MONTROSE BOULEVARD SEGMENT 1

W. Clay Analysis & Recommendations

January 2024

MONTROSE BLVD IMPROVEMENTS PROJECT

Transportation Goals of the Project:

Reconstruct and upgrade major north/south roadway connector

Implement BOOST transit service of the 56 Airline/Montrose

Support walkability to create a vibrant and safe commercial area

Support bike connectivity

Support civic art, urban design, and historic trees

SAFE CROSSING DESIGN CONSIDERATIONS – W. CLAY

- COH IDM "a safe, convenient crossings for Vulnerable Road Users spaced approximately every 500-720 feet"

- Safe Access to neighborhood schools including Wharton Elementary

- Align safe crossings with neighborhood bike network and optimized METRO bus stops

- Reduce conflict points to increase safety for all road users

- Improve traffic operations on Montrose Blvd.

- Additional analysis based on community feedback

ACCESS MANAGEMENT RECOMMENDATIONS

- 1,500' from W Dallas to W Clay

- Existing median openings proposed to remain
  - 340' north
  - 400' south

MONTROSE BLVD AND W CLAY INTERSECTION

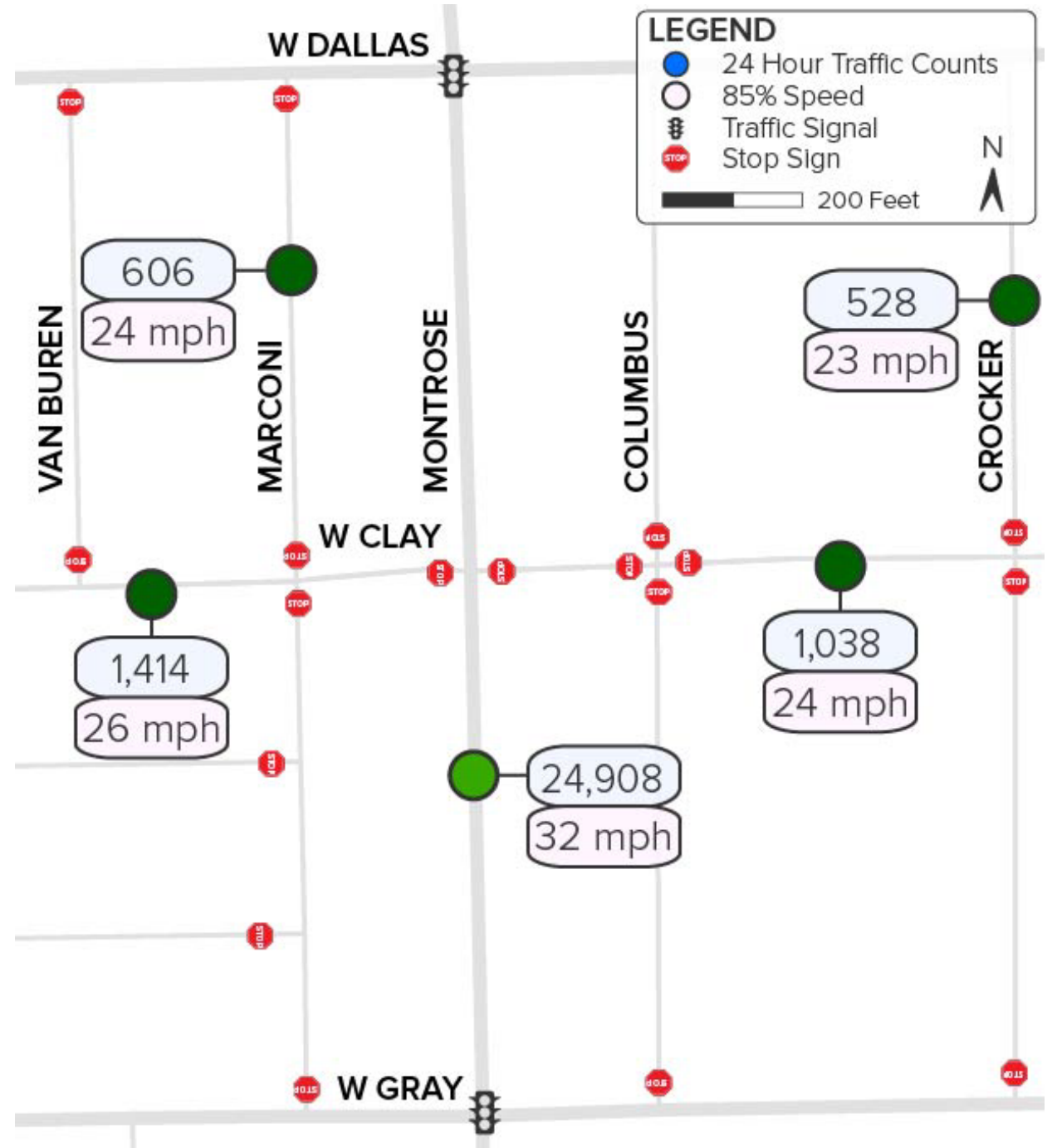# MONTROSE BLVD AND W CLAY INTERSECTION
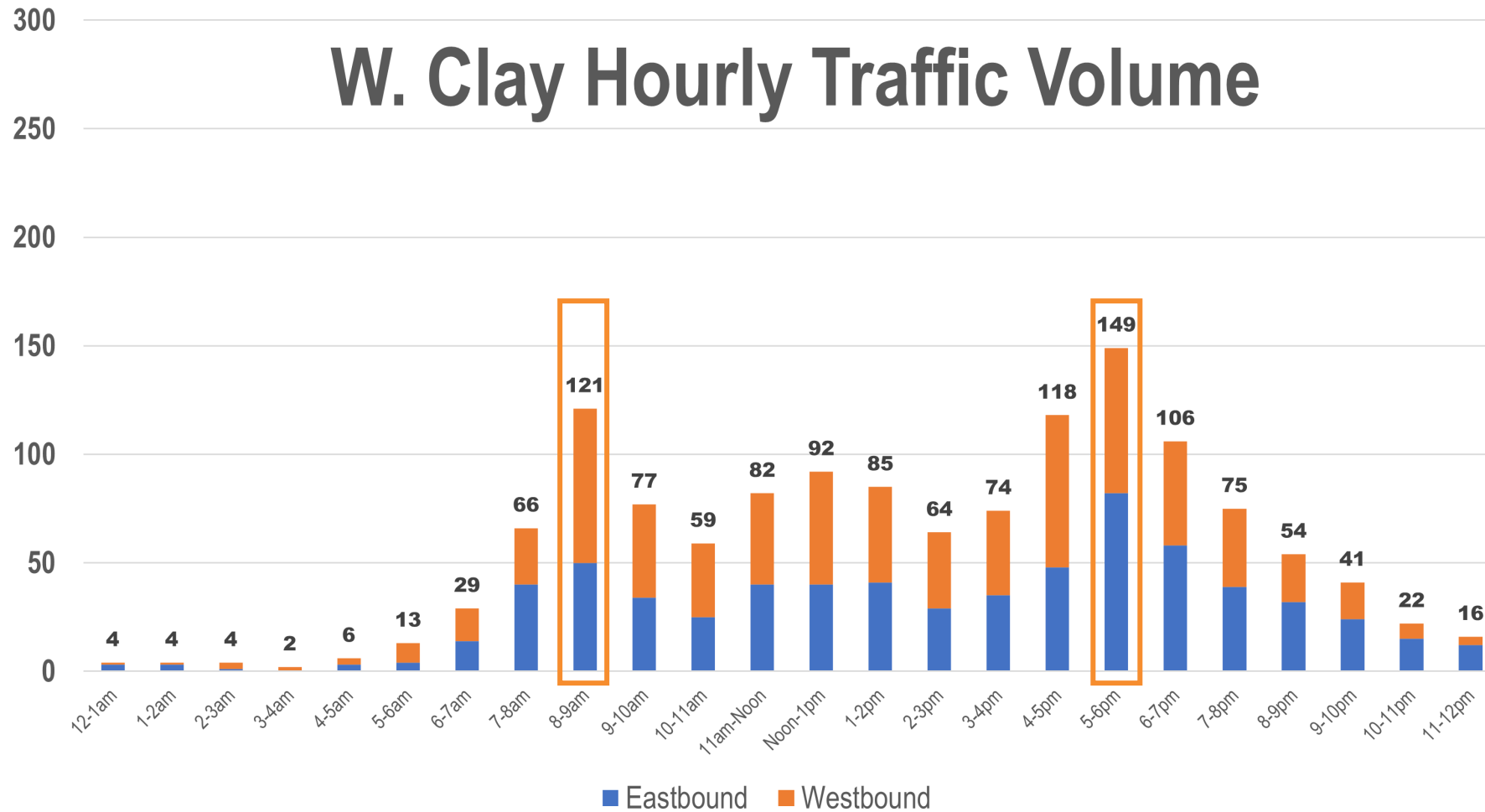
MONTROSE BLVD AND W CLAY INTERSECTION

NEIGHBORHOOD STREET TRAFFIC COUNTS

- Low traffic volumes
  - W. Clay: 1,000-1,400
  - Marconi: 610
  - Crocker: 530
- Low Speeds
  - 85th percentile speeds 23-26 mph
- Limited Excessive Speeds
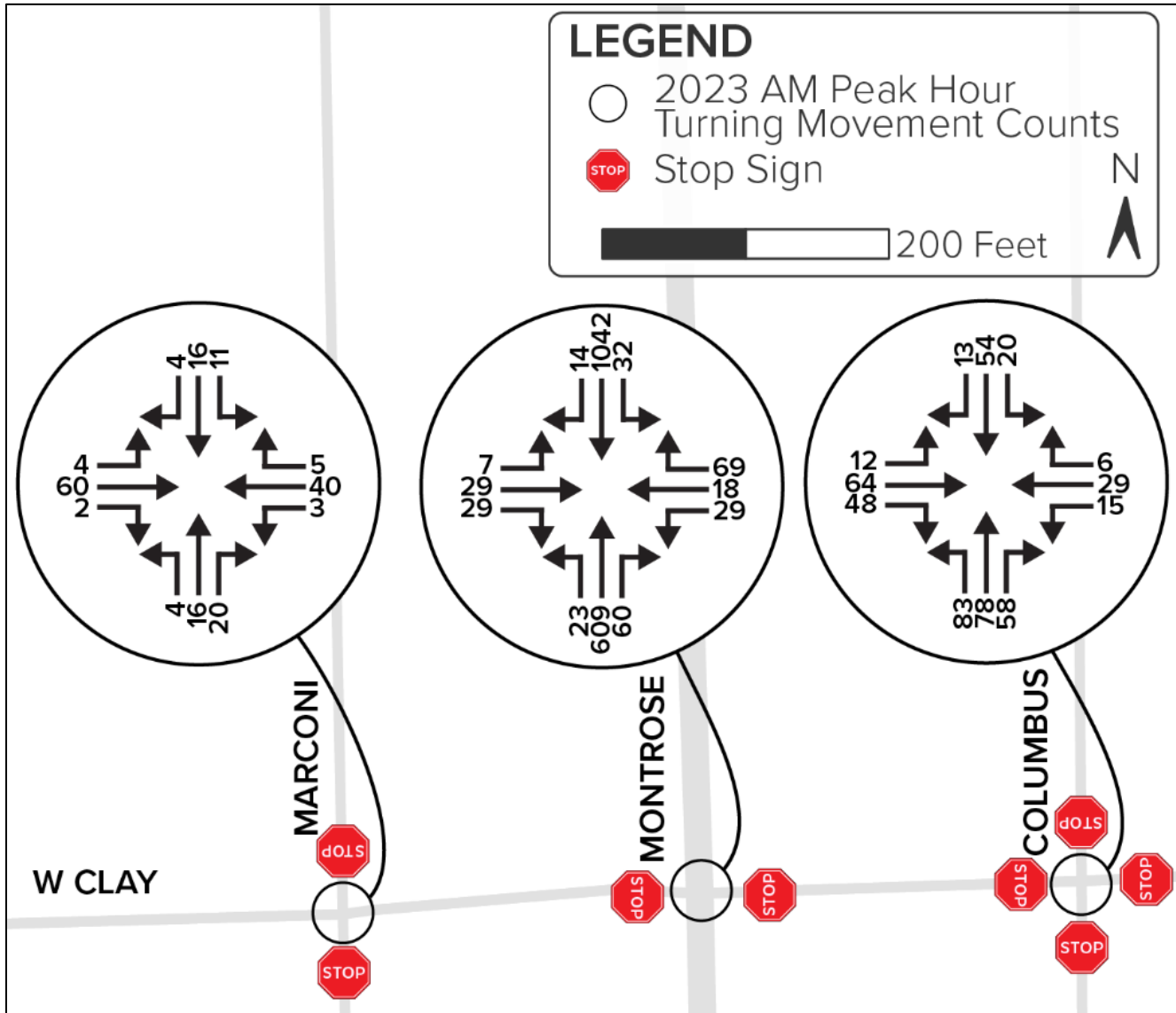 - <10 vehicles per day traveled over 35 mph on Marconi or W Clay

W CLAY HOURLY TRAFFIC COUNTS

W. Clay Hourly Traffic Volume

- Low volumes throughout the day
- 20% of traffic occurs during AM & PM peaks hours

2023 TURNING MOVEMENT COUNTS
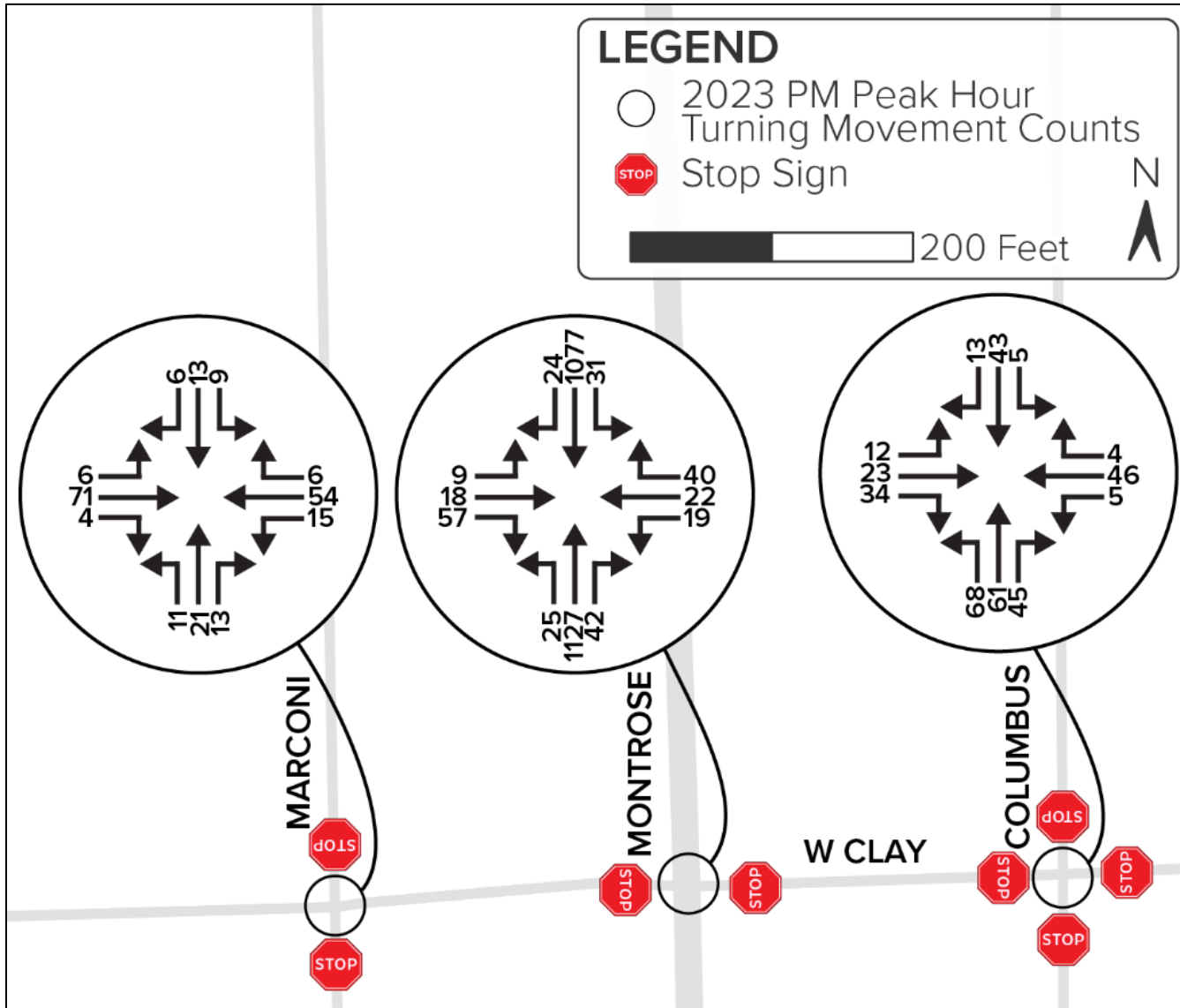

Current Conditions

- Majority of W Clay traffic turns right at Montrose Blvd

- 5-6% of total peak hour traffic at the intersection uses the median opening

Median Opening

- 36 EB vehicles use median opening during the AM peak hour (27 in the PM peak hour)

- 47 WB vehicles use median opening during the AM peak hour (41 during the PM peak
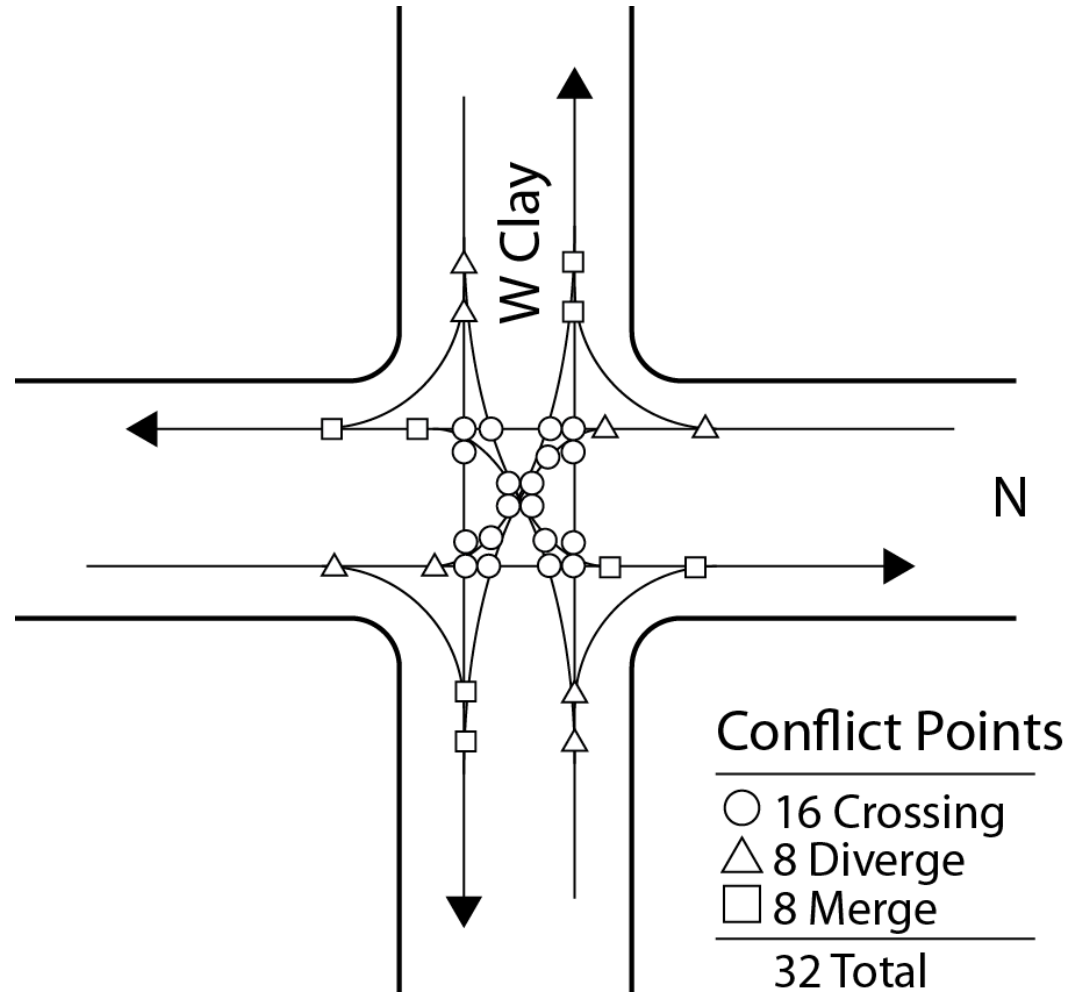
2023 TURNING MOVEMENT COUNTS

Current Conditions

- Majority of W Clay traffic turns right at Montrose Blvd

- 5-6% of total peak hour traffic at the intersection uses the median opening
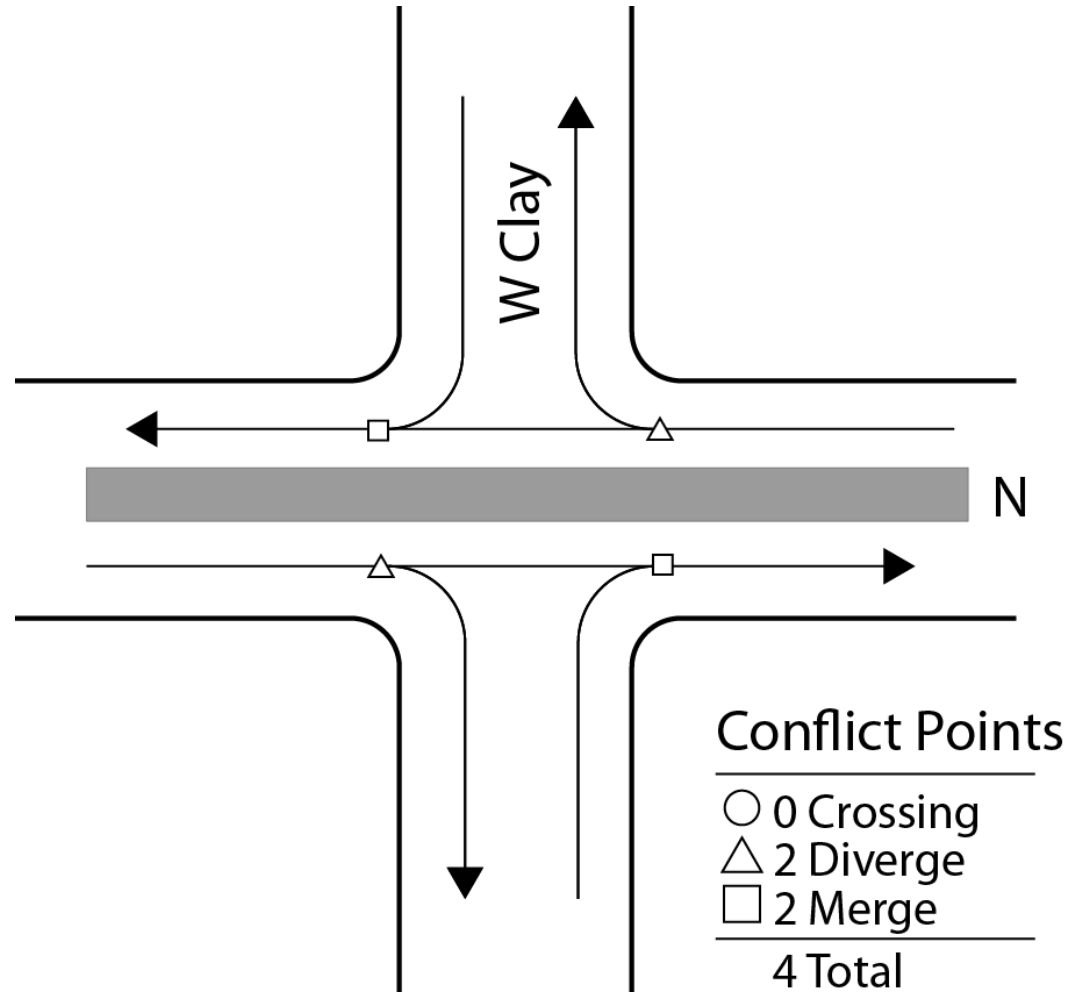
Median Opening

- 36 EB vehicles use median opening during the AM peak hour (27 in the PM peak hour)

- 47 WB vehicles use median opening during the AM peak hour (41 during the PM peak
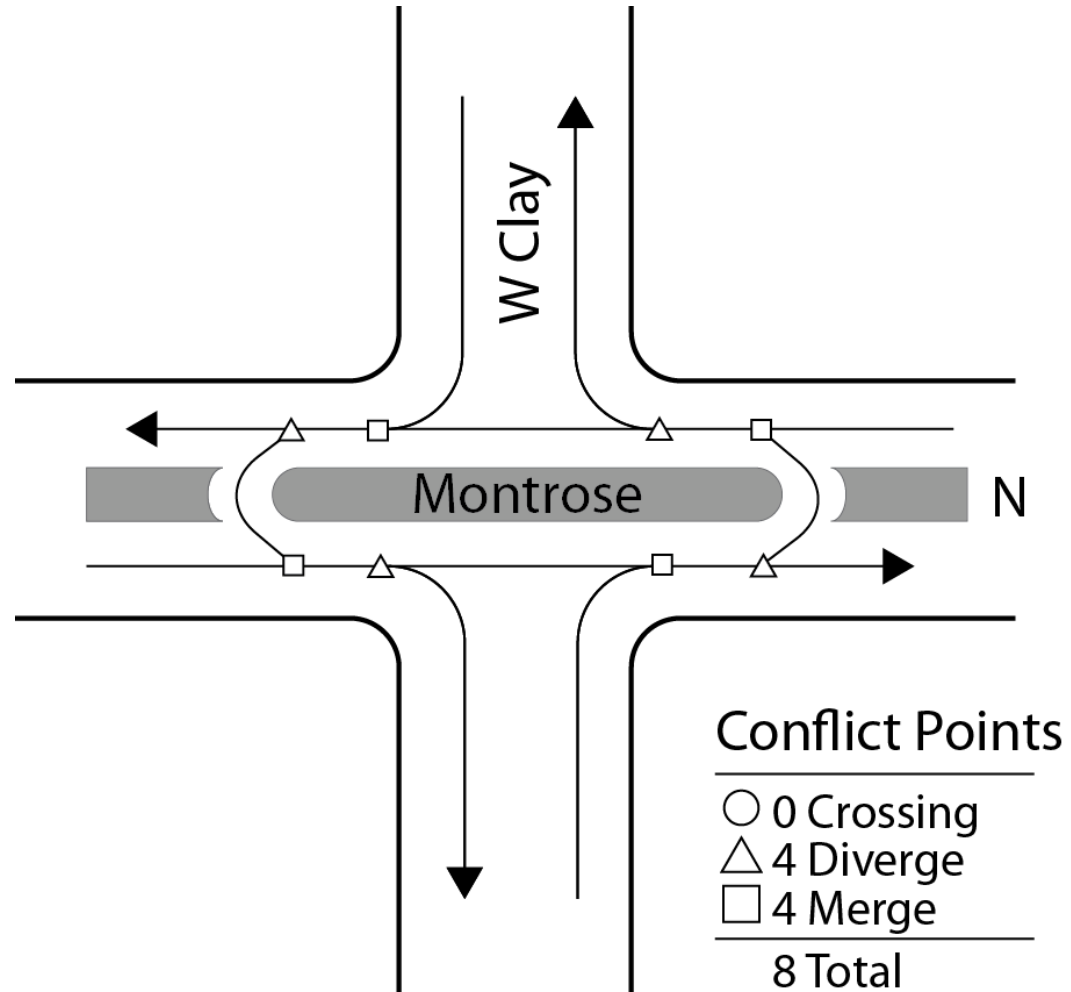
INTERSECTION CONFLICT POINTS

Conflict Points
- ○ 16 Crossing
- △ 8 Diverge
- □ 8 Merge
- 32 Total

Figures: The Application of Axiomatic Design Theory and Conflict Techniques for the Design of Intersections, Thompson et al

INTERSECTION CONFLICT POINTS

Figures: The Application of Axiomatic Design Theory and Conflict Techniques for the Design of Intersections, Thompson et al

INTERSECTION CONFLICT POINTS

Figures: The Application of Axiomatic Design Theory and Conflict Techniques for the Design of Intersections, Thompson et al

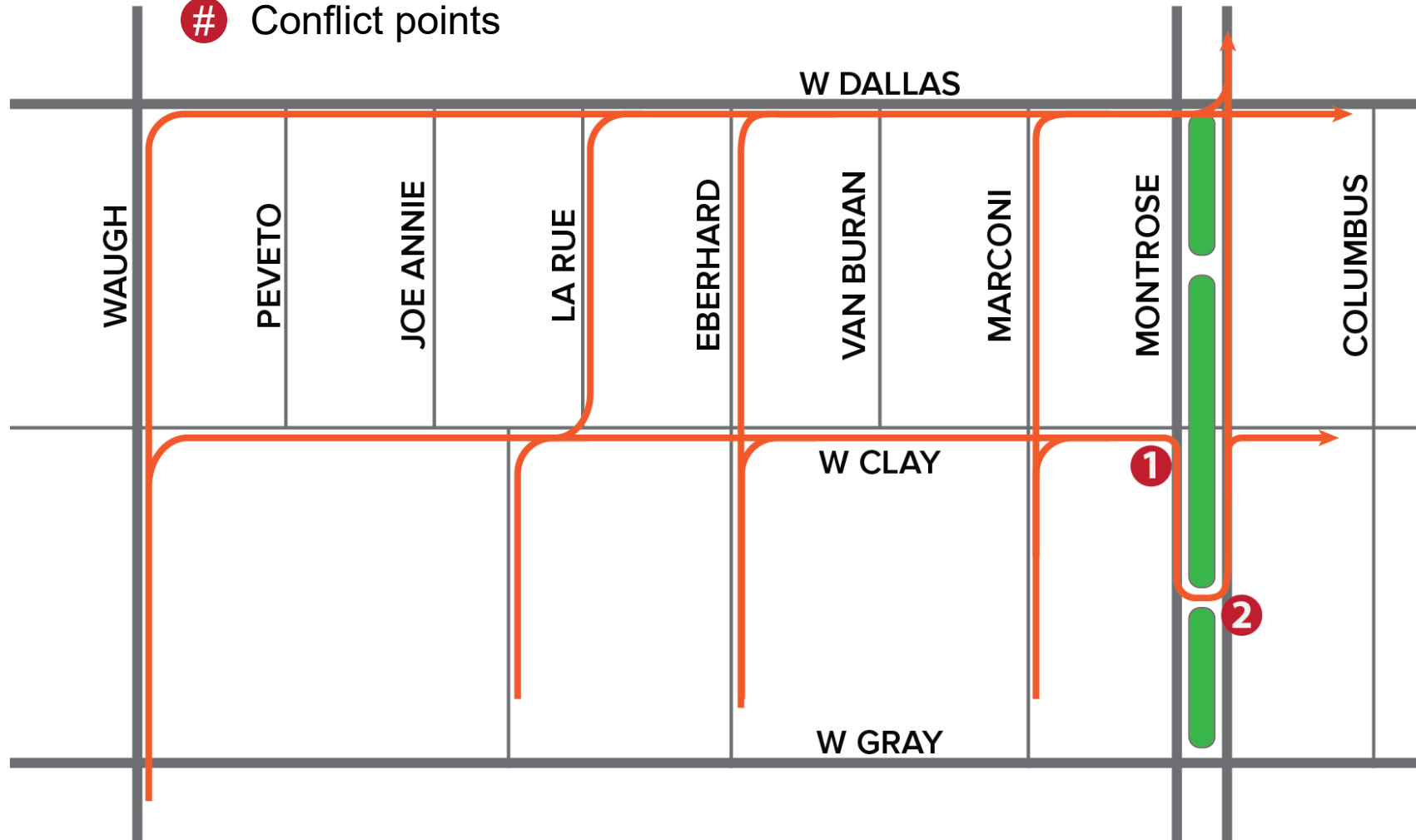# DISTRIBUTING TRIPS THROUGH STREET GRID - EASTBOUND
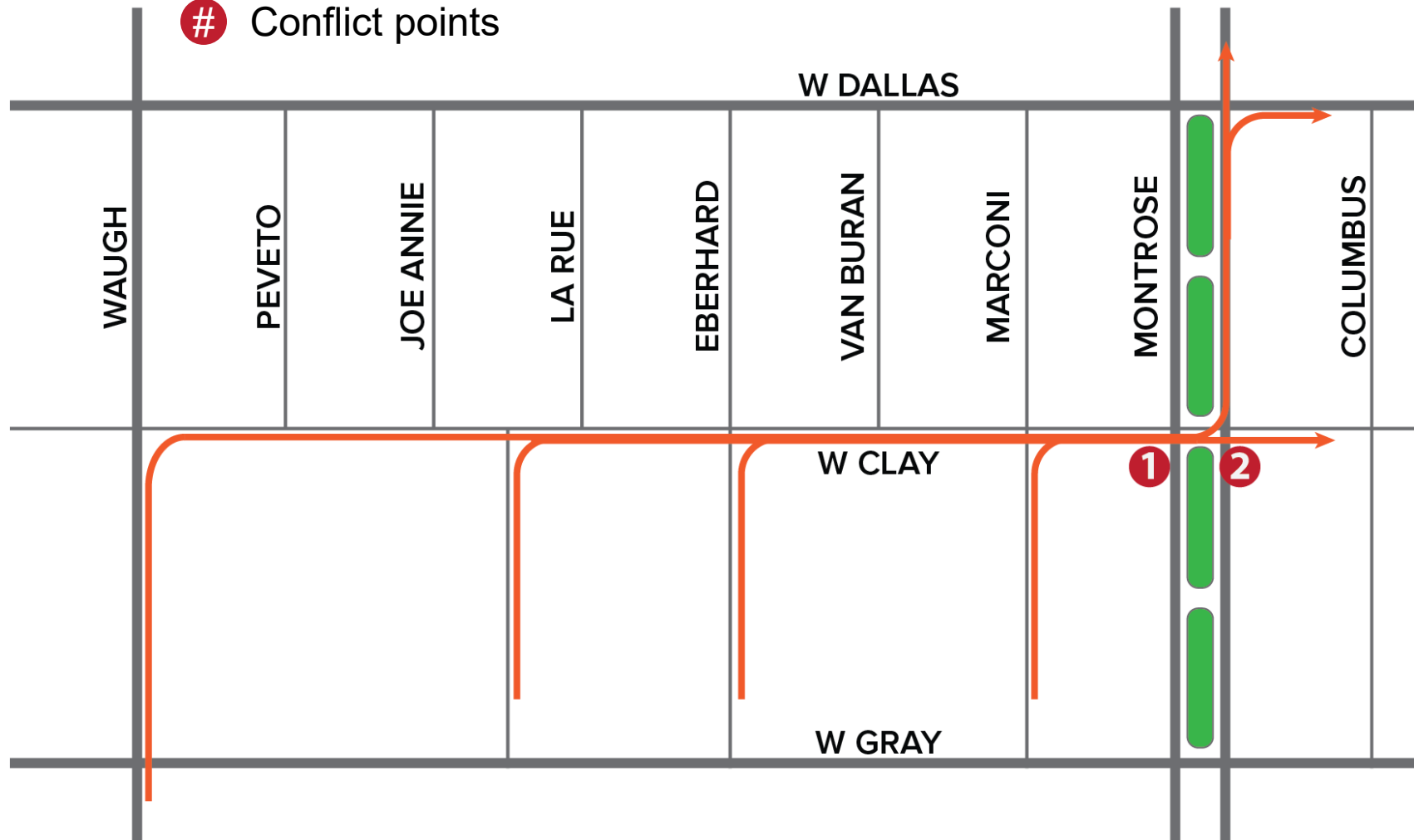
- Trips in Peak Hours
  - AM Peak: 36
  - PM Peak: 27
- Assumed to be from primarily from origins south of W Clay
- Street grid provides multiple route options based on origins & destinations

DISTRIBUTING TRIPS THROUGH STREET GRID - EASTBOUND

- Trips in Peak Hours
  - AM Peak: 32
  - PM Peak: 27
- Assumed to be from primarily from origins south of W Clay
- Street grid provides multiple route options based on origins & destinations

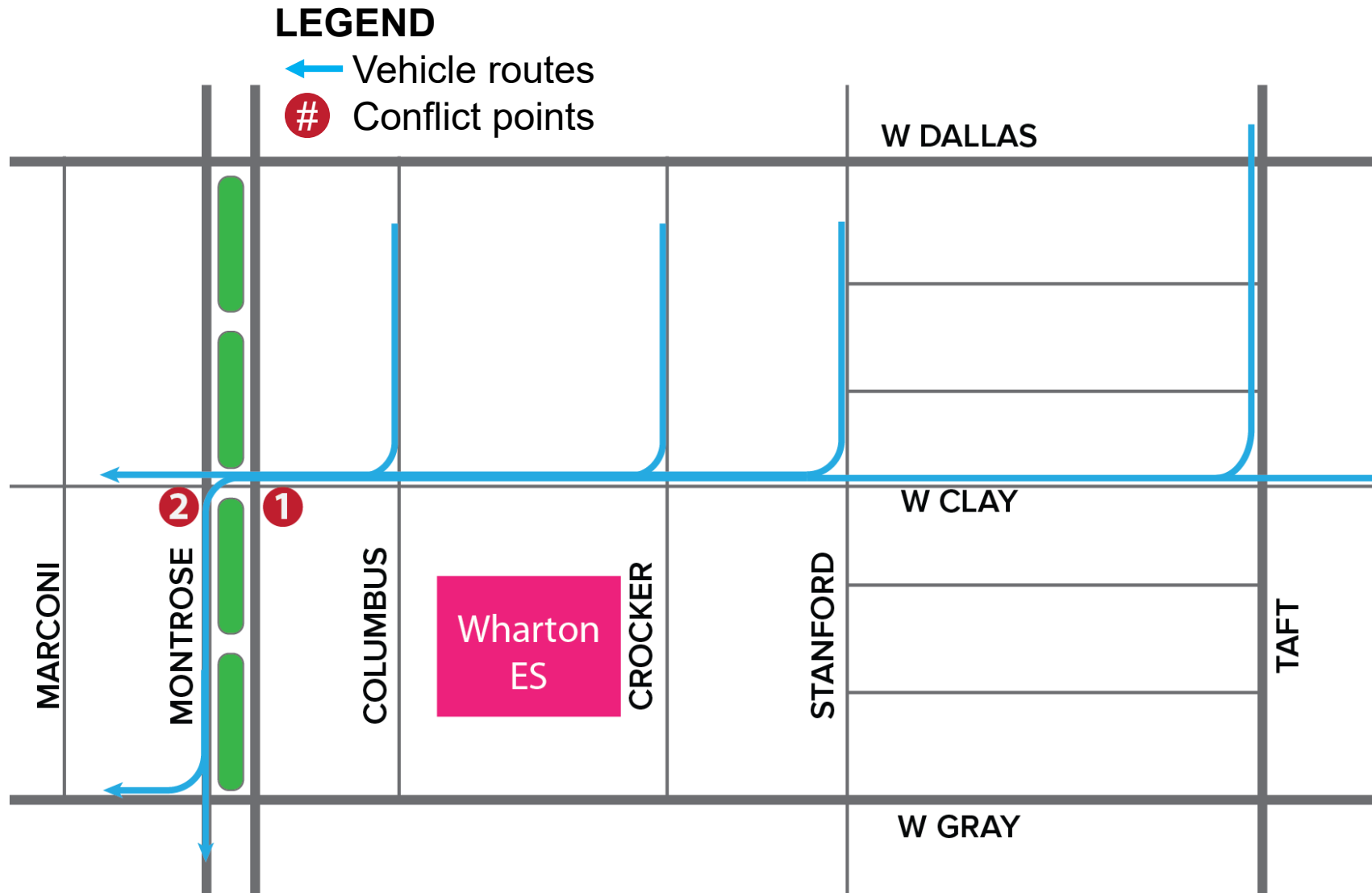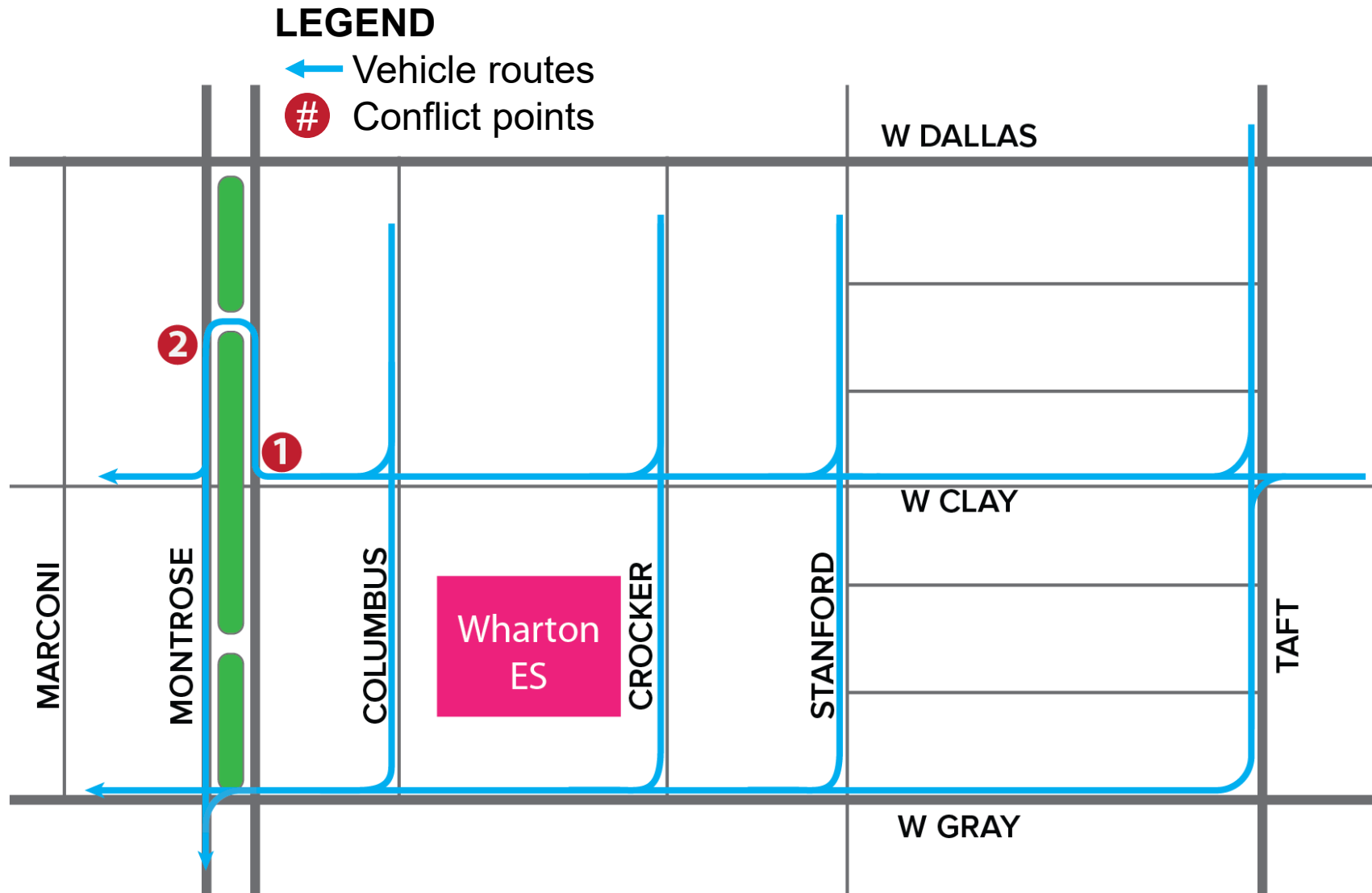# DISTRIBUTING TRIPS THROUGH STREET GRID - WESTBOUND

- Trips in Peak Hours
  - AM Peak: 47
  - PM Peak: 41

- Assumed to be from primarily from origins north of W Clay & Wharton ES

- Street grid provides multiple route options based on origins & destinations

DISTRIBUTING TRIPS THROUGH STREET GRID - WESTBOUND
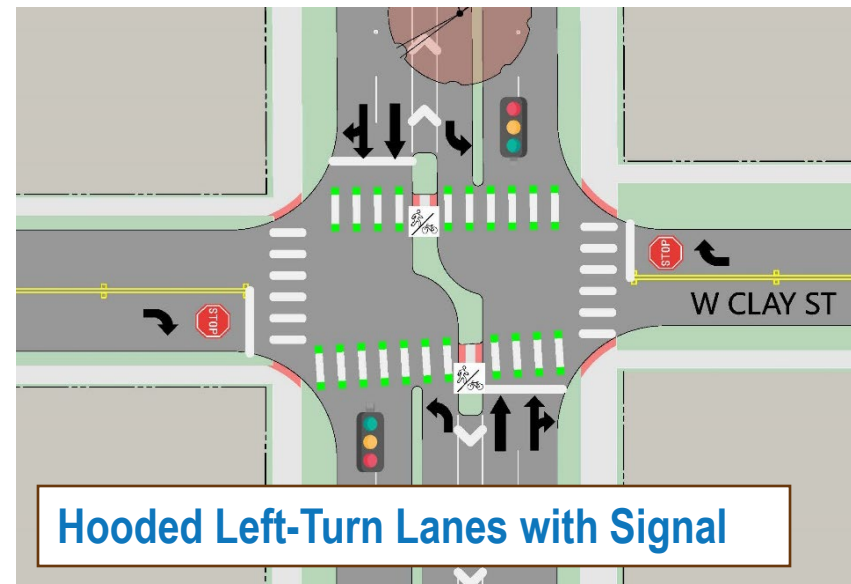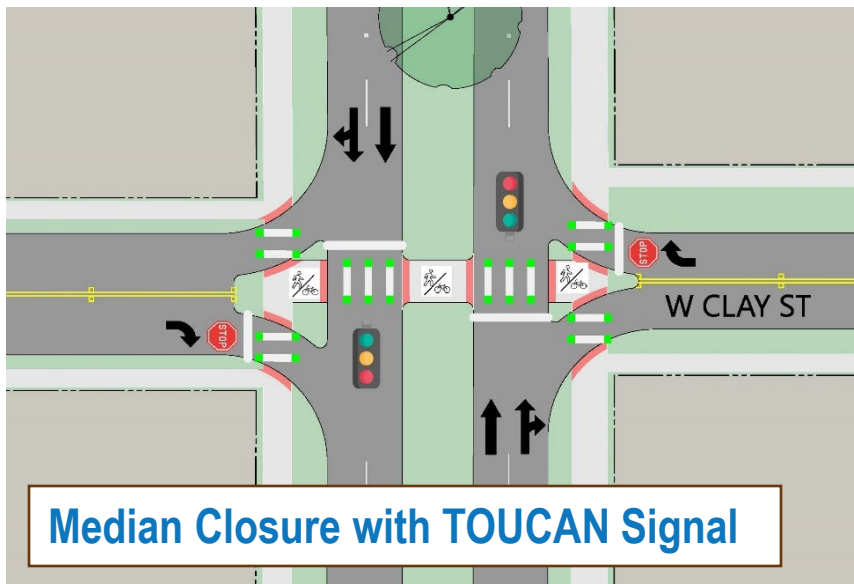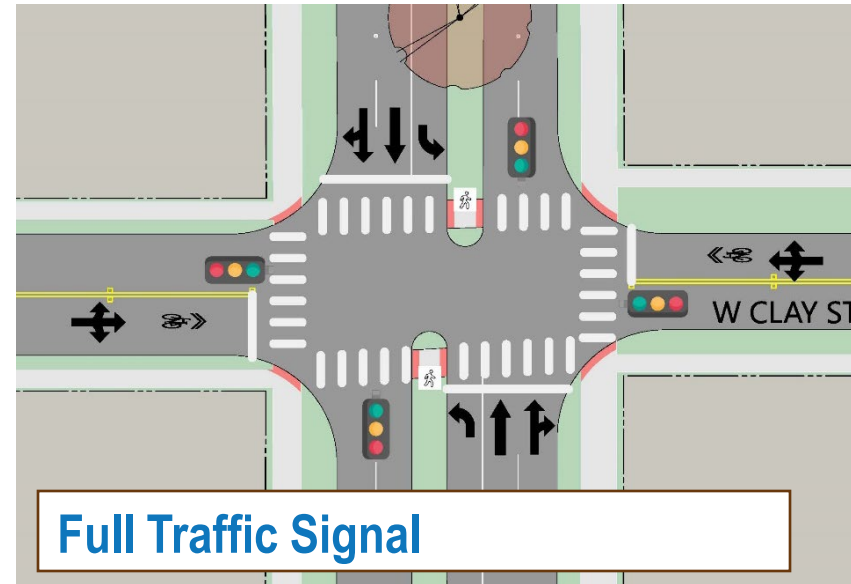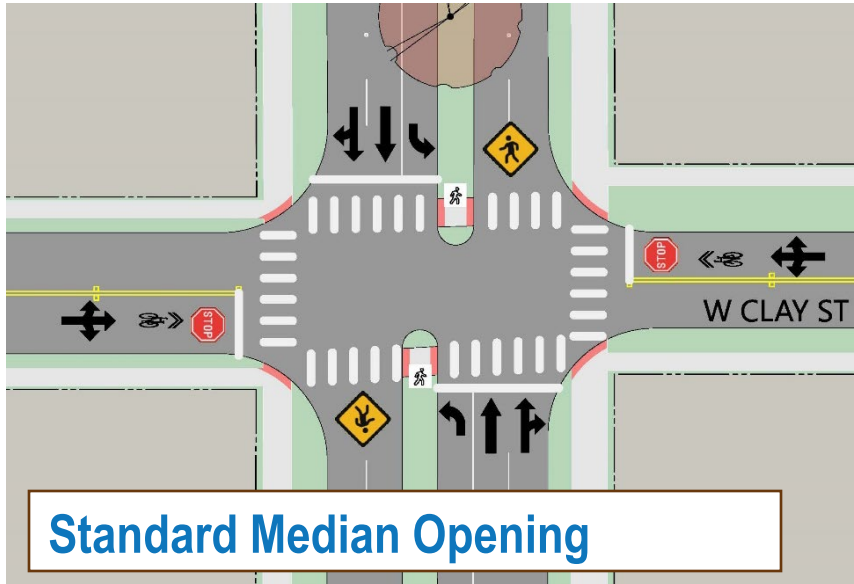

- Trips in Peak Hours
  - AM Peak: 47
  - PM Peak: 41

- Assumed to be from primarily from origins north of W Clay & Wharton ES

- Street grid provides multiple route options based on origins & destinations

INTERSECTION DESIGNS TO CONSIDER

Standard Median Opening

Full Traffic Signal

Median Closure with TOUCAN Signal

Hooded Left-Turn Lanes with Signal

W CLAY ST

19

STANDARD MEDIAN OPENING

(SIMILAR TO EXISTING)

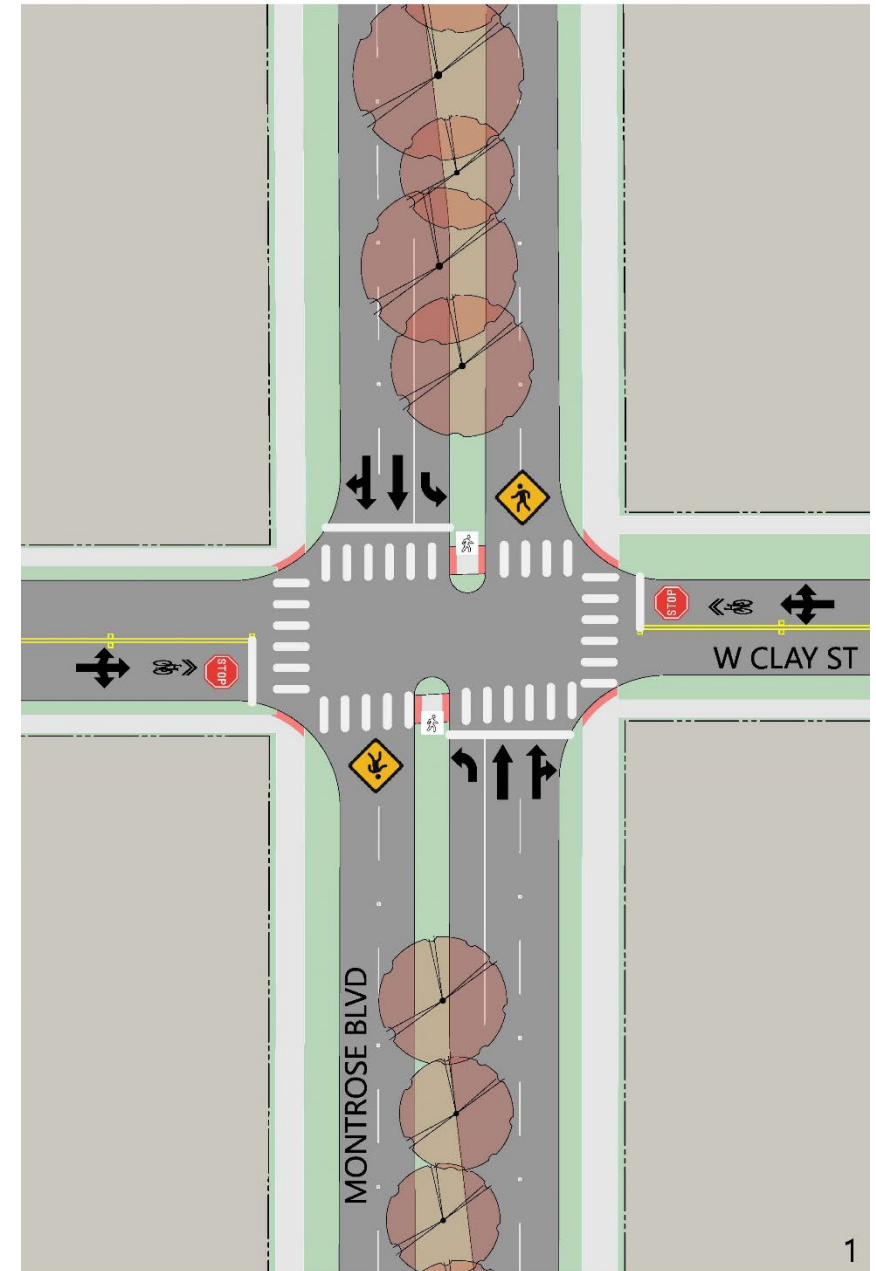Pro — Full vehicle access to and from W Clay St

Median refuge island can be provided

Con — Will require turn lanes – tree removal required

Low-comfort walk/bike crossing without dedicated phase

More conflict points for all users

20

MEDIAN CLOSURE WITH TOUCAN

| Pro	High-comfort ped/bike crossing
	Fewer and less severe conflict points to improve safe intersection operations
	Likely to reduce W Clay traffic volumes due to removal of cut through
	Increased median planting space

Con	Reduces vehicle access to and from W Clay at Montrose
	Some vehicles will seek alternate routes or need to U-Turn on Montrose

W CLAY ST

MONTROSE BLVD

2
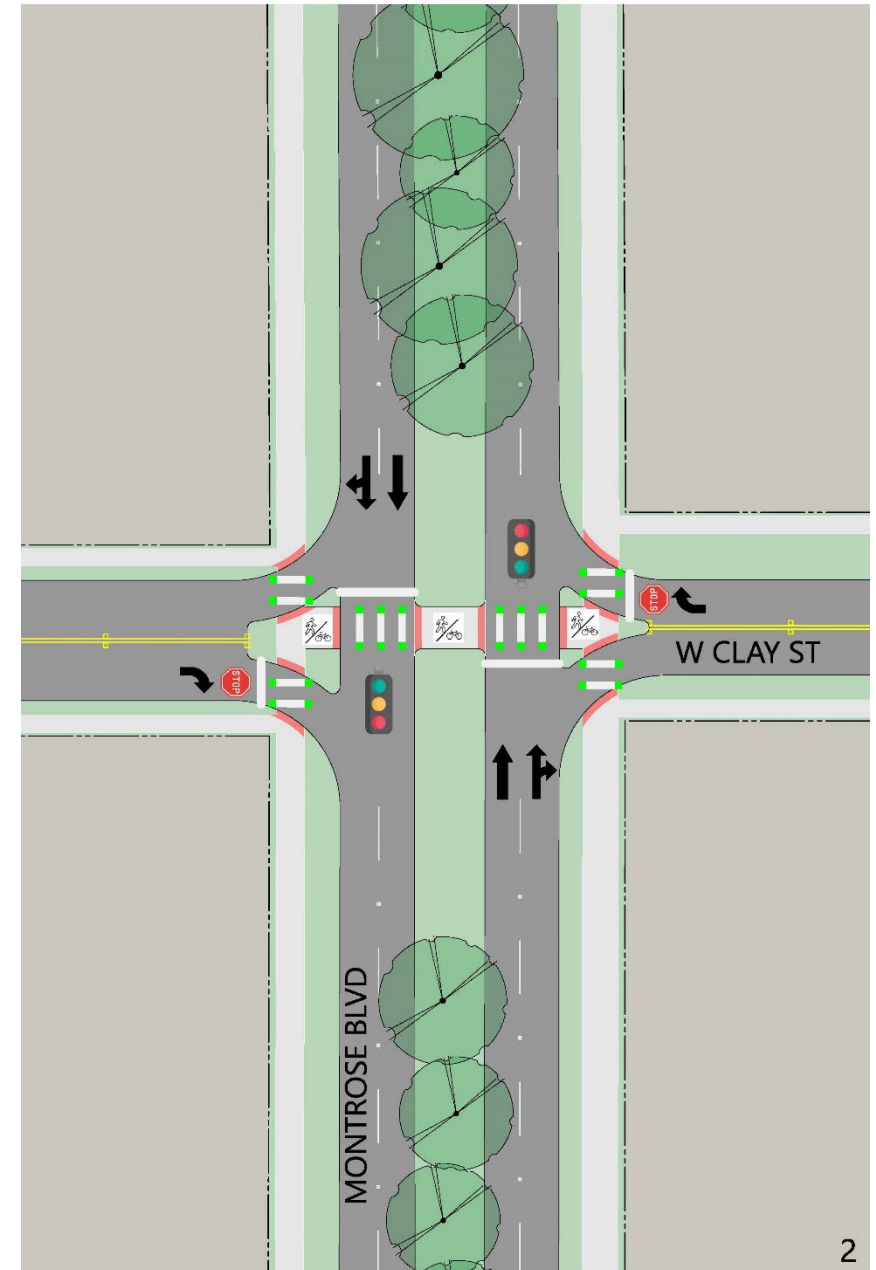
MEDIAN CLOSURE WITH TOUCAN

TOUCAN Example

Walker at Emancipation near Shell Energy Stadium and Columbia Tap Trail

FULL TRAFFIC SIGNAL

Pro

Full vehicle access with dedicated phase to cross Montrose

Dedicated pedestrian crossing

Medium-comfort bike crossing
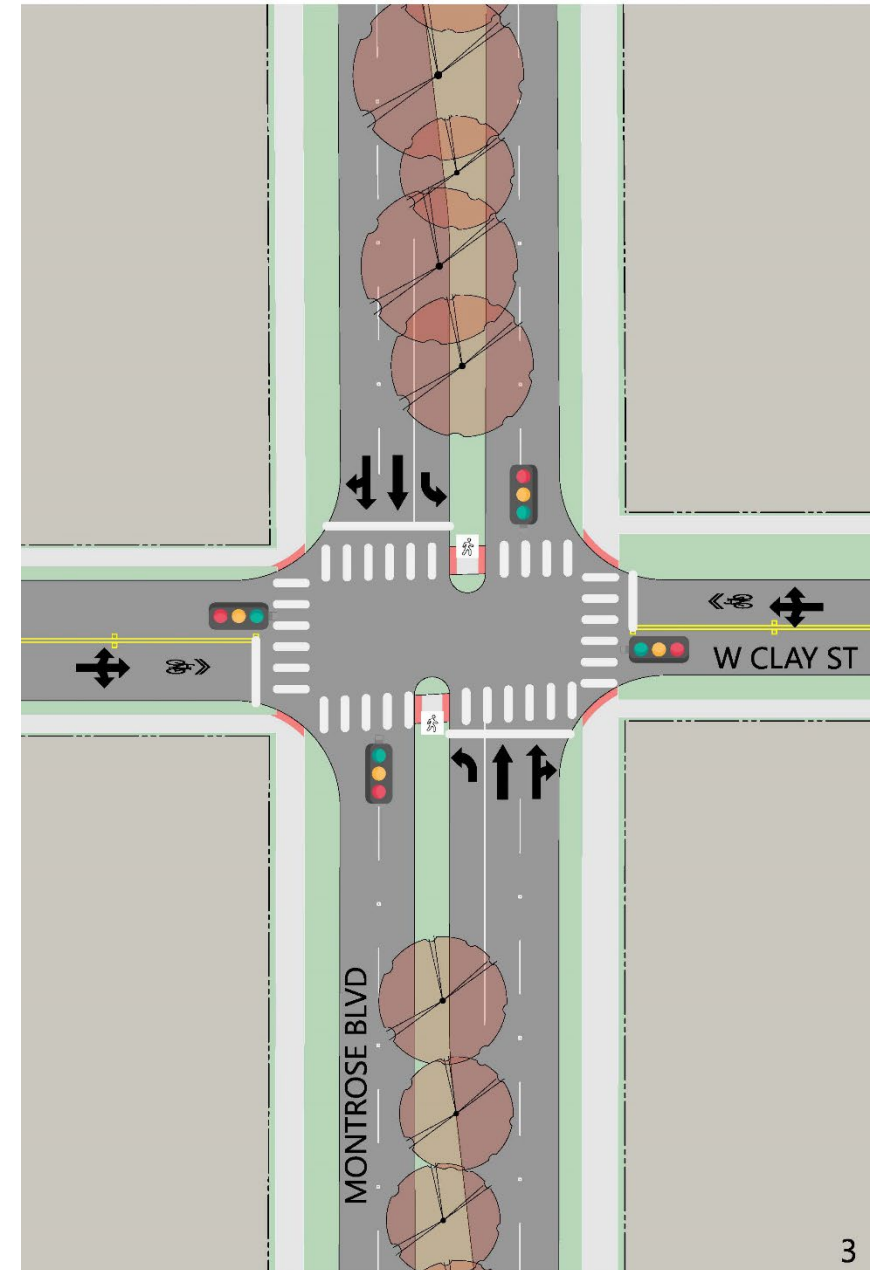
Improved vehicle safety for all left turns

Con

Does not meet minimum volume warrants for installation per standards

Would require turn lanes – median tree removal required

Likely to attract more traffic to W. Clay and increase delays on Montrose

More conflict points for all users than TOUCAN signal design

W CLAY ST

MONTROSE BLVD

3

23

HOODED LEFT-TURNS
W/ SIGNALIZED PEDESTRIAN CROSSINGS

Pro

Medium-comfort walk/bike crossing

More vehicle access maintained than full closure of median
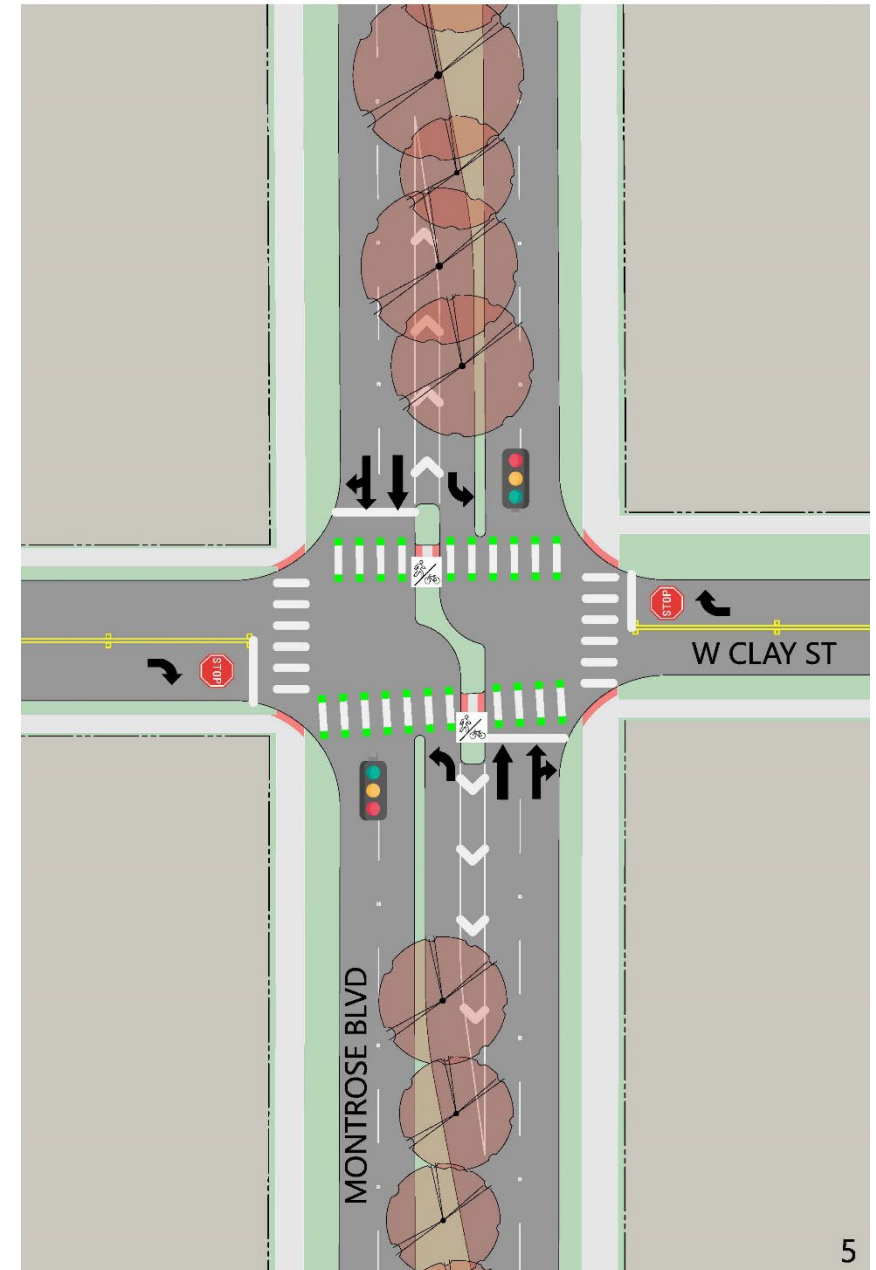
Reduces vehicle conflict points

Reduces cut through traffic on W Clay

Con

Vehicle access from W Clay reduced (through and left turn movements from Clay)

Some vehicles will seek alternate routes or need to U-Turn on Montrose

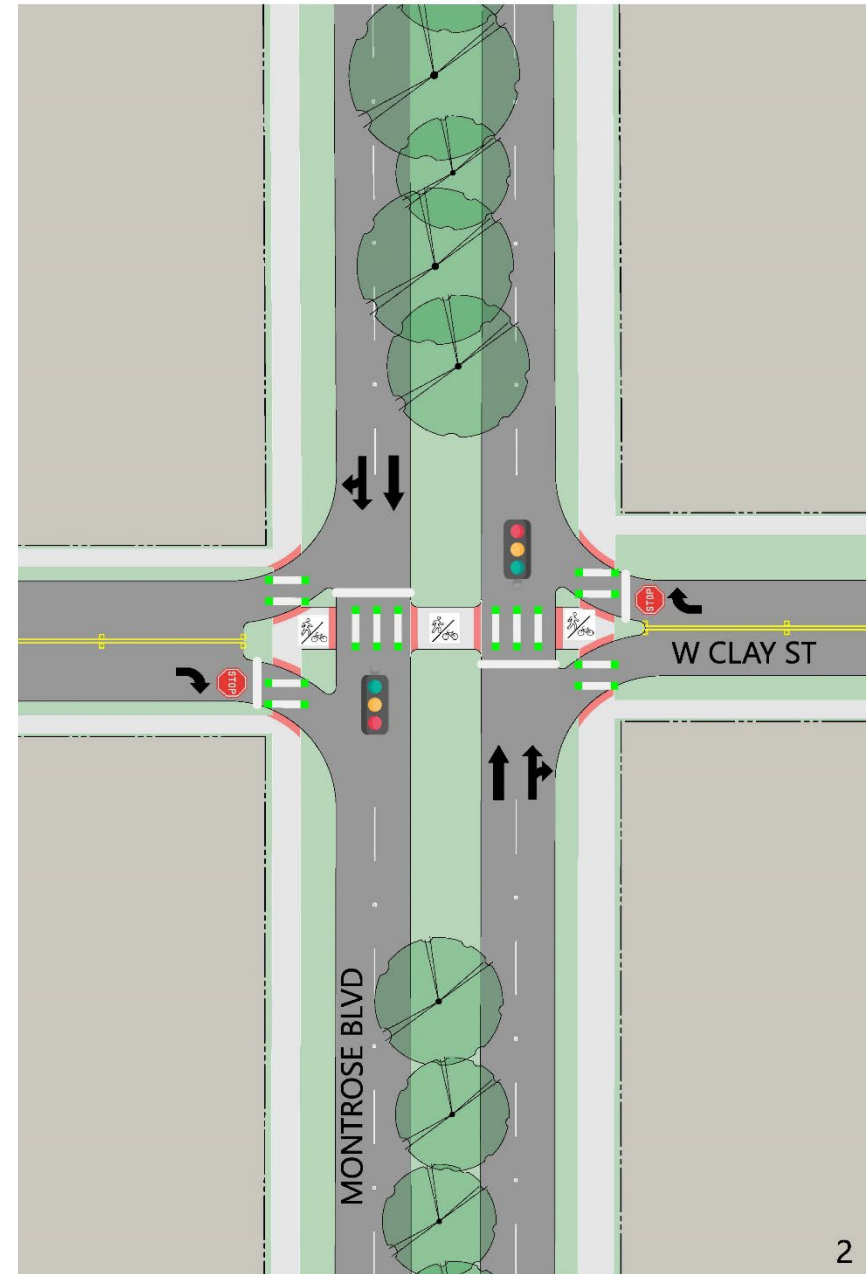Will require turn lanes and result in median tree removal

W CLAY ST

MONTROSE BLVD

5

Treatment	Pedestrian Accommodations	Bike Accommodations	Vehicle Safety - Conflict Points	General Vehicle Access	Tree Impacts
Standard Median Opening					
Median Closure with Toucan Signal					
Full Traffic Signal					
Hooded Left-turn Lanes with Signalized Pedestrian Crossings					

W. CLAY RECOMMENDATION

- Median closure with Toucan signal crossing

- Maintain adjacent median openings for local access

- Monitor traffic data after construction to assess need for future Traffic Calming measures
  - Speed cushions
  - Traffic diverters
  - All-Way Stop at key intersections

QUESTIONS