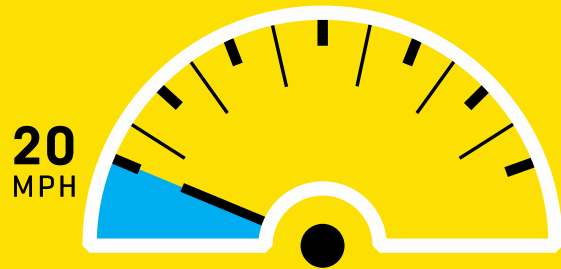




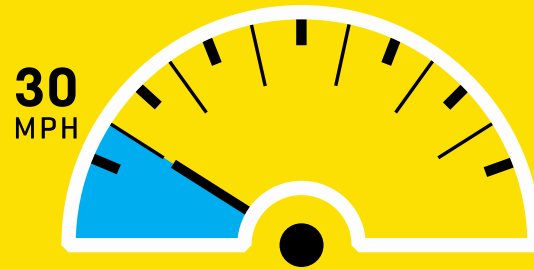
Evolving Bicycle Infrastructure in City of Philadelphia

Gustave Scheerbaum, PE
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City of Philadelphia
Department of Streets
@GScheerbaum

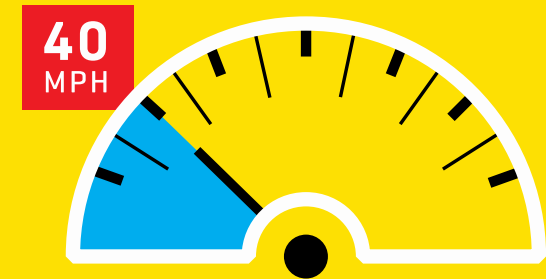
WHEN A PERSON IS HIT BY A DRIVER AT...



1 OUT OF **10** DIE



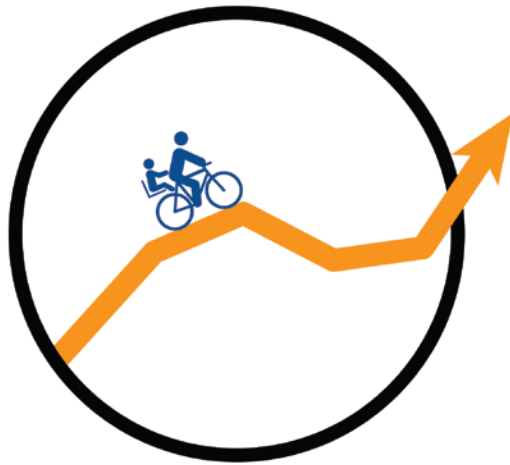
5 OUT OF **10** DIE



9 OUT OF **10** DIE

Slowing down saves lives.

State of Biking in Philadelphia 2018



>450 bikes per peak hour crossed the South Street Bridge in 2017, making it the most-biked bridge in the State.



Philadelphia has **more bike commuters than any other US city** with over 1 million residents.



Sidewalk riding decreased 27% between 2012 and 2017 as the network of bicycle infrastructure has grown.

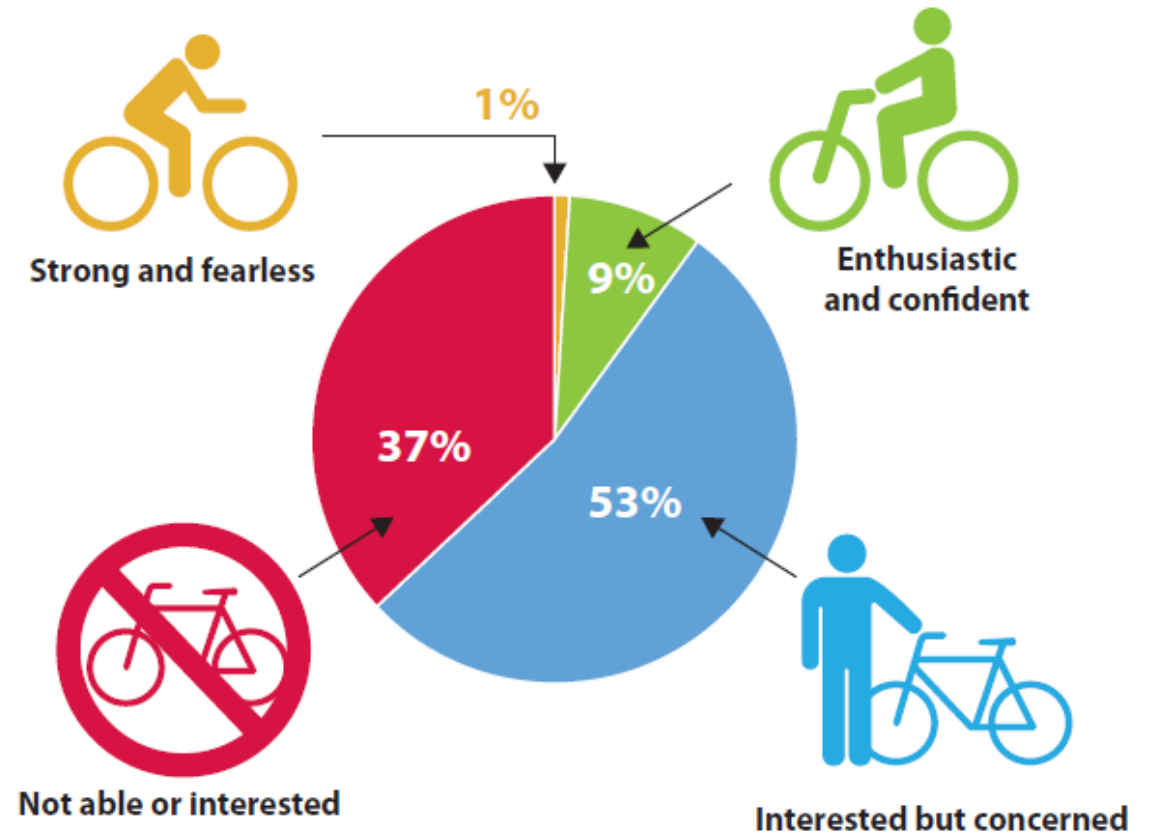


The total number of **people riding bikes in Philadelphia has increased 14%** in the last 5 years.

Why change existing bike infrastructure?

- Makes bicycling more **accessible to all people**
- **Improves safety** for all users of the roadway
- Sidewalk cycling **decreases**
- Supports a **healthy** and active Philadelphia
- Improves **businesses** along the corridor

Source: Hall, Mary Lauran. *America Bikes*. November 1, 2012



Source: Geller, Roger. *City of Portland, OR*

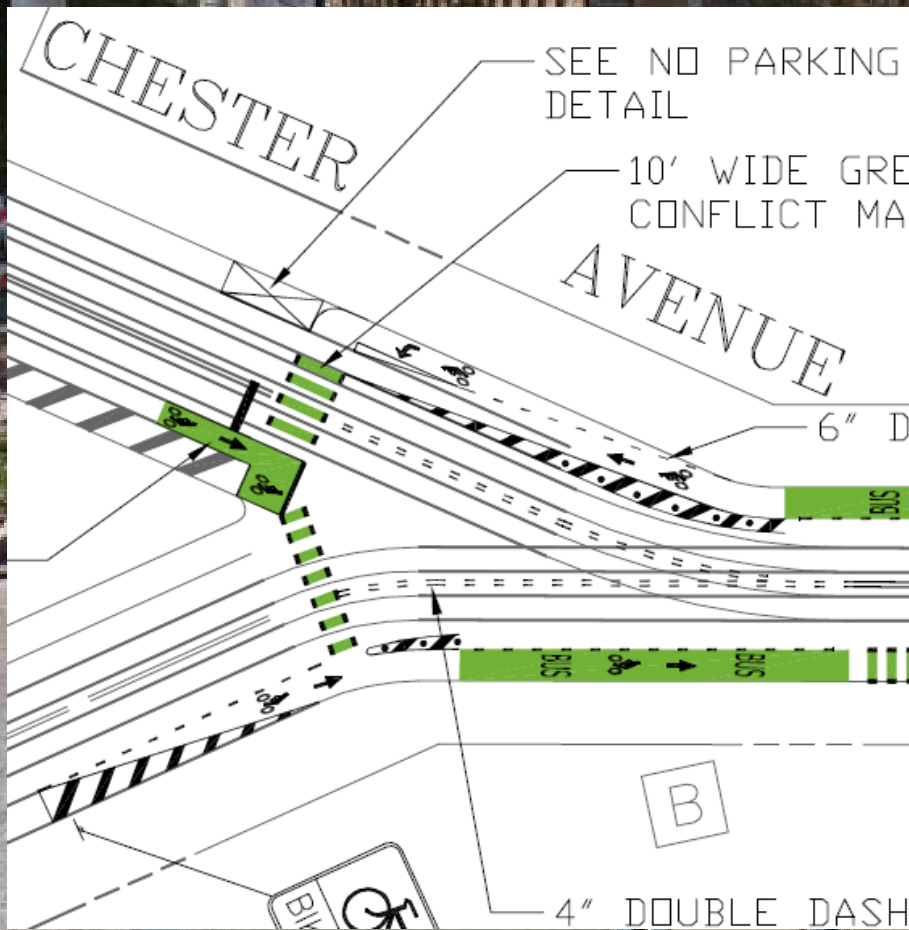
Conventional Bicycle Lanes



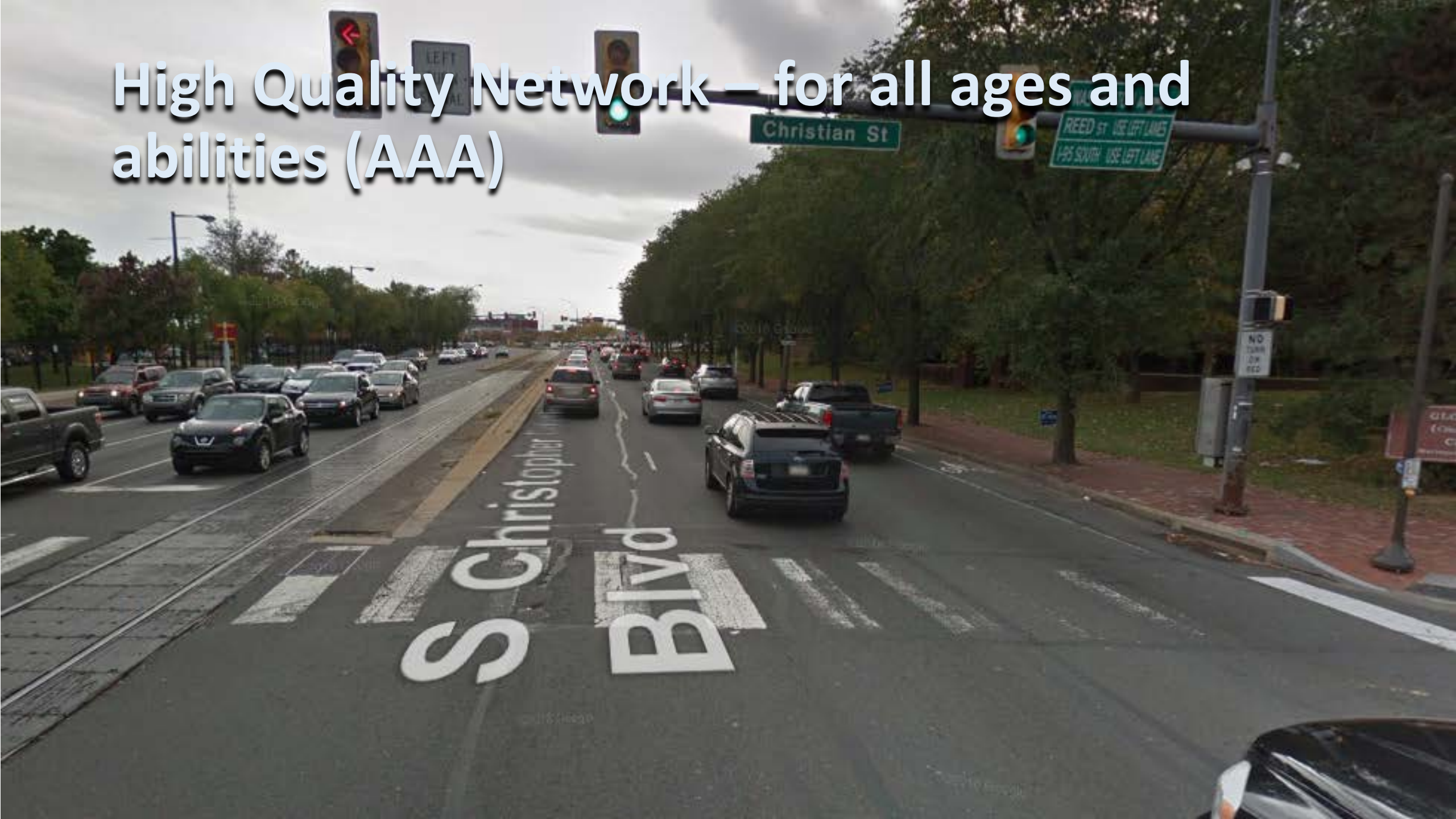
High Quality Network – for all ages and abilities (AAA)



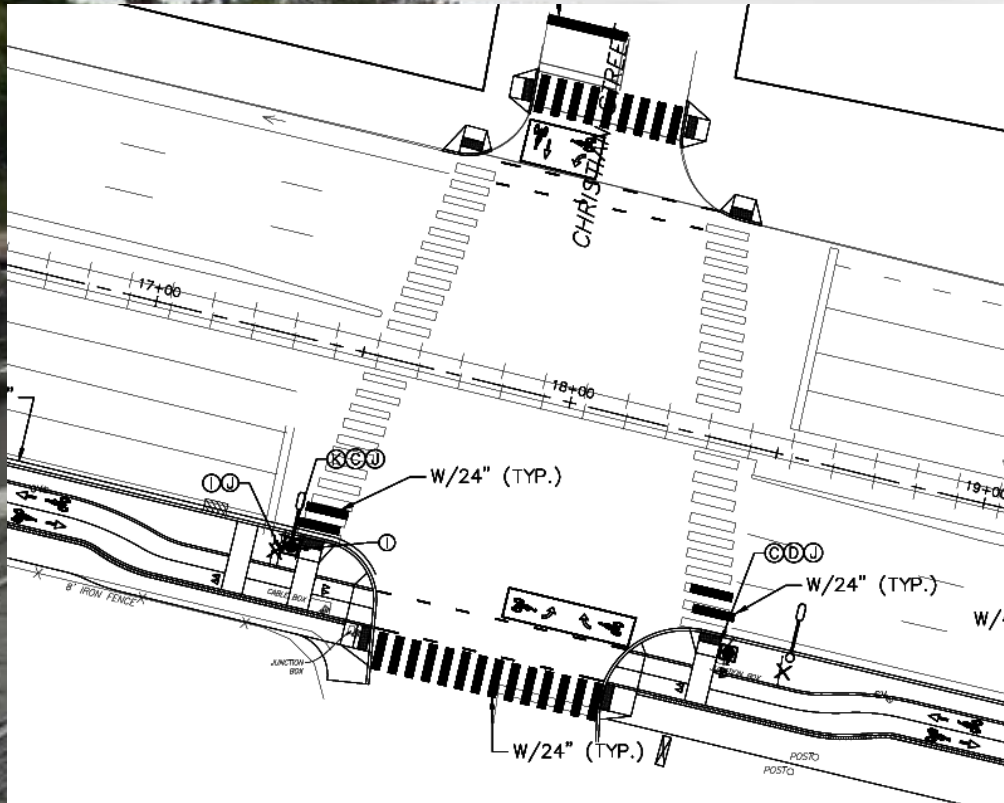
High Quality Network – for all ages and abilities (AAA)



High Quality Network – for all ages and abilities (AAA)



High Quality Network – for all ages and abilities (AAA)



Challenges

- Need – are there bike volumes, network connections, or reported safety issues demanding a new or modified facility?



Challenges

- Budget – are there adequate funds for desired facility?



Challenges

- Geometry – are there physical constraints or otherwise sufficient space for facility?

conventional bike lane

BEFORE



AFTER



BEFORE



AFTER



JFK BOULEVARD PARKING-PROTECTED BIKE LANE: BEFORE



JFK BOULEVARD PARKING-PROTECTED BIKE LANE: AFTER

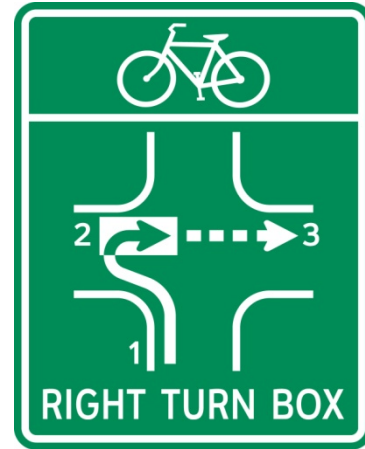


Intersections



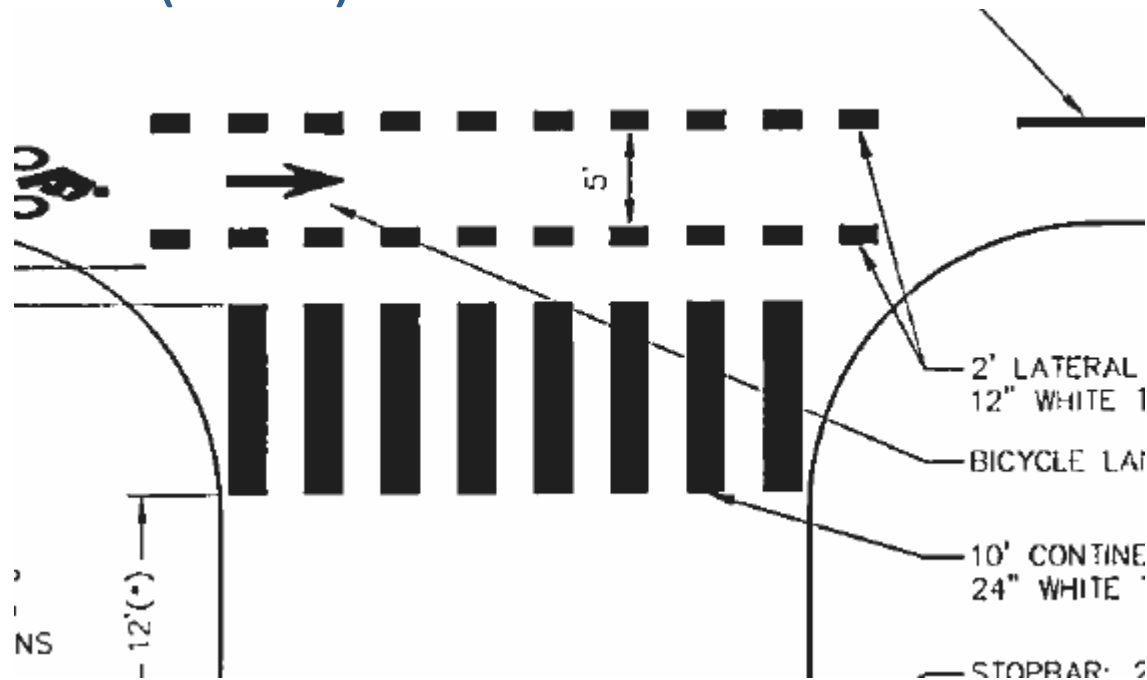
Boxes

- 12' stopbar setbacks
- green border bike boxes and two-stage-turn boxes
- solid green bike boxes and two-stage-turn boxes



Guidance markings

- dashed line(s) guidance markings
- directional chevrons
- lateral offset guidance markings (LOGs)



Bike lane intersection approaches

- shared condition at intersection
- bike lane inside
- protected bike lane outside
- protected intersection



Bike Lane Segments



- ### Legend
- Existing Bicycle Network
 - Conventional Bike Lanes
 - Buffered Bike Lanes
 - Sharrows
 - Contraflow w Conventional, Sharrows
 - Street Centerline
 - Hydrology
 - Public Open Space

Map Date: July 31, 2014

Source: City of Philadelphia



Bike Lanes

- Conventional bike lanes
- Buffered bike lanes
- Left sided buffered bike lanes
- Delineator post protected bike lanes
- Barrier protected bike lanes
- Separated bike lanes



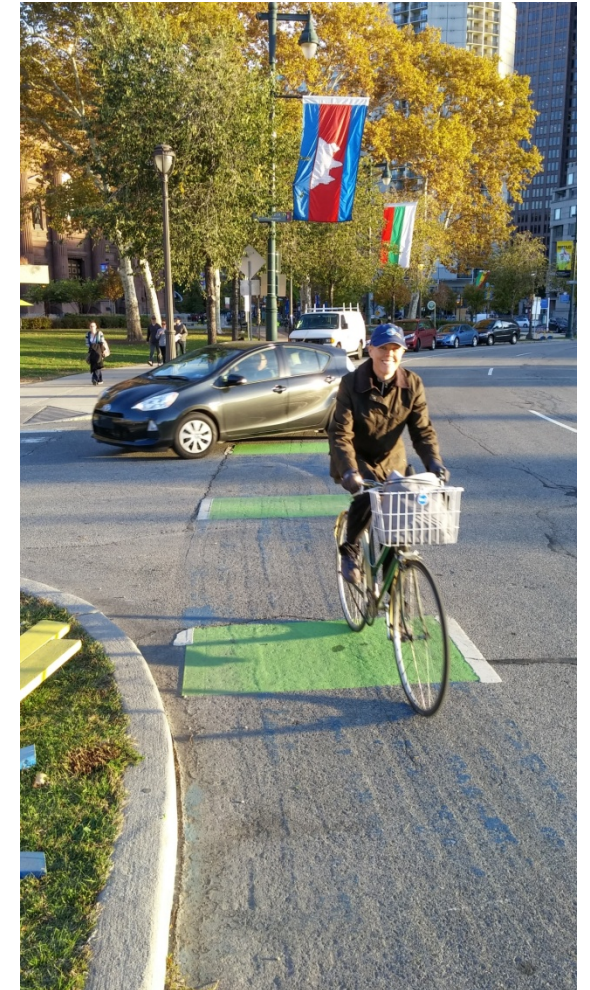
Shared Lanes

- Sharrows as bike facility
- Greenback sharrows as facility
- Greenback sharrows as directional connectors



Green bike lanes

- green bike lanes on ceremonial streets
- green markings for boxes and conflict zones
- solid green w/ dashed lines for conflict zones
- broken green boxes w/ dashed lines as borders for conflict zones
- green bike lanes as new type of pavement marking material may bolster green lane applications



Vertical elements

- delineator posts (thin)
- bigger delineator posts
- planters



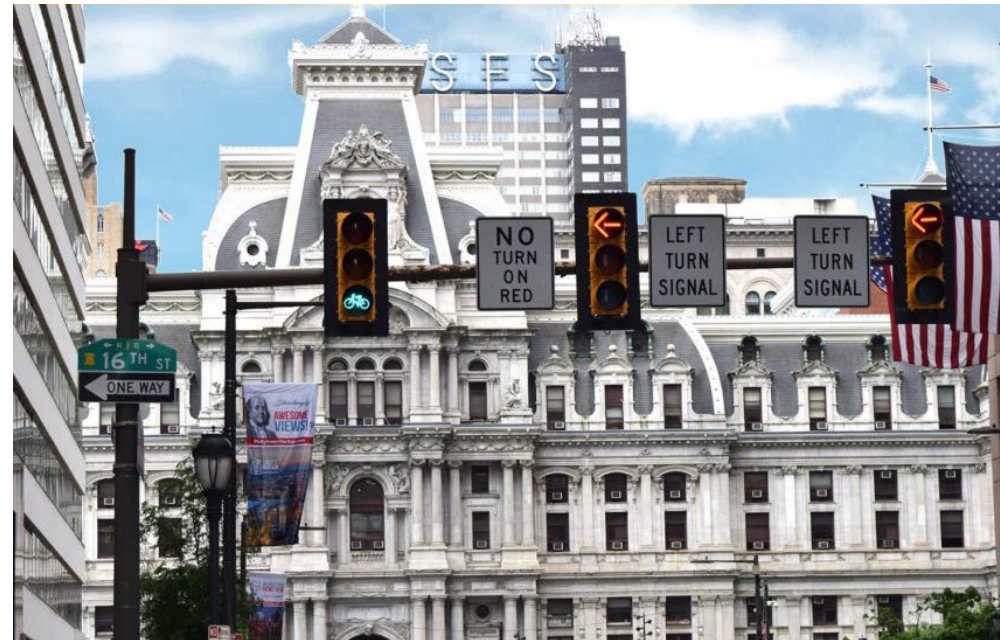
Horizontal elements

- parking chicanes -> planted chicanes -> concrete chicanes
- delineator post curb extensions -> concrete curb extensions
- del post diverters -> concrete / planted diverters



Signals

- bikes cross with peds signs
- phased bicycle movement during ped phase
- lead bike intervals
- exclusive bicycle phase





Thank you...

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