



City of Pittsburgh

**North Avenue Traffic Signals
and Safety Project**

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North Avenue Traffic Signals and Safety Project

Agenda

1. Introductions
2. Purpose
3. Design Concepts
4. Discussion and Feedback
5. Next Steps



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North Avenue Traffic Signals and Safety Project

Introductions

1. Pittsburgh Department of Mobility & Infrastructure (DOMI)
 - Nick Ross, P.E. – Municipal Traffic Engineer
2. Consultant Team – AECOM and Pashek+MTR



Rachel Brownlee, P.E., PTOE
Project Manager, AECOM



John Buerkle, RSLA
President, Pashek+MTR



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North Avenue Traffic Signals and Safety Project

Purpose

The purpose of the North Avenue Traffic Signals and Safety Project is to update traffic signal infrastructure and improve safety for people walking, crossing, driving, and taking public transit along North Avenue.



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Background

Long-term need for updated infrastructure with improved safety and accessibility beginning with the intersection of **Federal** at **North**.

Recent Plans and Projects:

- Allegheny City Central Master Plan (2014)
- Lower Northside Bicycle Connection Study (2016)
- Allegheny Commons North Promenade (2020)
- Allegheny Circle Two-Way Conversion (2021)



Scoping Meeting held September 2020 with community stakeholders.



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Project Limits



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Design Directives

- Evaluate need for traffic signal upgrades including upgraded controllers, new pedestrian signals, upgraded ADA accommodations, and upgraded crosswalks.
- Provide improved pedestrian access to Allegheny Commons Park.
- Evaluate opportunities for transit upgrades to provide more waiting room for transit riders and improved pedestrian access to transit stops along North Avenue.
- Evaluate opportunities for travel lane reduction to improve pedestrian safety and mobility and to discourage aggressive driving.



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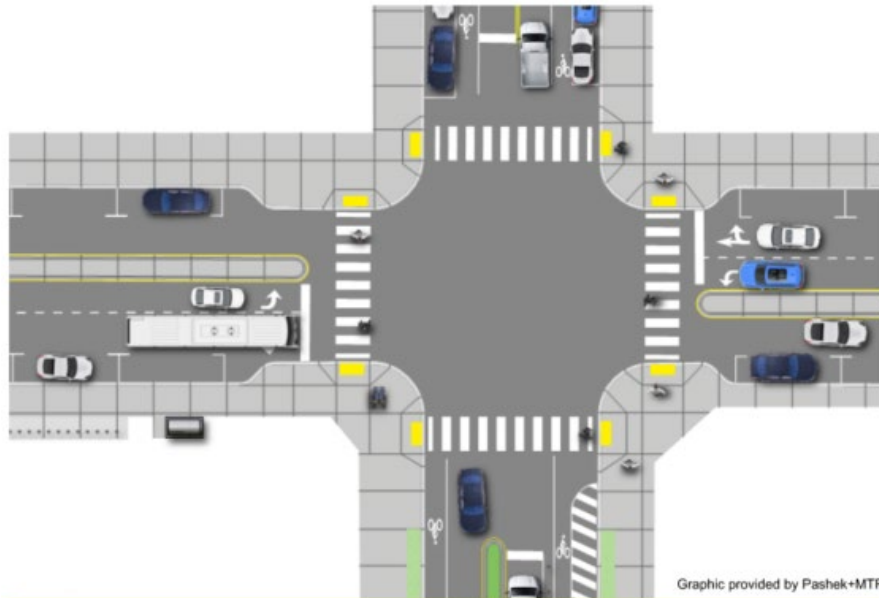
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Traffic Study

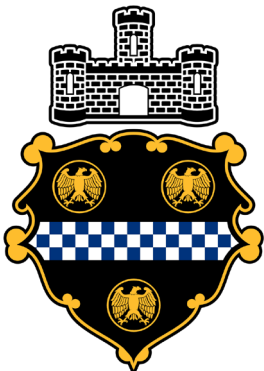
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TRAFFIC ANALYSIS AND FINDINGS FOR EXISTING CONDITIONS AND ALTERNATIVES
CITY OF PITTSBURGH, ALLEGHENY COUNTY

November 4, 2021



- **Data Collection**
 - Vehicle, pedestrian, and transit data collected July 2021 and compared against historic averages
- **Crash Study**
 - Identified number, type, severity, and locations of crashes
- **Existing Condition Analysis**
 - Evaluate performance of existing North Ave signals
 - Level of Service, Queuing, Travel Time
- **Alternative Analysis**
 - Evaluate two “build” alternatives
 - Pedestrian focus
 - Transit focus



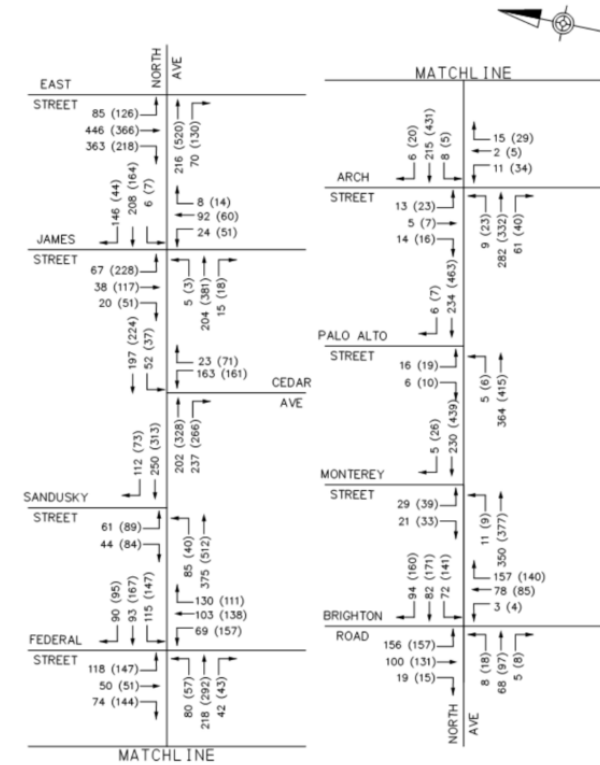
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Data Collection & Volume Development

- Vehicle, pedestrian, and transit data collected July 2021 and compared against historic averages
 - 2021 volumes found to be approximately 15% higher than 2017 data
(Source: Streetlight)
- Volumes adjusted to account for W Ohio Street Bridge closure and Allegheny Circle Two-Way Conversion

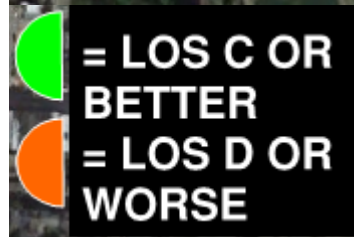
ATR Location			ADT	HV%
1	North Avenue – Eastern Leg of North Avenue & Federal Street	EB	7,649	6.2%
		WB	5,657	10.4%
		Total	13,306	8.0%
2	North Avenue – Western Leg of North Avenue & Federal Street	EB	6,834	6.8%
		WB	6,549	6.9%
		Total	13,383	6.8%



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Traffic Analysis – Existing Condition Levels of Service



LOS	Delay per vehicle (seconds)
A	Less than 10
B	Between 10 and 20
C	Between 20 and 35
D	Between 35 and 55
E	Between 55 and 80
F	Greater than 80

Minimum acceptable LOS
for urban context



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Alternative Analysis

1. Pedestrian-Focused Option
2. Transit-Focused Option

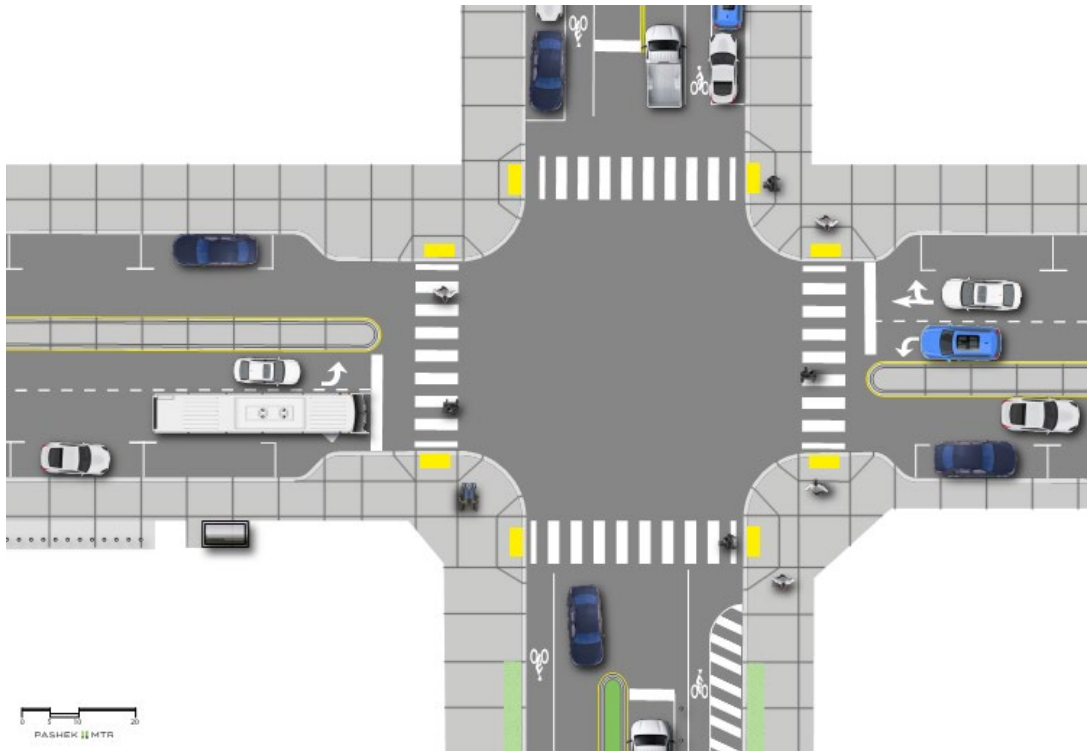
The chosen design will be based on community feedback and may contain elements of both alternatives.



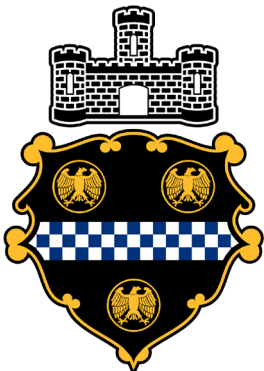
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Alternative Analysis - Pedestrian Focused Option



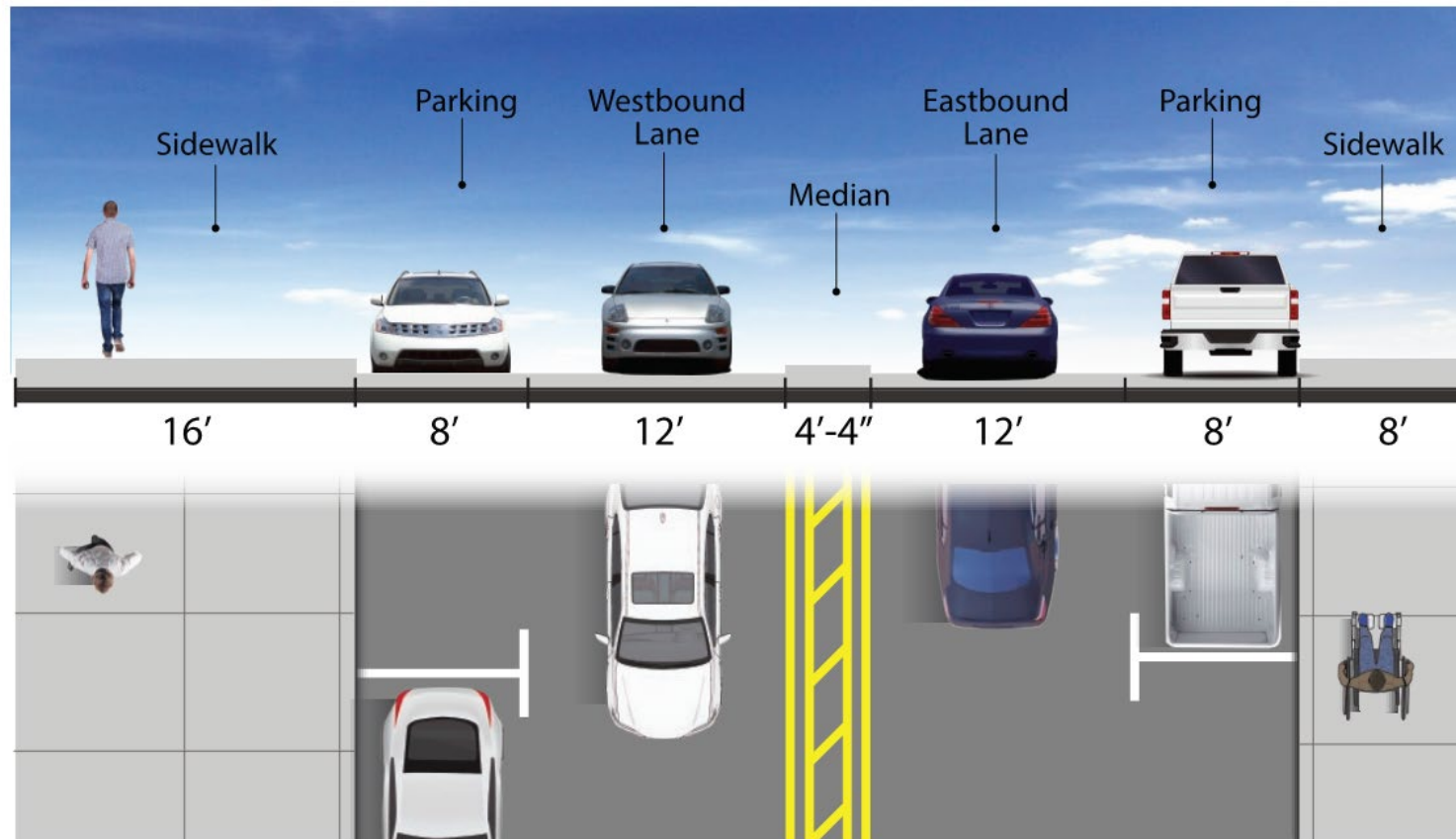
- **“Road Diet”**
 - Maintain one through-lane in each direction between Arch and Cedar plus a left-turn lane
- **Intersection Bumpouts**
 - Reduce crossing distances by up to 30%
- **Leading Pedestrian Intervals**
 - 3-5 seconds head start for peds
- **On-street Parking**
 - Addition of more than 50 on-street parking spaces to buffer southern sidewalk from live traffic



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Alternative Analysis - Pedestrian Focused Typical Section



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Alternative Analysis – Pedestrian Focused Lane Configuration



Existing
Condition

- LEGEND
- ON-STREET PARKING
 - RESTRICTED ON-STREET PARKING
 - MEDIAN
 - PAVEMENT
 - PROPOSED BUMP-OUT
 - TRAFFIC FLOW ARROW



Proposed
Condition



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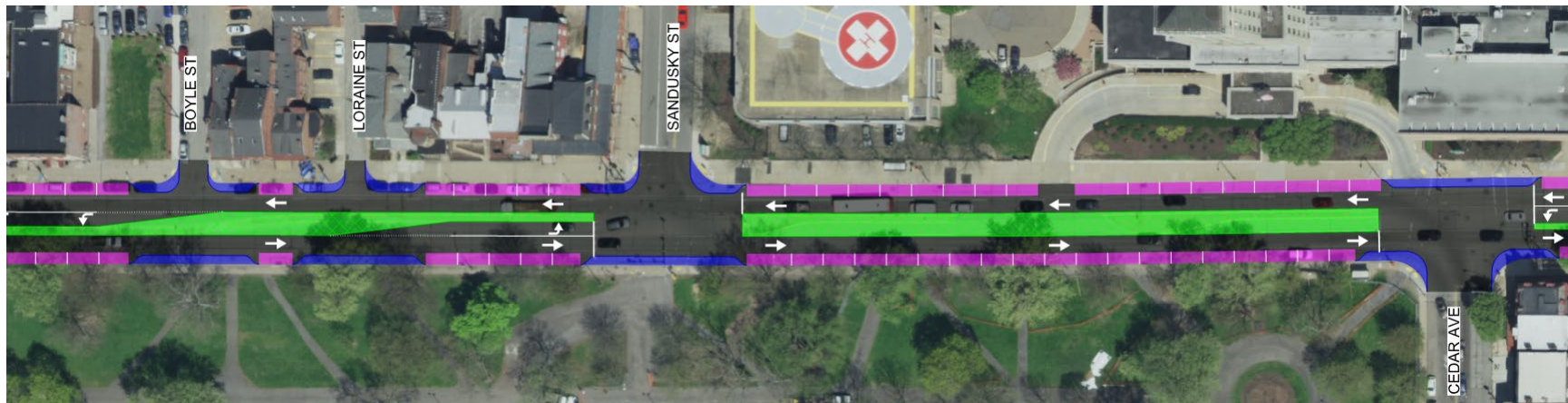
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Alternative Analysis – Pedestrian Focused Lane Configuration



Existing
Condition

- LEGEND
- ON-STREET PARKING
 - RESTRICTED ON-STREET PARKING
 - MEDIAN
 - PAVEMENT
 - PROPOSED BUMP-OUT
 - TRAFFIC FLOW ARROW



Proposed
Condition



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Traffic Analysis – Pedestrian Focused Alternative Levels of Service



“How did you remove lanes but improve Level of Service?”

- Volumes are low enough to operate comfortably – 4 or 5 lanes unnecessary
- Coordinate signals to reduce arrivals on red
- Eliminate all-walk phase at Cedar
 - <50% compliance
 - Leading Pedestrian Interval added in place



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Alternative Analysis – Pedestrian Focused Option

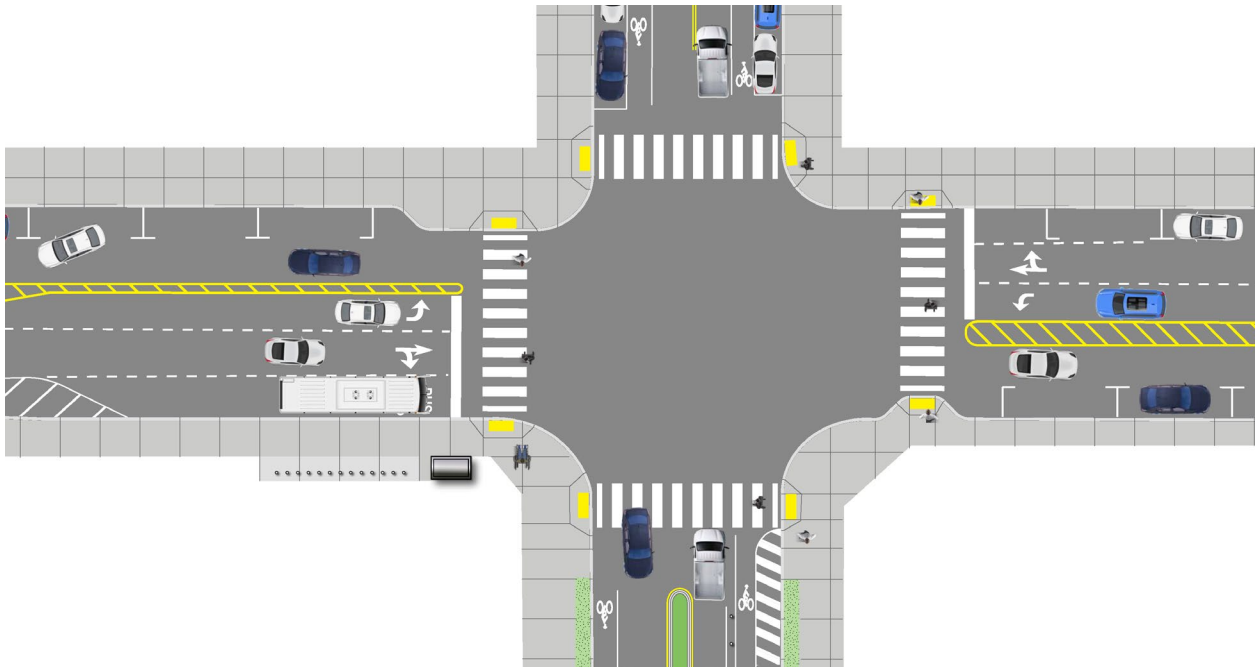
Pros	Cons
Increased safety for all modes	Transit stays in the travel lane / blocks traffic
More comfortable and accessible pedestrian experience	Bump outs can have impacts on drainage
Additional on-street parking	



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Alternative Analysis – Transit Focused Option



- **Bus Routes: 8, 11, 13, 15, 16, 17, 54**
 - 17 stops combined eastbound and westbound

- **“Road Diet”**
 - Maintain one through-lane in each direction between Arch and Cedar plus a left-turn lane
- **Bus Pullouts**
 - Reduce bus blockages while boarding and alighting
- **Transit Signal Priority**
 - Extended green to allow bus to proceed
- **On-street Parking**
 - Addition of on-street parking spaces to buffer southern sidewalk from live traffic



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Alternative Analysis – Transit Focused Lane Configuration



Existing
Condition

- LEGEND
- ON-STREET PARKING
 - RESTRICTED ON-STREET PARKING
 - MEDIAN
 - PAVEMENT
 - PROPOSED BUMP-OUT
 - PROPOSED BUS PULL-OFF
 - TRAFFIC FLOW ARROW



Proposed
Condition



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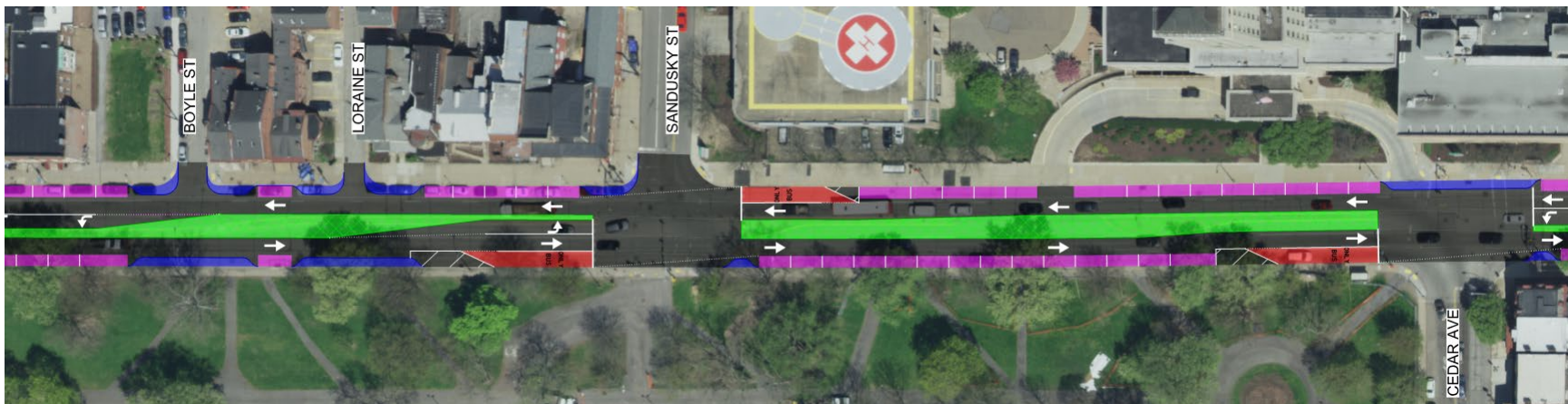
Alternative Analysis – Transit Focused Lane Configuration



Existing
Condition

LEGEND

- ON-STREET PARKING
- RESTRICTED ON-STREET PARKING
- MEDIAN
- PAVEMENT
- PROPOSED BUMP-OUT
- PROPOSED BUS PULL-OFF
- TRAFFIC FLOW ARROW



Proposed
Condition



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Traffic Analysis - Transit Focused Alternative Levels of Service



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Alternative Analysis – Transit Focused Option

Pros	Cons
Less bus blockages for vehicles	Limited bump outs / fewer pedestrian improvements
Allows for transit signal priority / better transit reliability	Amount of on-street parking decreases slightly
Less impacts to drainage	



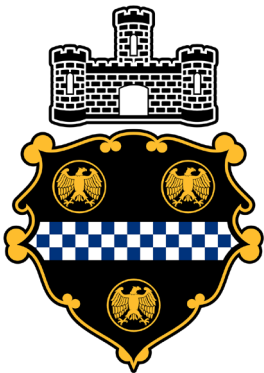
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Next Steps

1. Complete Traffic Study
2. Continue Public Outreach
3. Begin Preliminary Engineering

Next Public Meeting: Spring 2022



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Discussion and Feedback

1. What values and needs do we share as a neighborhood?
2. What tradeoffs are we willing to accept?

Opportunities to Comment

- EngagePGH (launch set for next week!)
- Email (Rachel.Brownlee@aecom.com)

