



Protected Bicycle Lanes (Cycle Tracks)

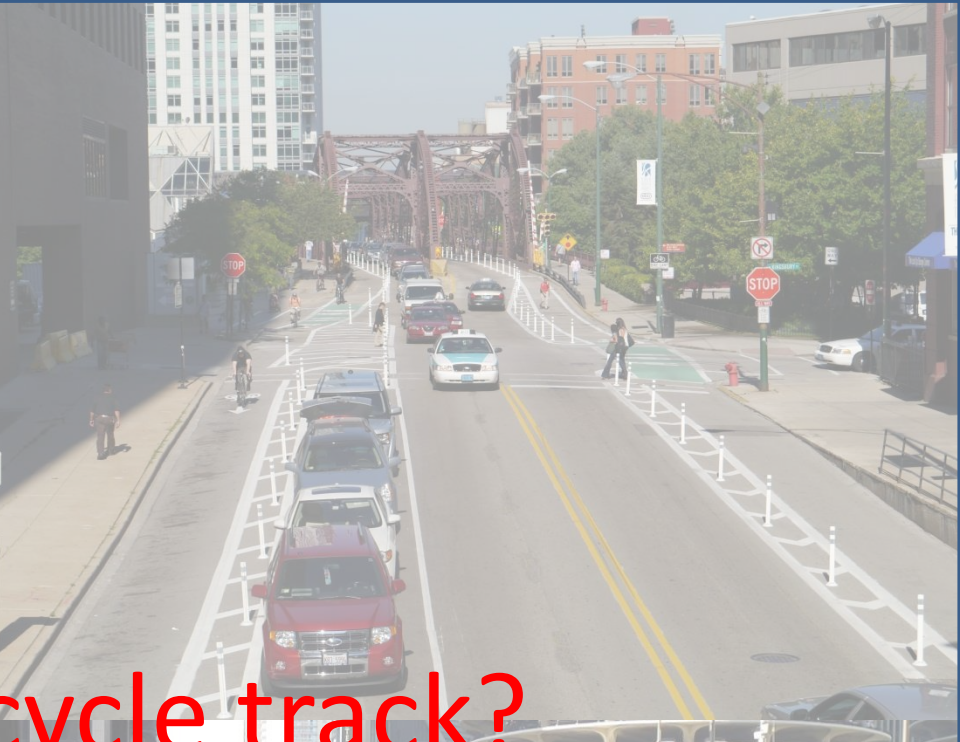
Illinois Bicycle Summit

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Consultant to CDOT Project Development



What is a cycle track?





A cycle track is
an on-street bicycle lane physically
separated
from moving vehicle traffic.





On-Street Parking

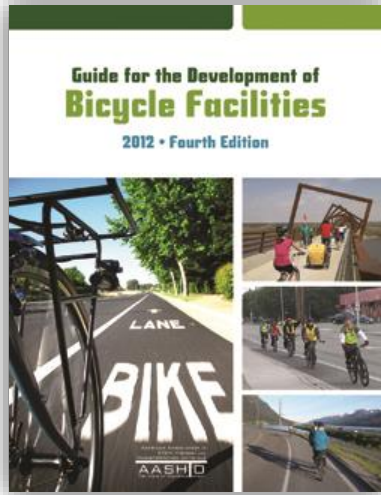




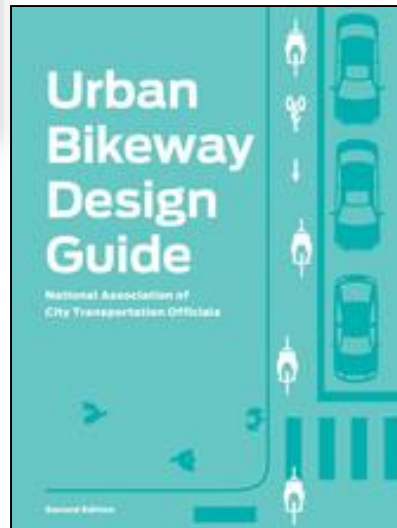
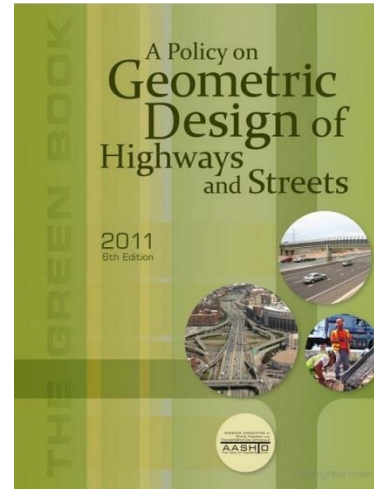


Manuals to design cycle tracks

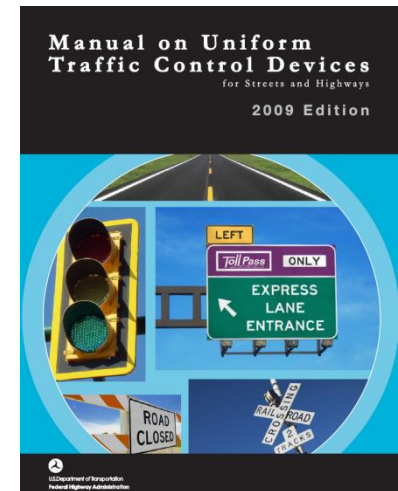
AASHTO
Bike Guide (2012)



AASHTO
“Green Book” (2011)



NACTO
Bike Guide (2013)



MUTCD (2009)

One-Way Cycle Tracks



- Examples: 55th St, Kinzie St, and Clybourn Avenue
- Mid-block Design
- Intersection Design
- Implementation Thoughts

Kinzie Street Before



Kinzie Street After



Clybourn Ave Before



Clybourn Ave After



Clybourn Ave Before



Clybourn Ave After



Mid-block One-Way Design

Cross Section Minimum Widths

- 5 - 8' bike lanes (maintenance critical)
- 2 - 3' buffers (3' next to parking)
- 8' parking lanes
- 10' travel lanes



PARKING

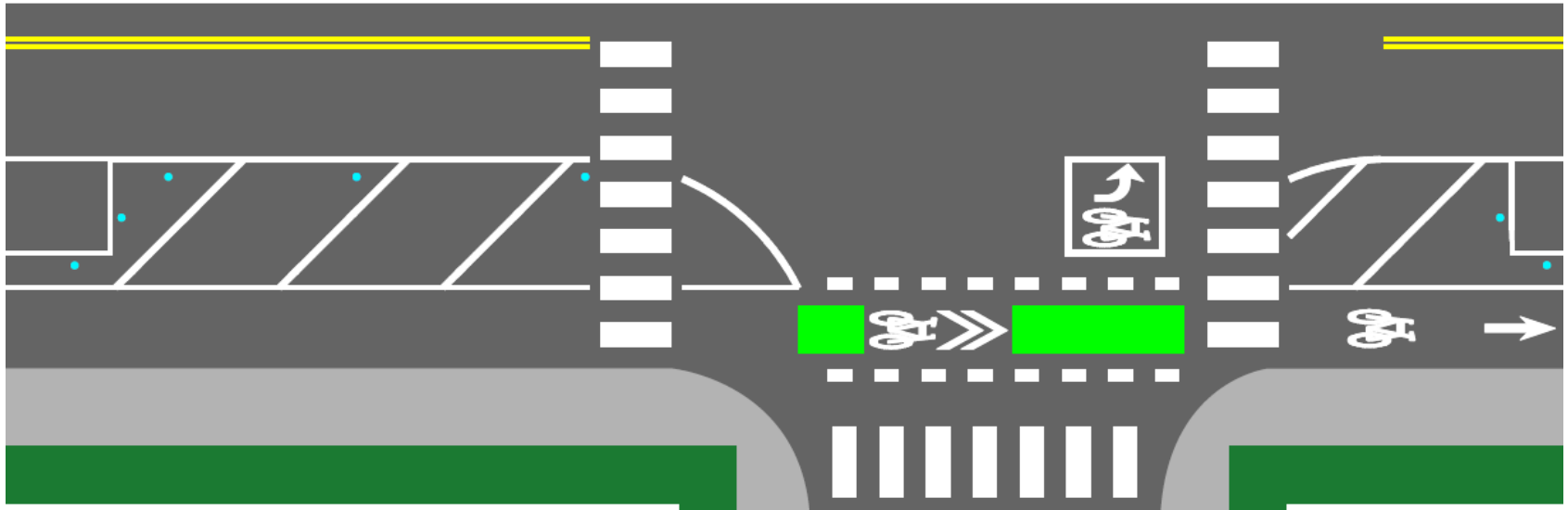


Side Street Stop and Driveway Designs



- Thru Bikes have right of way
- Bikes stay curb side
- Turning vehicles yield to bikes
- Comfortable for bikes

Side Street Stop and Driveway Geometry



- Focus on visibility
- No existing AASHTO guidance for right turn from major
- 10 MPH Stopping Sight Distance at Driveways
- 15 MPH Stopping Sight Distance at Intersections

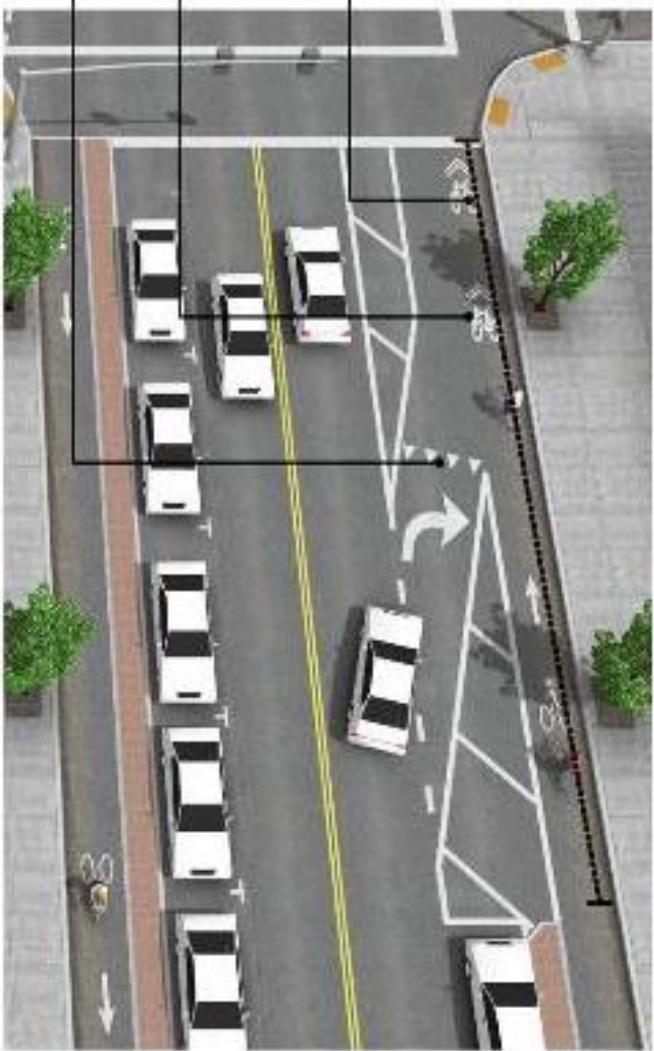
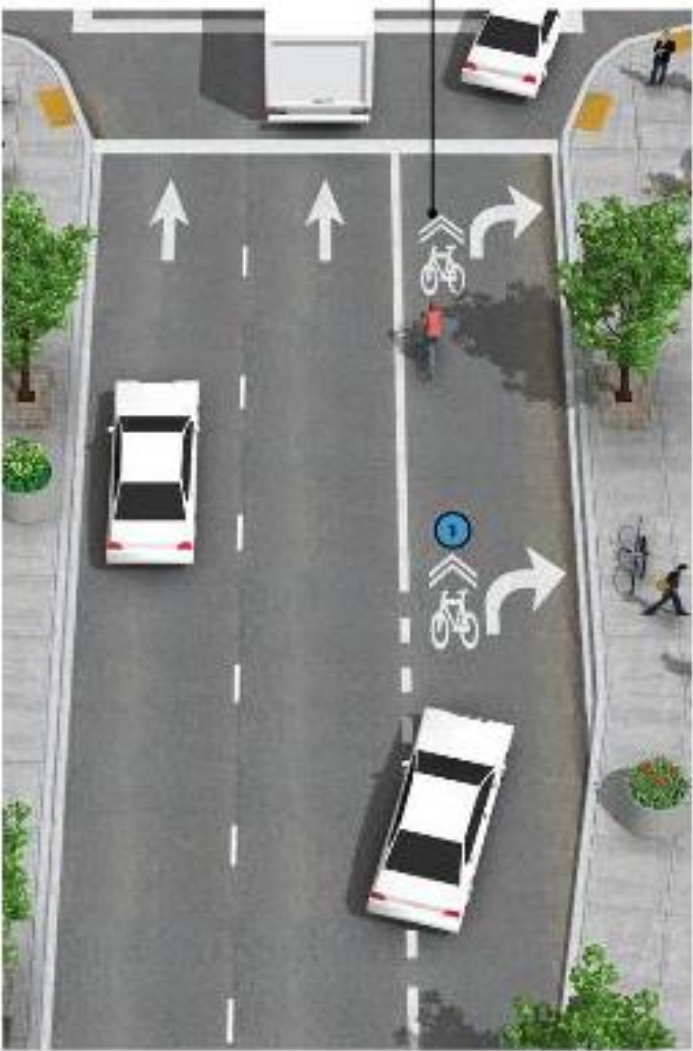


- Parking pulled back 30' – 60' for visibility
- Posts to reinforce turning speed



- Use signage and striping to reinforce right of way

Combine Turn Lane, Bike Lane



Combine Turn Lane, Bike Lane

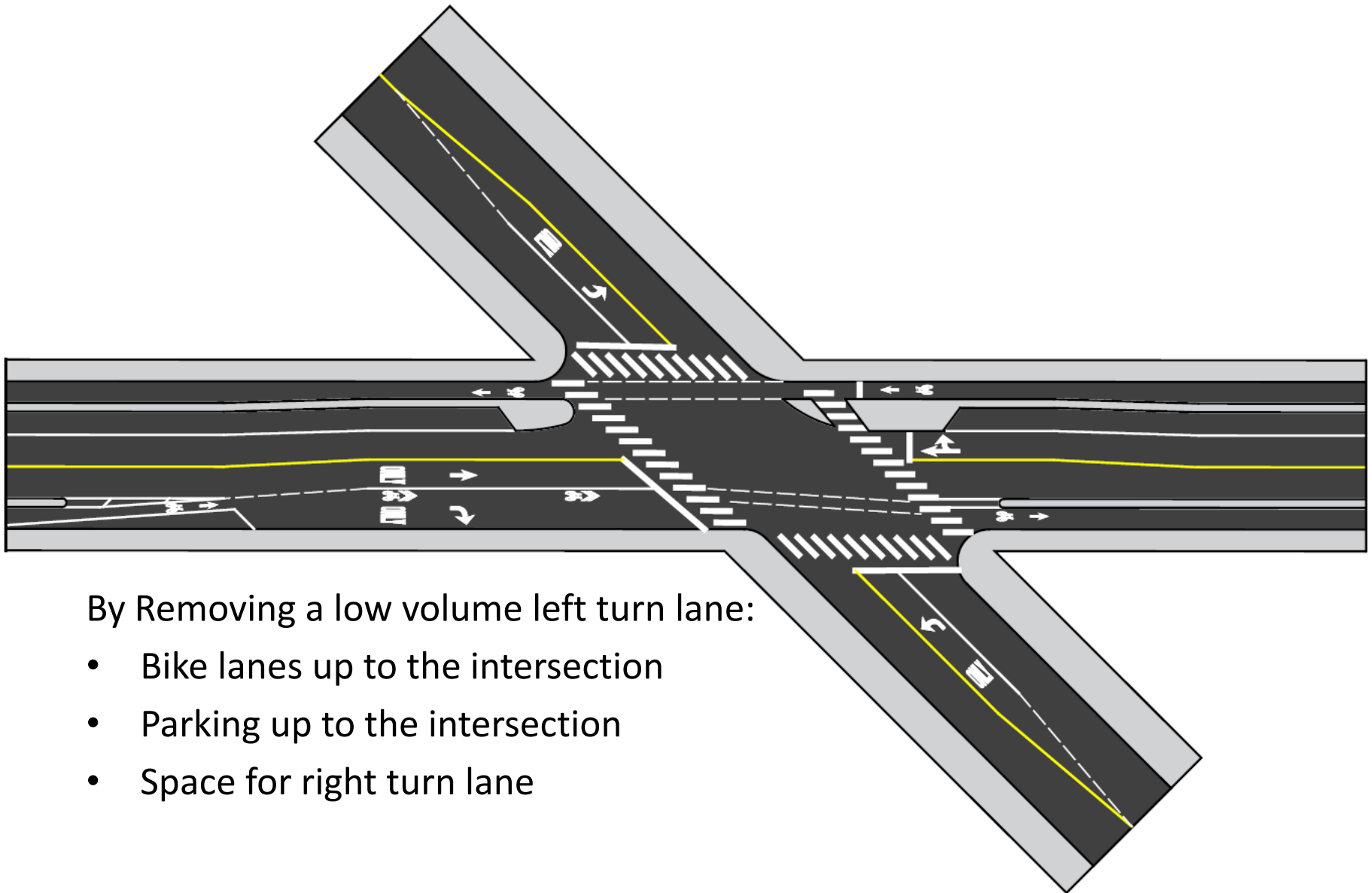


- Shared space for bikes and vehicles
- Less comfortable design than bike signals
- Speed and context are important

Combine Turn Lane, Bike Lane



Intersections – Balanced Design



By Removing a low volume left turn lane:

- Bike lanes up to the intersection
- Parking up to the intersection
- Space for right turn lane

One-Way Cycle Track Implementation Thoughts

- Select the right street (Turn Lanes)
- Package with other improvements
- Motor vehicle volume and capacity
- Driveway Frequency should be lower
- How to retrofit: (1) Narrow Lanes, (2) Remove Capacity, (3) Removing Parking

Two-Way Cycle Tracks



- Example: Dearborn St
- Mid-block Design
- Intersection Design
- Implementation Thoughts

Dearborn Street Before



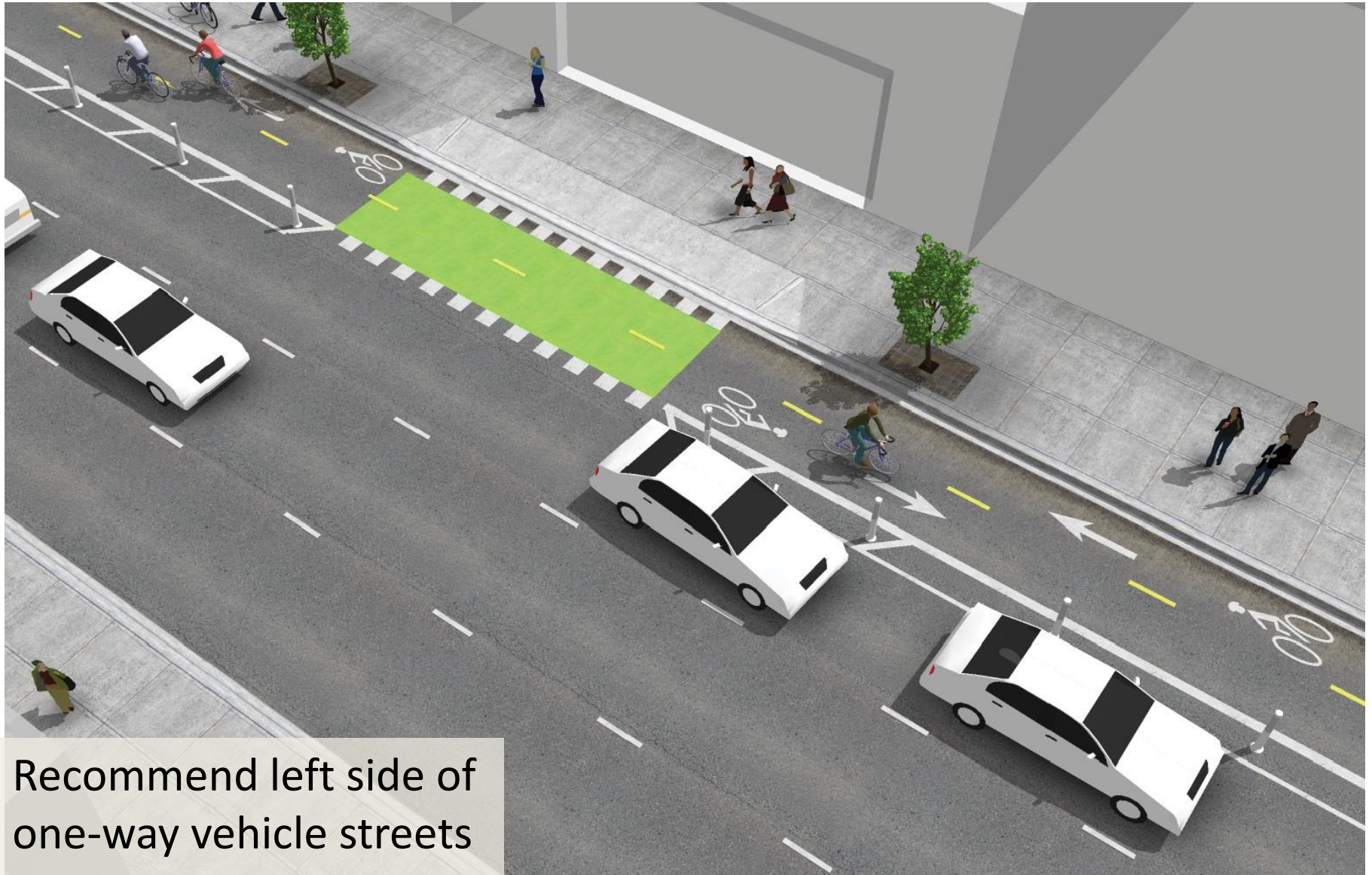
- Three all purpose travel lanes
- Parking Lane
- Bus Lane
- No Bike Lane

Dearborn Street After



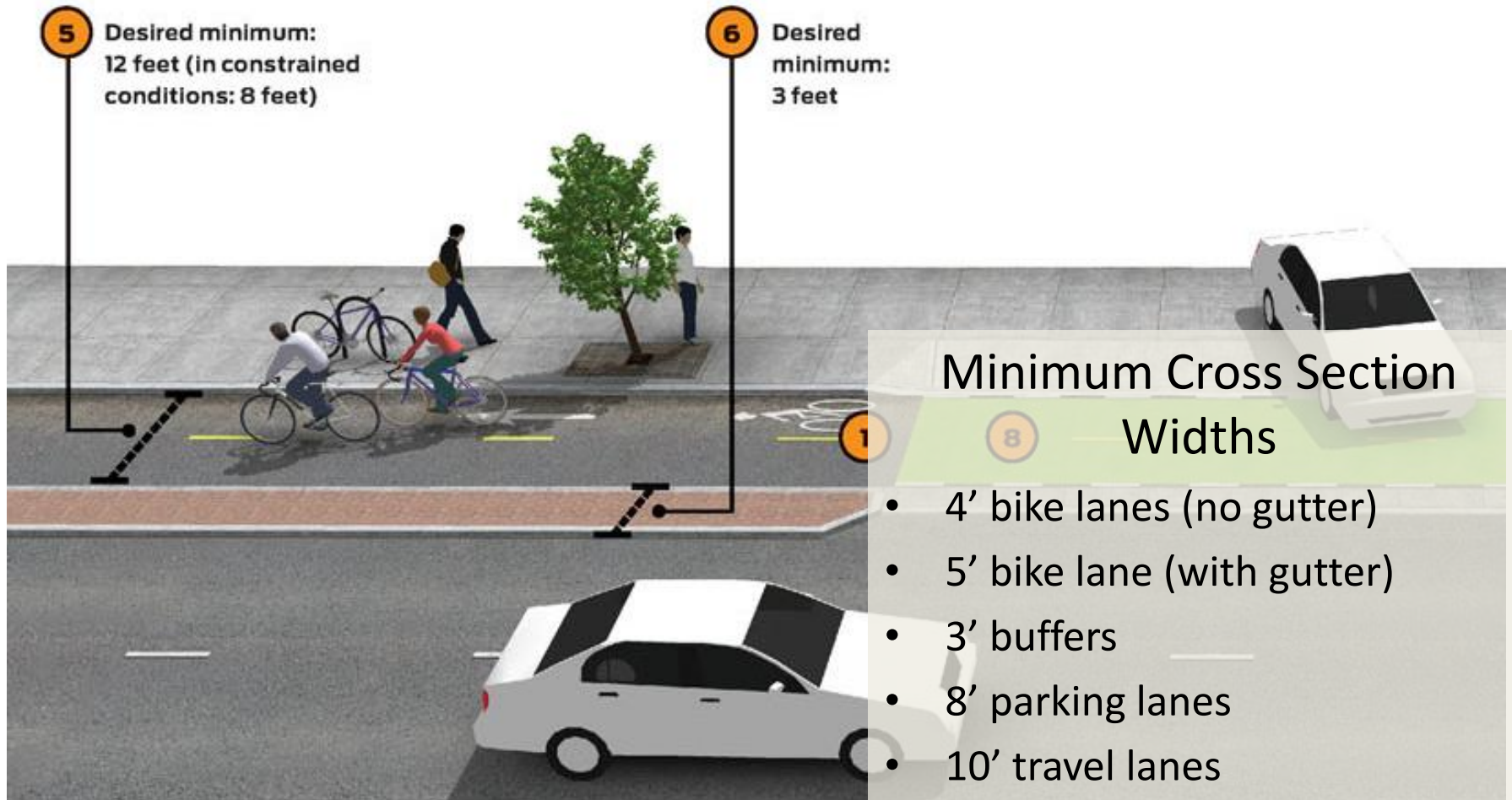
- Two All purpose travel lanes
- Parking Lane
- Shadows left turn lanes
- Bus Lane
- Two-Way Bike Lane

Two-Way Cycle Tracks – Midblock



Recommend left side of
one-way vehicle streets

Two-Way Cycle Tracks – Midblock



BIKE LANE

NO STOPPING
NO STANDING
TOW ZONE



J.P.Morgan
Corporate Challenge[®]



Chicago
Grant Park
Thursday May 23, 2013
jpmorgan.com/cc

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Chicago
Grant Park
Thursday May 23, 2013
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ONE WAY
←

USE BIKE SIGN

HUMAN BEINGS ARE NOT DISPOSABLE.

Annual Graduates Luncheon

Annual Graduates Luncheon

LEFT ON GREEN ARROW ONLY

Annual Graduates Luncheon





NO PARKING
TOW ZONE

NO PARKING
TOW ZONE

MONROE
Blue Line
THE BOOK OF MORMON
MUST LEAVE AT 6!

KGB 7419



TURN ON RED

ONE WAY

BICYCLE

LOOK





NO
TURN
ON RED

RIGHT
LANE
BUS
ONLY

DAVIS

STOP





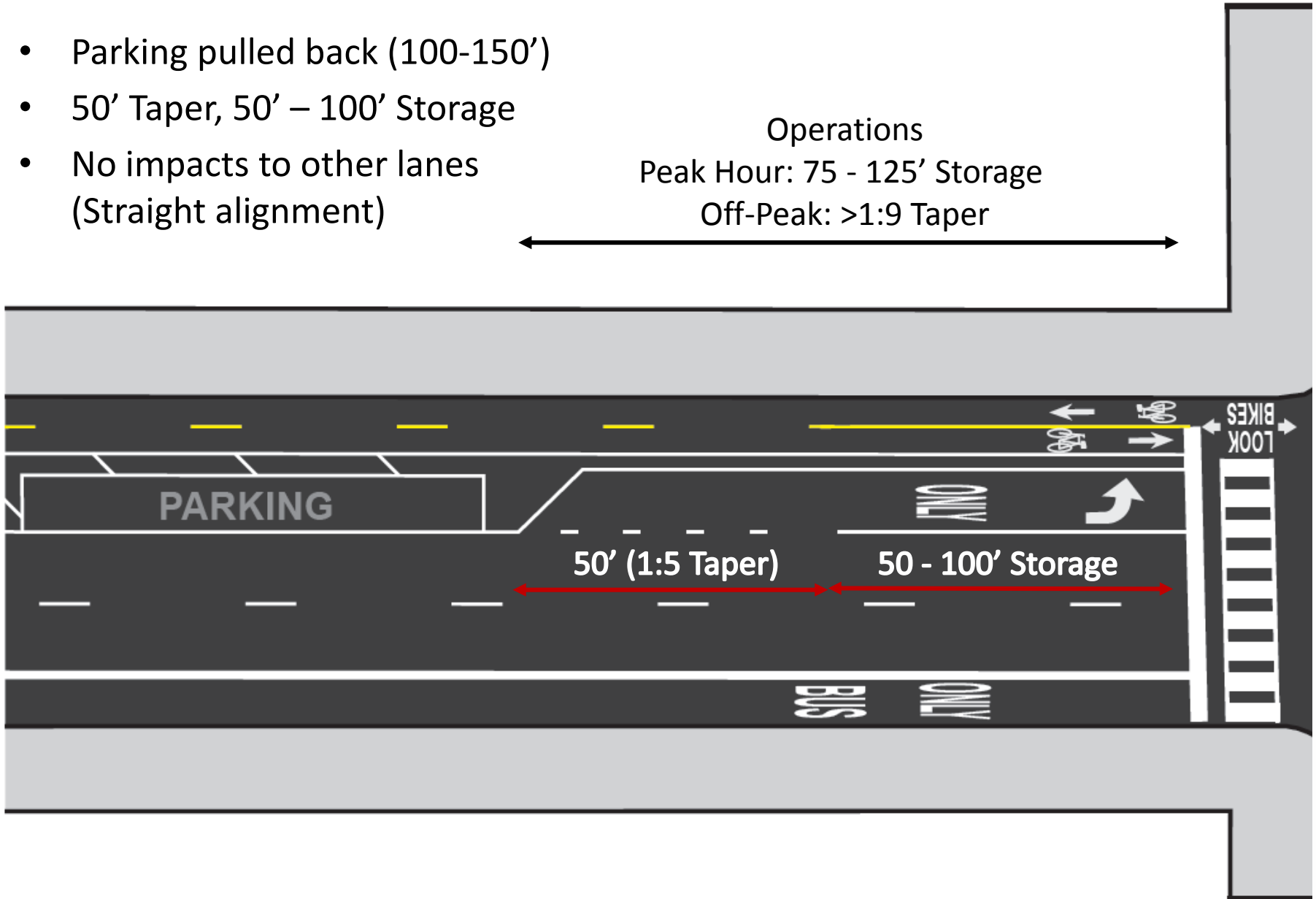
ADLER SCHOOL

LOW

Left Turn and Parking Lane Design

- Parking pulled back (100-150')
- 50' Taper, 50' – 100' Storage
- No impacts to other lanes (Straight alignment)

Operations
Peak Hour: 75 - 125' Storage
Off-Peak: >1:9 Taper



Bicycle Signals and Turn Arrows

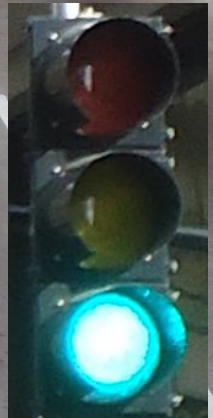


- Separate Bike and turns signals
- Two signals per movement (Minimum one far side)
- Recommend 12" lenses far side

Traffic Signal Phasing



Phase A: Bikes, Thrus and Rights



Traffic Signal Phasing



Phase B: Bike Clearance



Traffic Signal Phasing

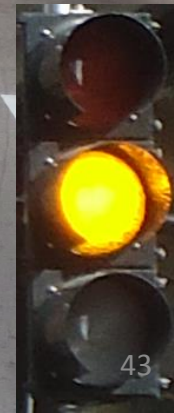


Phase C: Lefts and Thrus

Traffic Signal Phasing



Phase D: Vehicle Clearance

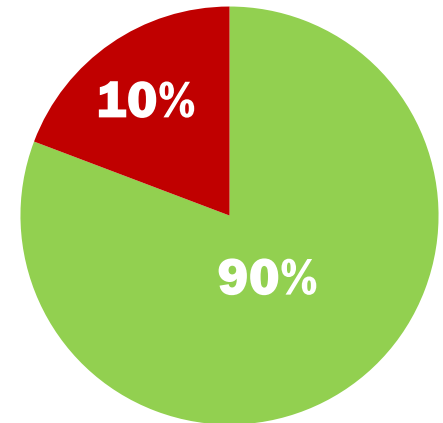
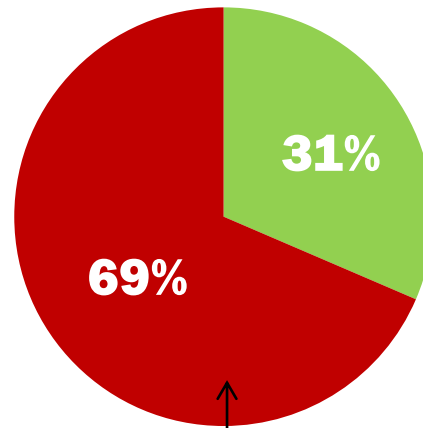


Dedicated Bicycle Signals

- Interim Approval December 2013
- Eliminates conflict between turns and bikes
- Increase cyclist compliance
- High motorist compliance of left turn arrows (over 90%)

**BEFORE
INSTALLATION**

**AFTER
INSTALLATION**



Bicyclists entering
Intersection on Red Lights



Two-Way Cycle Track Implementation Thoughts

- Bikes on Left, Buses on Right
- Best on One-way vehicle streets
- Termini Transition are Critical
- Turn Lane / Parking Lanes
- Bicycle Signals / Turn Arrows good for all



Questions?

Thank You!

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