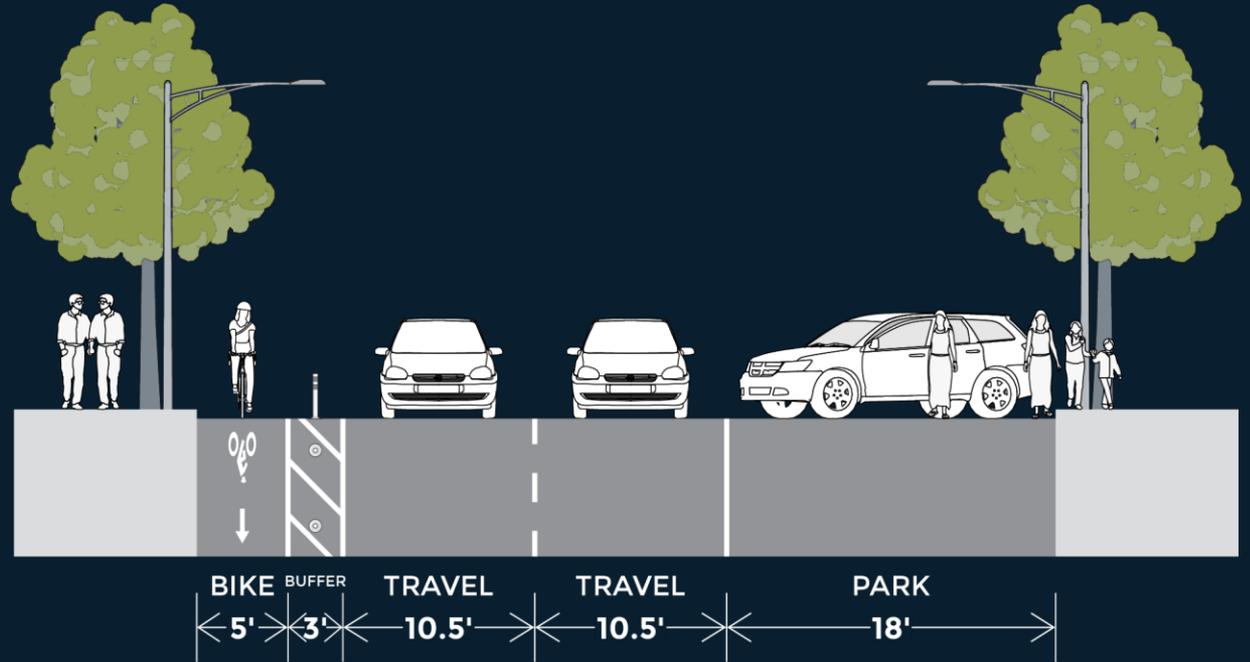
Improved safety	★ ★ ☆
Speed management	★ ☆ ☆
Pedestrian comfort	★ ★ ☆
Bicyclist comfort	★ ☆ ☆
Quick buildability	★ ★ ★
Parking impacts	★ ★ ★
Signal changes	★ ★ ☆
User delay	★ ★ ★



ALTERNATIVE 4

CONSIDERATIONS

Improved safety	★ ★ ★
Speed management	★ ★ ★
Pedestrian comfort	★ ★ ☆
Bicyclist comfort	★ ★ ☆
Quick buildability	★ ☆ ☆
Parking impacts	★ ☆ ☆
Signal changes	★ ★ ☆
User delay	★ ★ ★



ALTERNATIVES COMPARISON

CONSIDERATIONS

Alternative 1

Alternative 2

Alternative 3

Alternative 4

Improved safety



Speed management



Pedestrian comfort



Bicyclist comfort



Quick buildability



Parking impacts



Signal changes

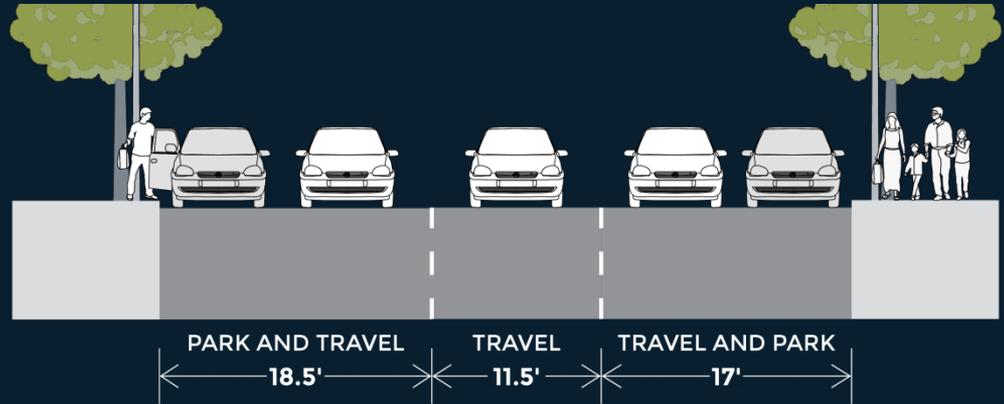


User delay

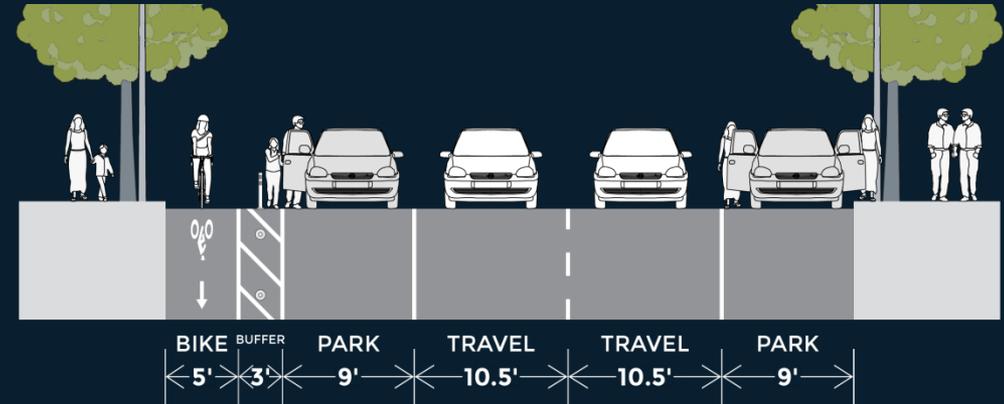


PREFERRED ALTERNATIVE

*Existing
typical cross-section*



*Alternative 1
typical cross-section*



TODAY

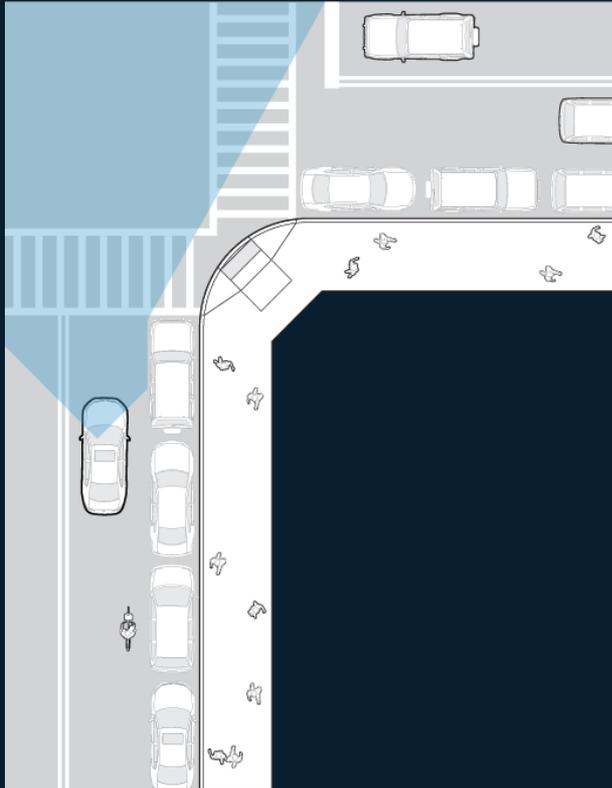


PREFERRED ALTERNATIVE

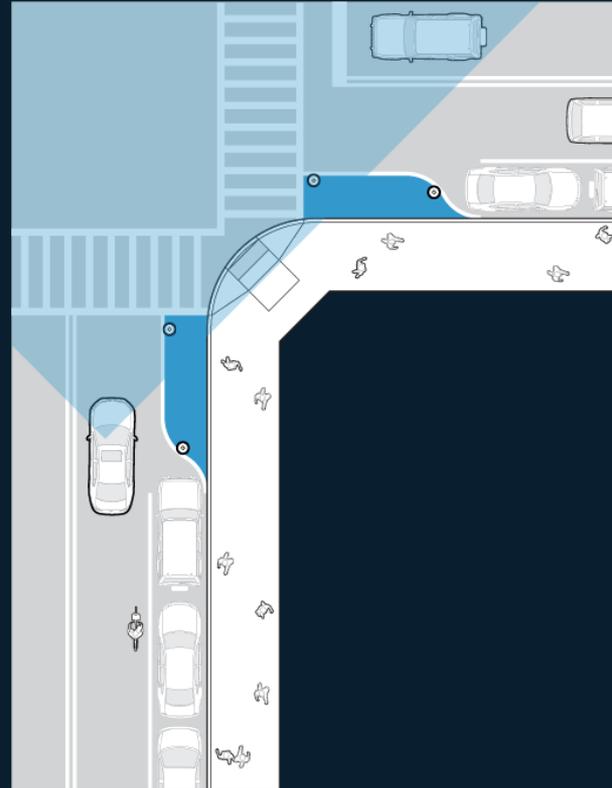


DAYLIGHTING: OPEN SIGHT LINES

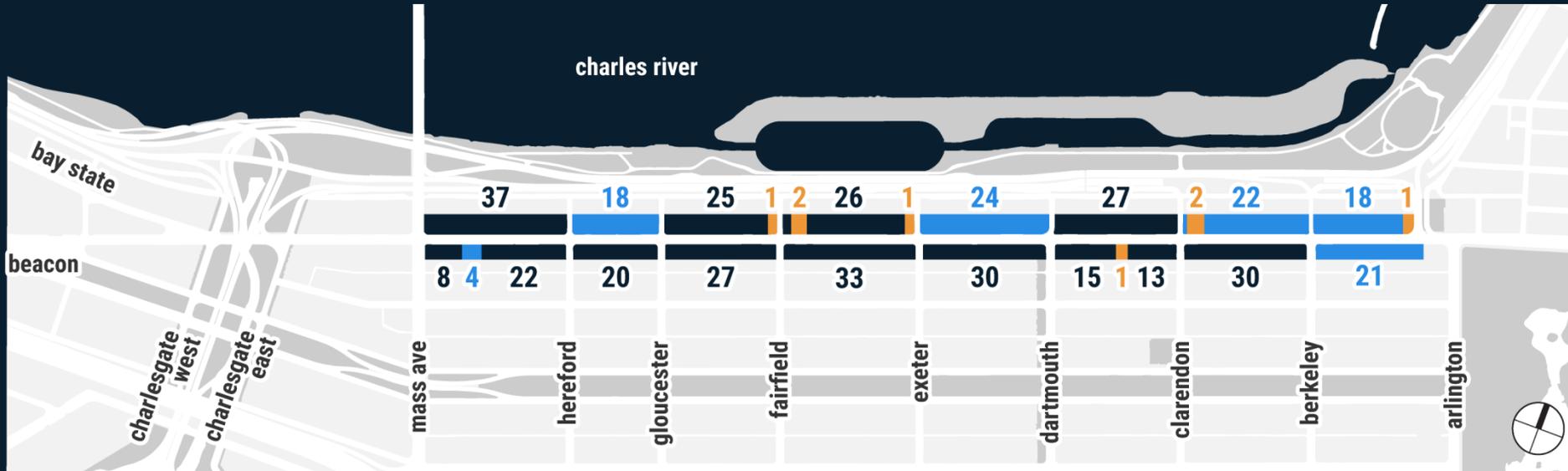
EXISTING



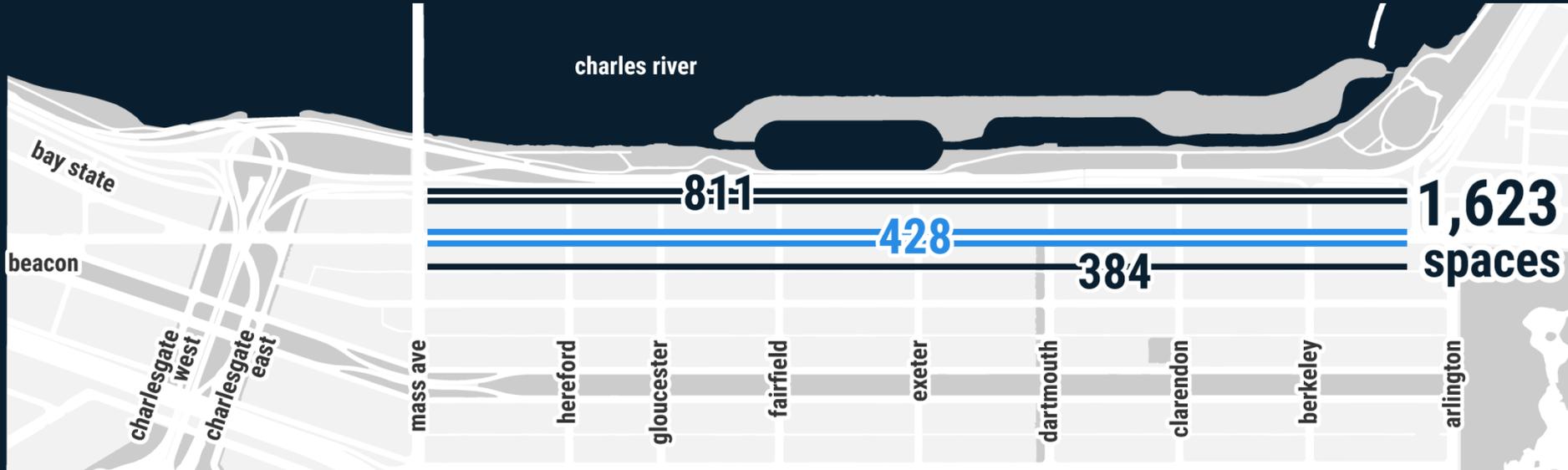
DAYLIGHTED



CURRENT CONDITION: ON-STREET PARKING



CURRENT CONDITION: ADJACENT PARKING



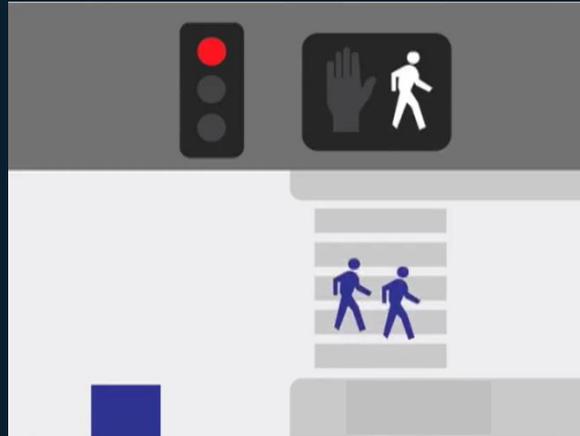
Daylighting impacts on parking

TYPE	PROPOSED	EXISTING	CHANGE
Residential (Beacon)	309	313	-4
HP-V Parking (Beacon)	2	2	0
Metered/Residential (Beacon)	23	24	-1
Metered/Unrestricted (Beacon)	81	83	-2
Loading/Valet (Beacon)	4	4	0
Pick-up/Drop-off	1	1	0
Visitor	1	1	0
Metered/Residential (Hereford)	23	24	-1
Metered/Residential (Fairfield)	17	18	-1
Metered/Residential (Dartmouth)	18	19	-1
TOTAL	479	489	-10

PEDESTRIAN HEAD START AT SIGNALS

WALK light turns on
before the green light
turns on

No turns will be allowed
on red lights



PREFERRED ALT, OPTION A



PARKING ANALYSIS

MASSACHUSETTS AVE TO HEREFORD ST

	TYPE	EXISTING	OPTION A
□ □ □	Residential	67	67
▲ ▲ ▲	Metered / Unrestricted	4	4
□ □ □	No Parking		

PREFERRED ALT, OPTION B

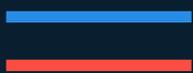
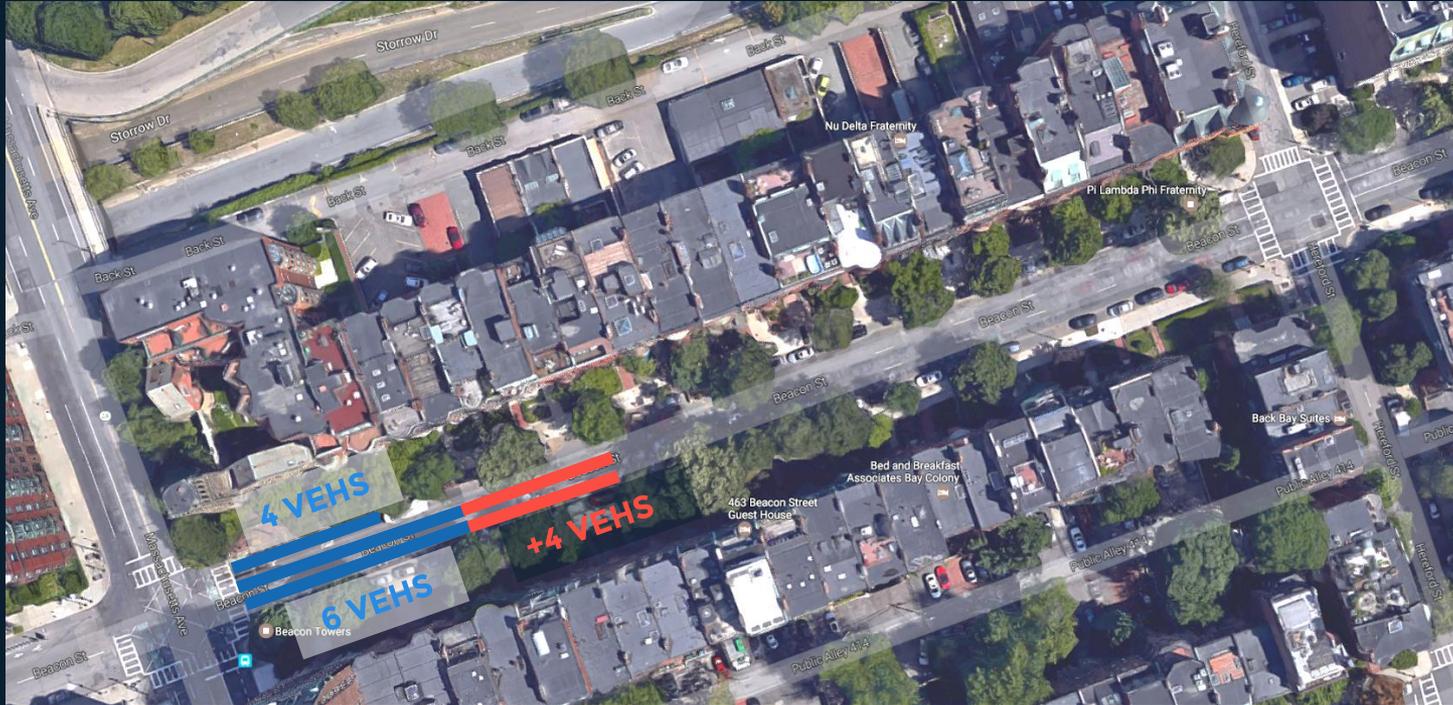


PARKING ANALYSIS

MASSACHUSETTS AVE TO HEREFORD ST

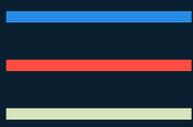
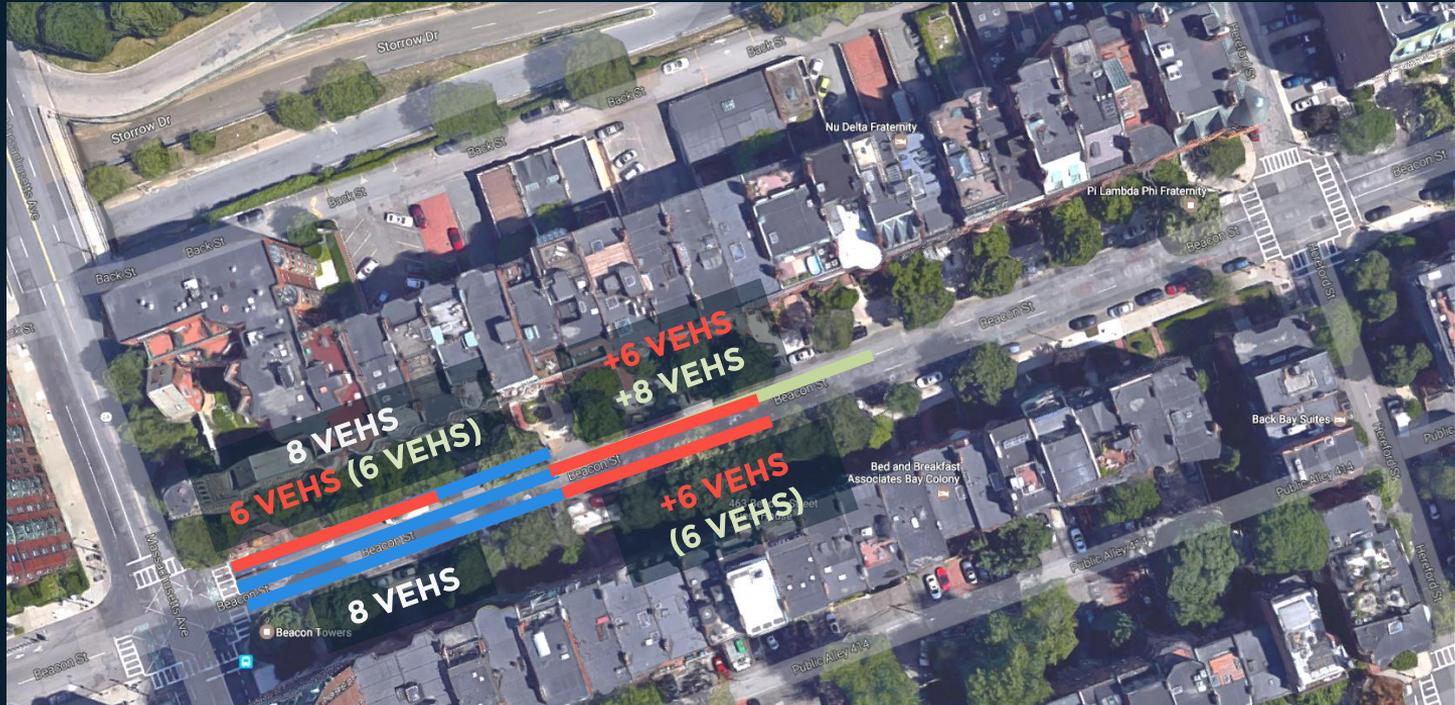
	TYPE	EXISTING	OPTION B
□ □ □	Residential	67	55
▲ ▲ ▲	Metered / Unrestricted	4	4
□ □ □	No Parking		

PM PEAK: QUEUE COMPARISON



Existing design & Option B - 50th percentile queue length
Option A - 50th percentile queue length

PM PEAK: QUEUE COMPARISON



Existing design - 95th percentile queue length

Option A - 95th percentile queue length

Option B - 95th percentile queue length



PREFERRED ALT, HEREFORD



PARKING ANALYSIS

HEREFORD ST TO GLOUCESTER ST

TYPE	EXISTING	PROPOSED
Residential	20	20
Metered / Unrestricted	18	17
No Parking		

1 additional space removed on Hereford St for daylighting.

PREFERRED ALT, GLOUCESTER



PARKING ANALYSIS GLOUCESTER ST TO FAIRFIELD ST

TYPE	EXISTING	PROPOSED
Residential	52	51
Accessible	1	1
No Parking		

PREFERRED ALT, FAIRFIELD



PARKING ANALYSIS FAIRFIELD ST TO EXETER ST

TYPE	EXISTING	PROPOSED
Residential	59	58
Visitor	1	1
Loading / Valet	2	2
No Parking		

1 additional space removed on
Fairfield St for daylighting.

PREFERRED ALT, EXETER



PARKING ANALYSIS EXETER ST TO DARTMOUTH ST

	TYPE	EXISTING	PROPOSED
□ □ □	Residential	30	29
■ ■ ■	Metered / Residential	24	23
□ □ □	No Parking		

PREFERRED ALT, DARTMOUTH



PARKING ANALYSIS

DARTMOUTH ST TO CLARENDON ST

TYPE	EXISTING	PROPOSED
 Residential	55	55
 Accessible	1	1
 No Parking		

1 additional spaced removed on
Dartmouth St for daylighting.

PREFERRED ALT, CLARENDON



PARKING ANALYSIS

CLARENDON ST TO BERKELEY ST

	TYPE	EXISTING	PROPOSED
  	Residential	30	29
  	Metered / Unrestricted	22	22
  	Loading / Valet	2	2
  	No Parking		

PREFERRED ALT, BERKELEY

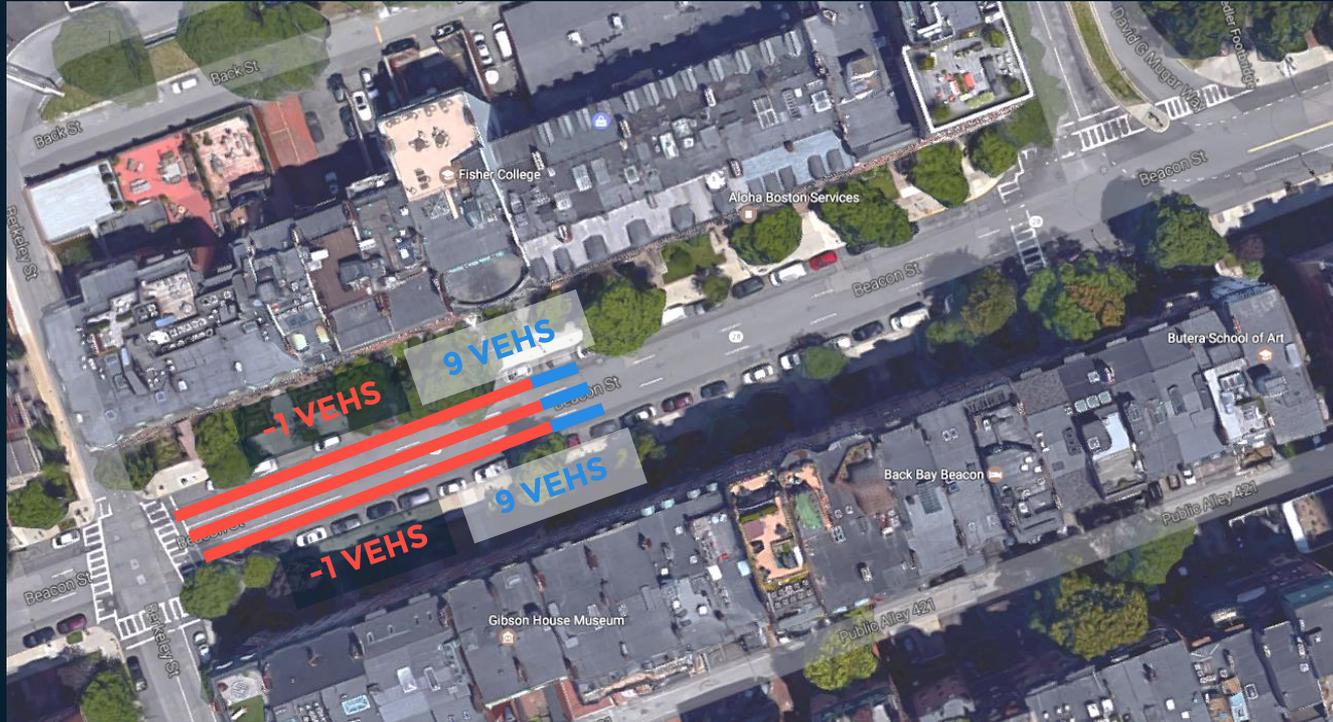


PARKING ANALYSIS

BERKELEY ST TO MUGAR WAY

	TYPE	EXISTING	PROPOSED
▲▲▲	Metered / Unrestricted	39	38
■ ■ ■	Pick-up / Drop-off	1	1
□ □ □	No Parking		

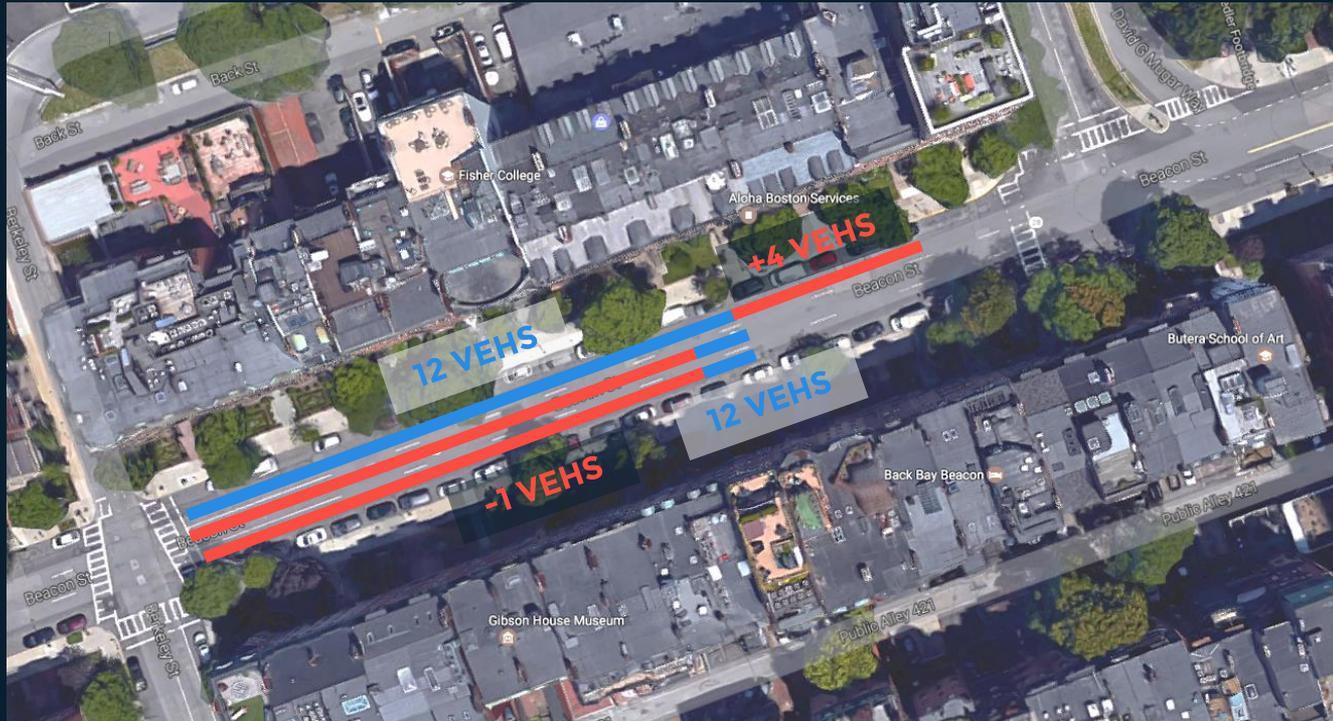
AM PEAK: QUEUE COMPARISON



Existing design - 50th Percentile queue length

Preferred alternative - 50th Percentile queue length

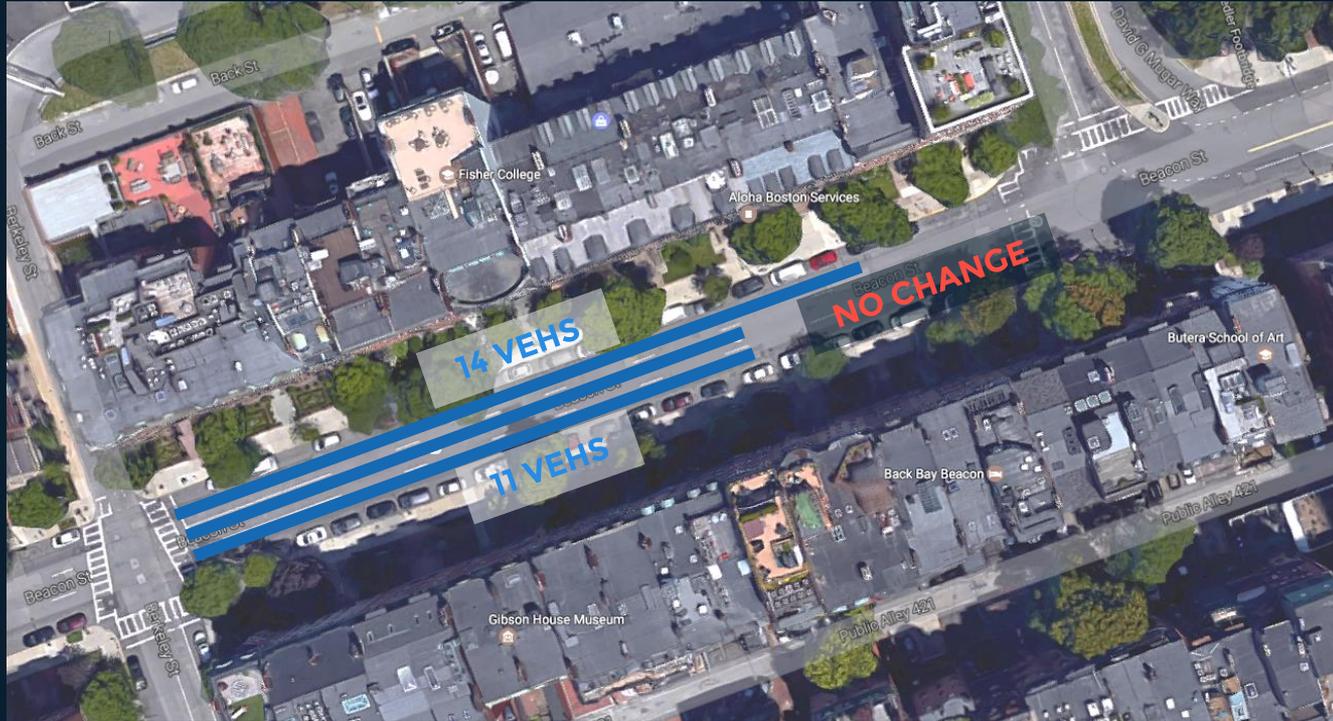
AM PEAK: QUEUE COMPARISON



Existing design - 95th Percentile queue length

Preferred alternative - 95th Percentile queue length

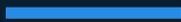
PM PEAK: QUEUE COMPARISON



Existing design - 50th Percentile queue length

Preferred alternative - 50th Percentile queue length

PM PEAK: QUEUE COMPARISON



Existing design - 95th Percentile queue length



Preferred alternative - 95th Percentile queue length

ARLINGTON-BERKELEY BLOCK

How do we best:

- **Connect bike facilities** from Arlington and the Fielder Bridge? Provide inbound bike access without encouraging sidewalk riding/contraflow on Beacon?
- Maintain **capacity for right-turn** access to Storrow from Beacon?
- Maintain **capacity for thru** access to Storrow from Berkeley?
- Consider **residential parking** concerns?

BEACON ST (BERKELEY - MASS) TIME LINE

2017

- *Utility work, bridge construction*
- *Implement changes in fall*

2018

- *Utility work*
- *1-year evaluation of crashes, speeds*

2019

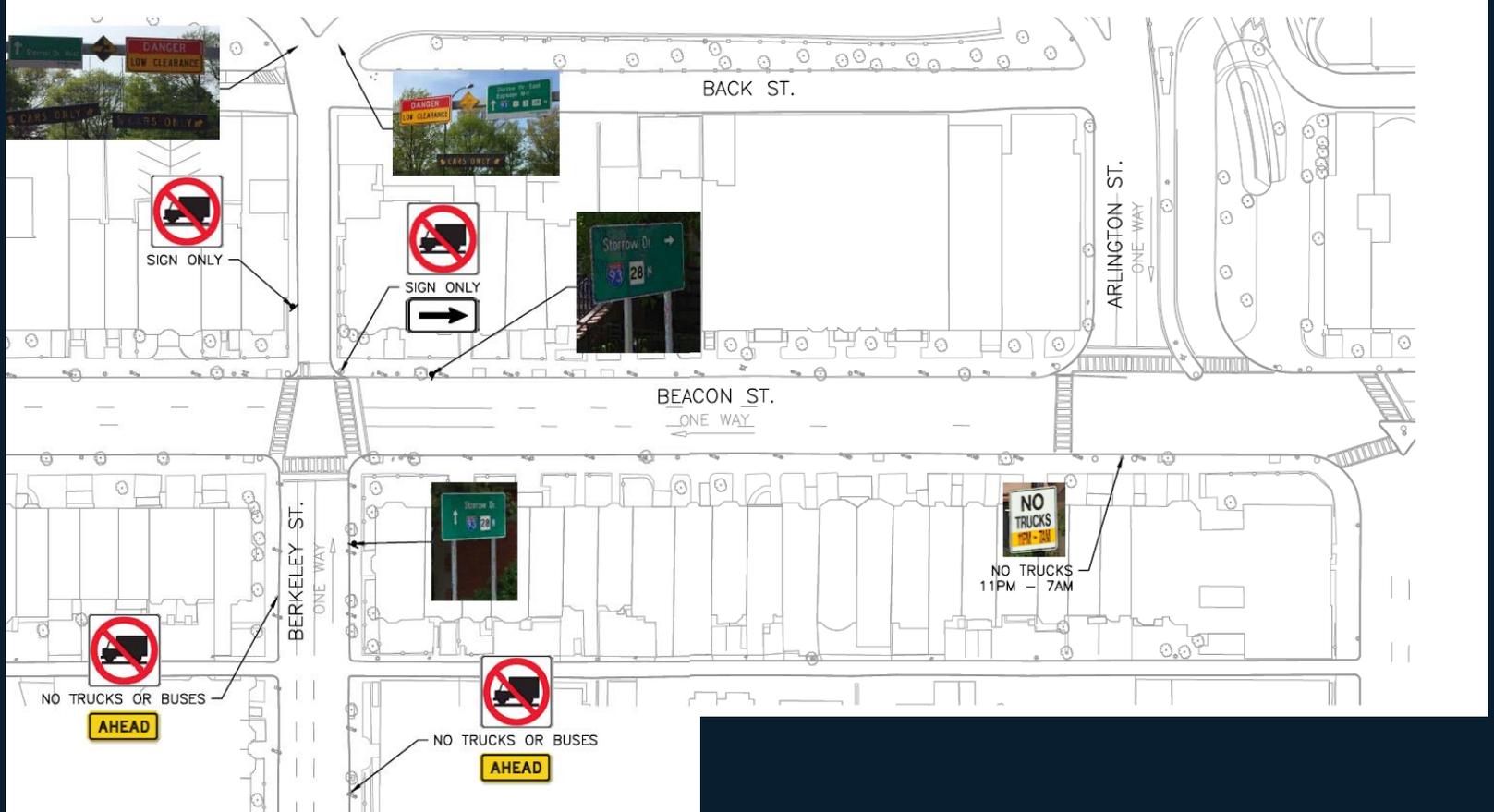
- *Repaving*
- *Make adjustments to design*

2020

- *3-year evaluation of crashes, speeds*



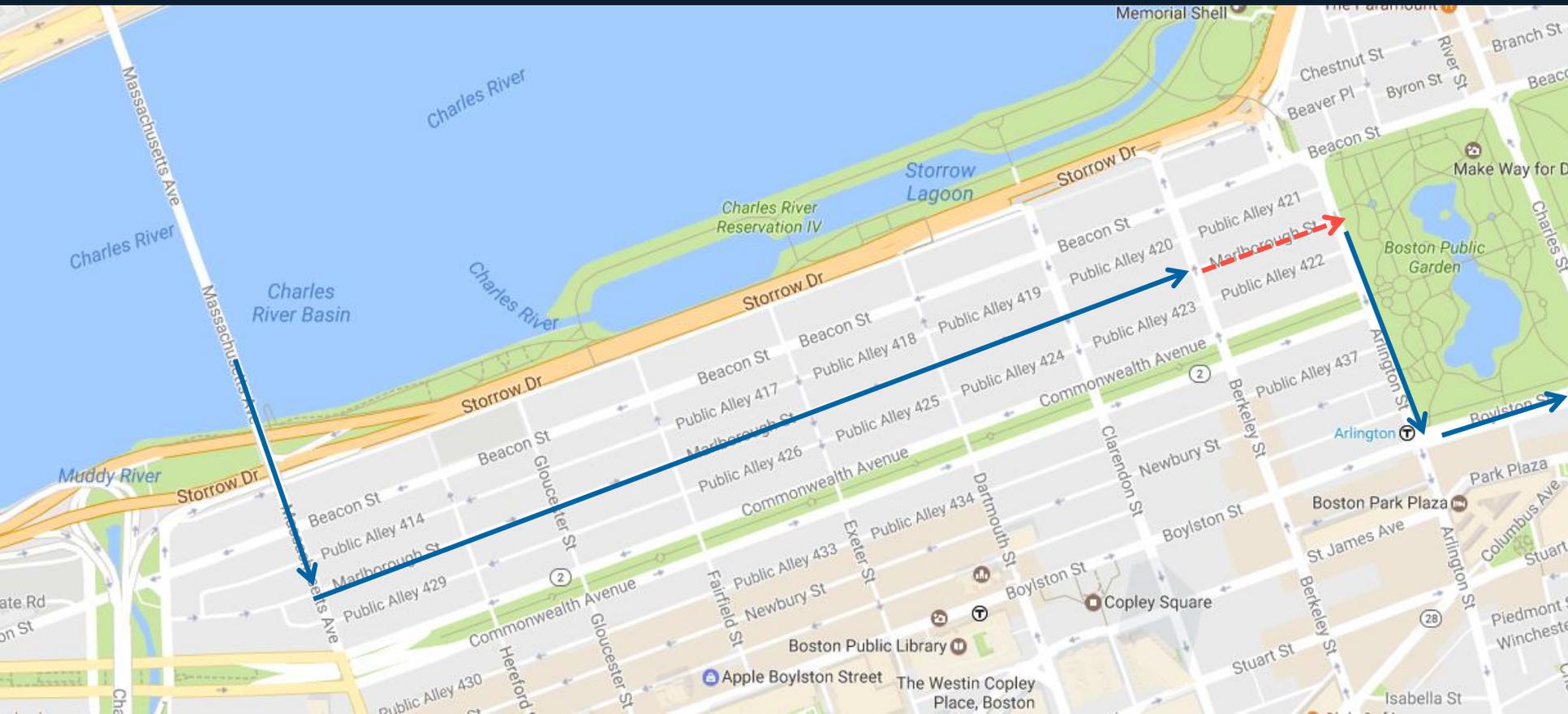
DISCOURAGING TRUCKS FROM BERKELEY



DISCOURAGING TRUCKS FROM BERKELEY

- Partnership with MassDOT to improve signage
 - Include height limit earlier
- NO TRUCKS pavement markings?
- Other ideas?

CONNECTING BICYCLE ROUTES



CONTRAFLOW BICYCLING



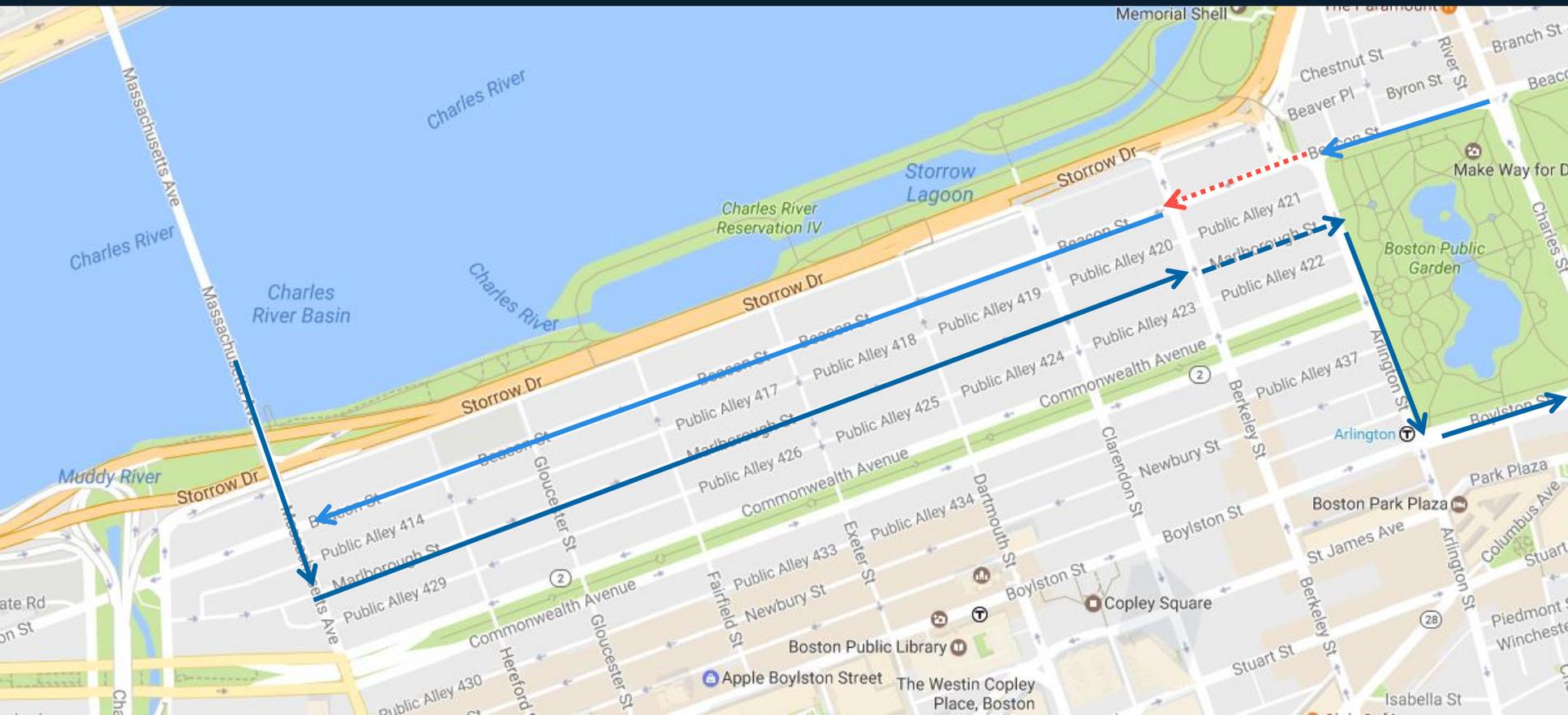
D St, Boston



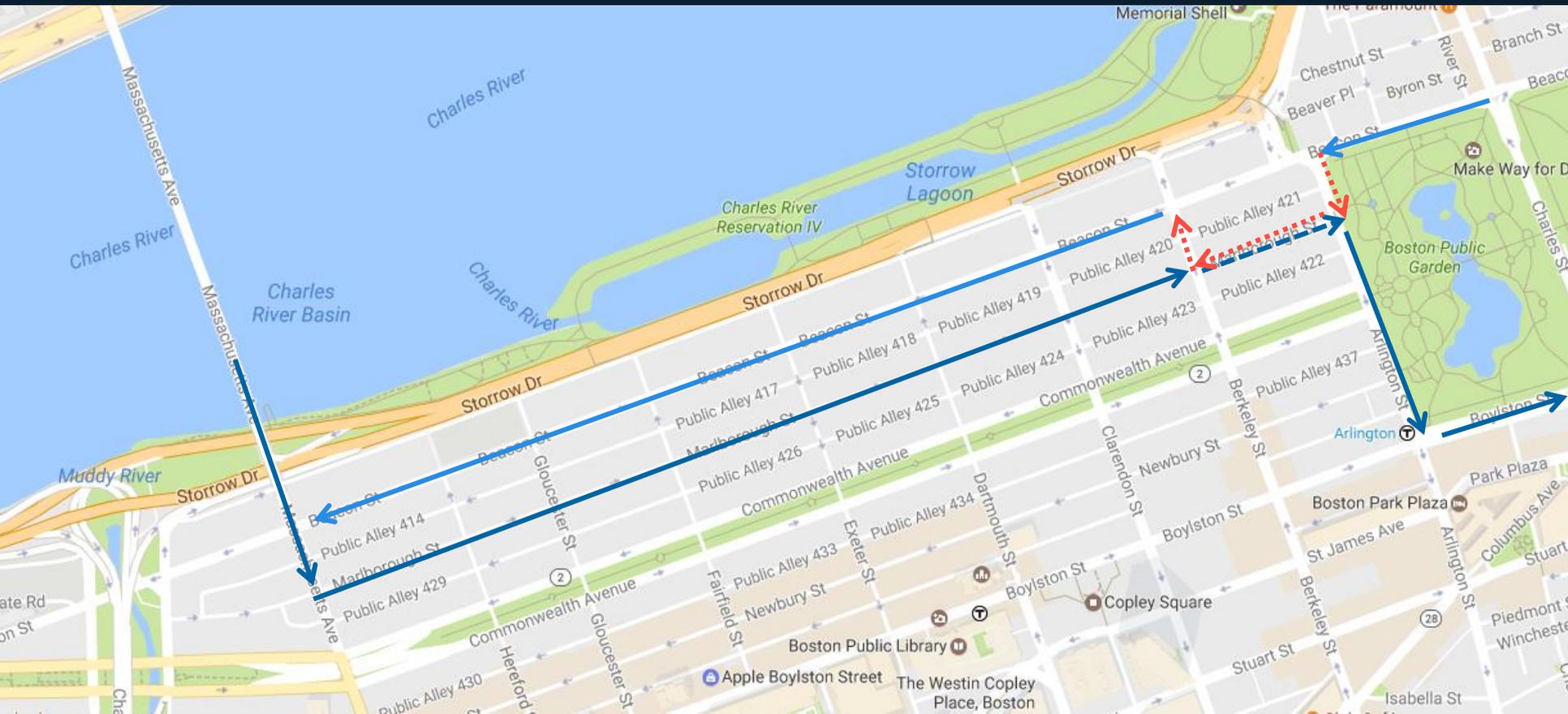
Chicago

Chicago, IL

CONNECTING BICYCLE ROUTES



CONNECTING BICYCLE ROUTES



QUESTIONS & COMMENTS

- Share your comments tonight
- Email your comments by June 30 to:
visionzero@boston.gov
- Mail comments by June 30