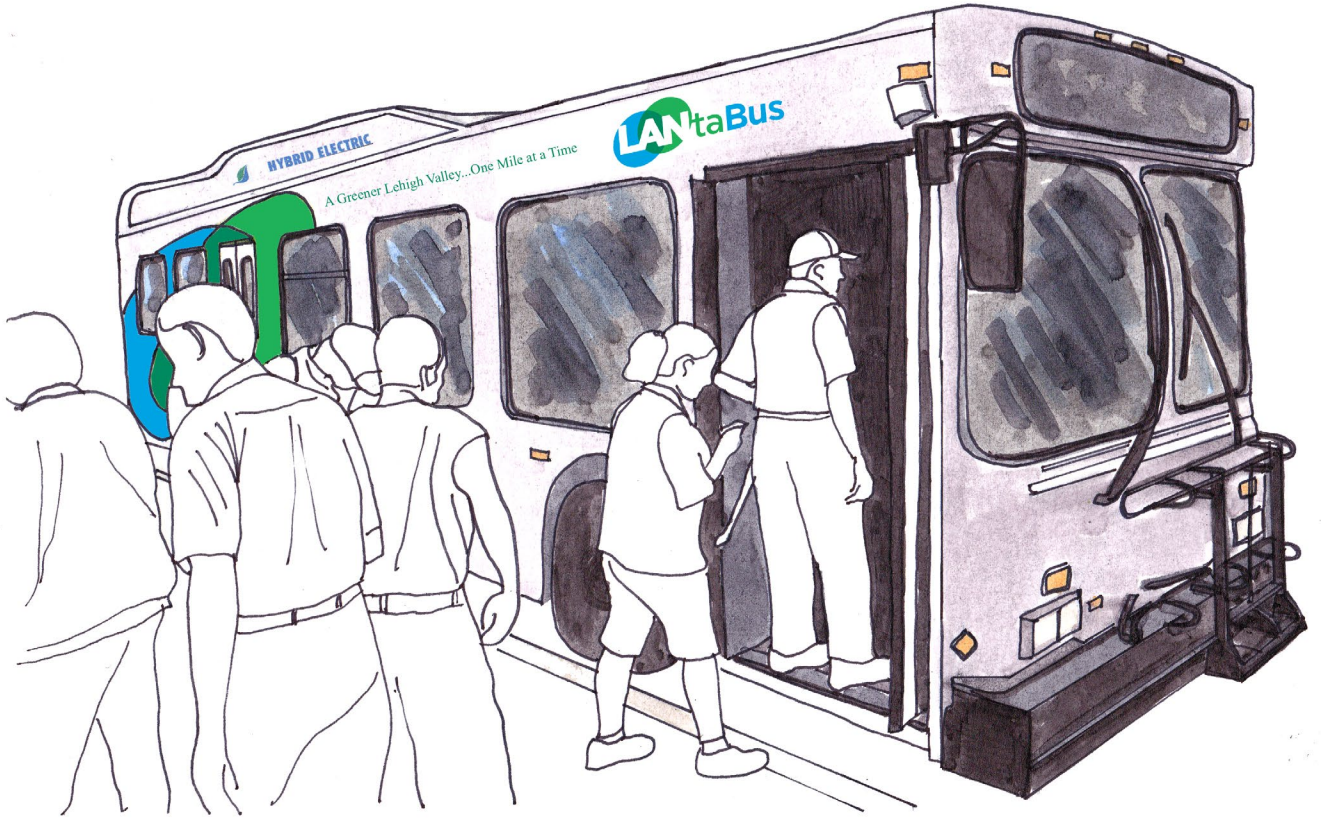


Enhanced Bus Service (EBS)

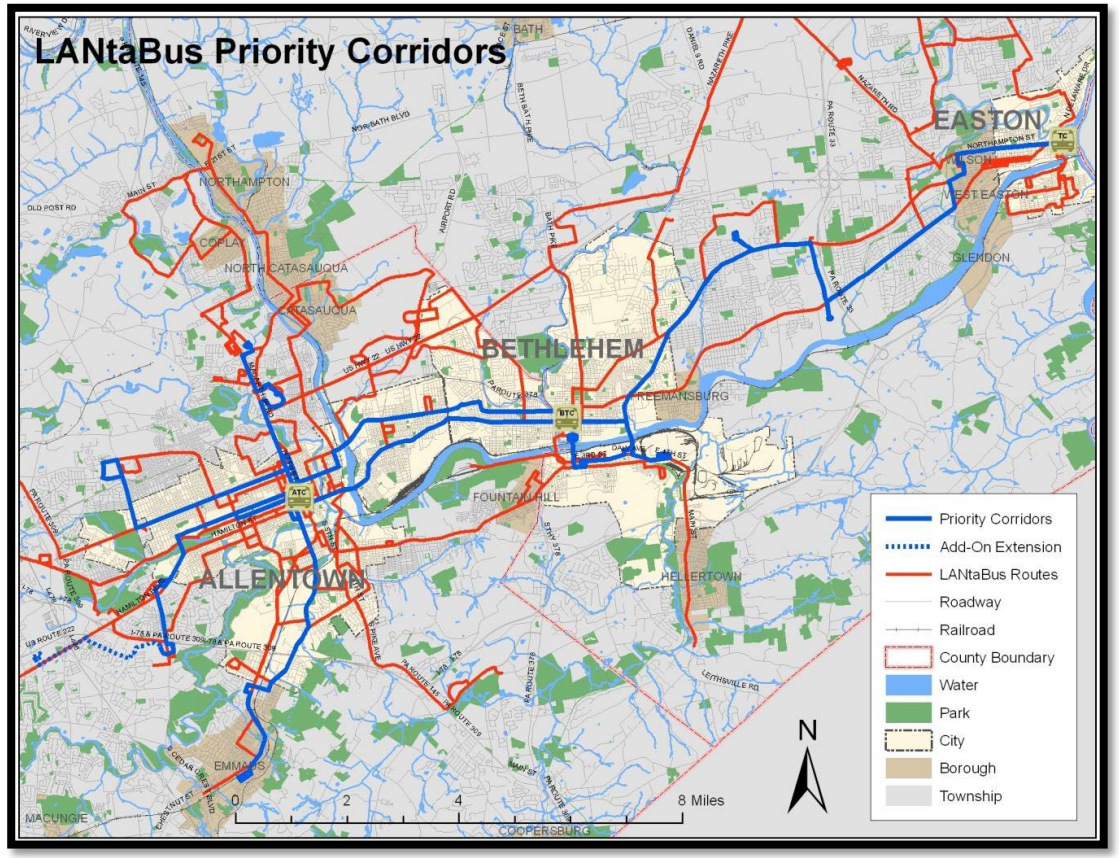
Build-out Planning

AJ Jordan, Manager of Planning & Scheduling
Molly Wood, Planner & Land Use Specialist

May 18, 2022

Enhanced Bus Service (EBS)

- **EBS is a bus rapid transit (BRT) like vision** which utilizes aspects of a light rail system along with the cost efficiencies of a bus network **to expedite trips and reduce congestion in high traffic corridors.**



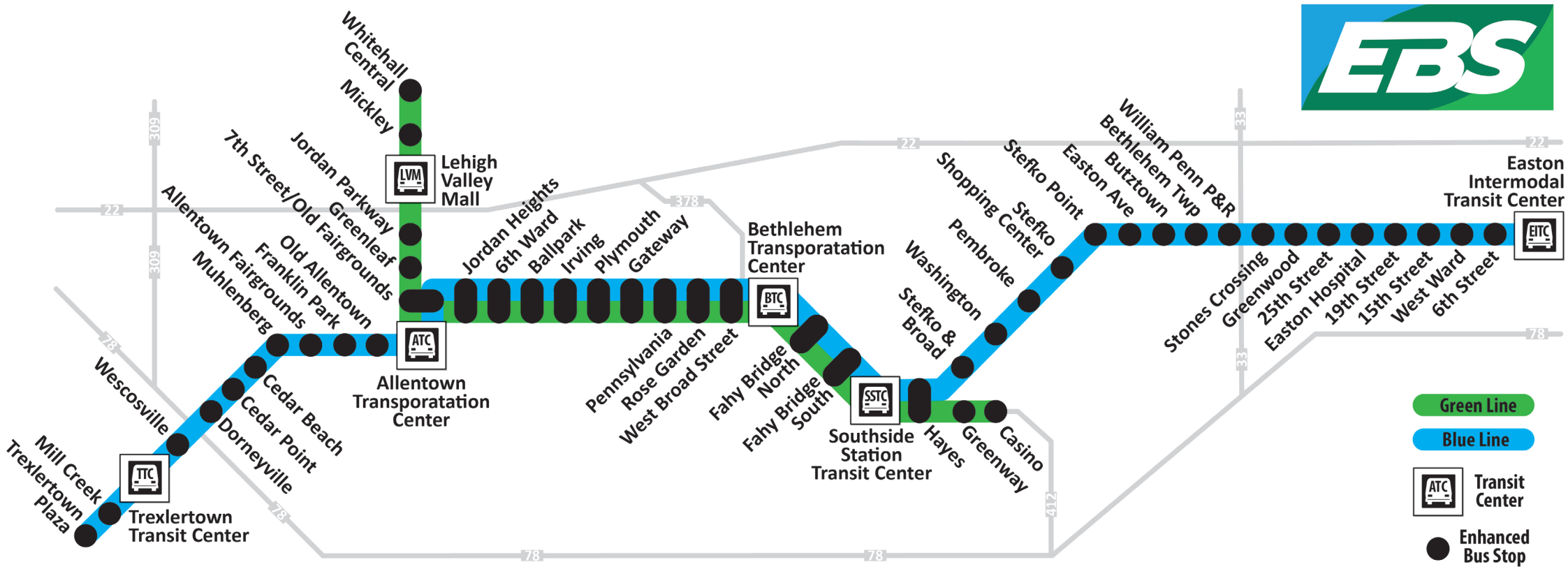
- EBS highlights proposed **trunk routes in the urban core** of the region to address the **high demand** corridors in the transit network.

- **Densifying trunk corridors and a comprehensive pedestrian network are key components** to make transit successful overall, but especially for EBS

Enhanced Bus Service (EBS)

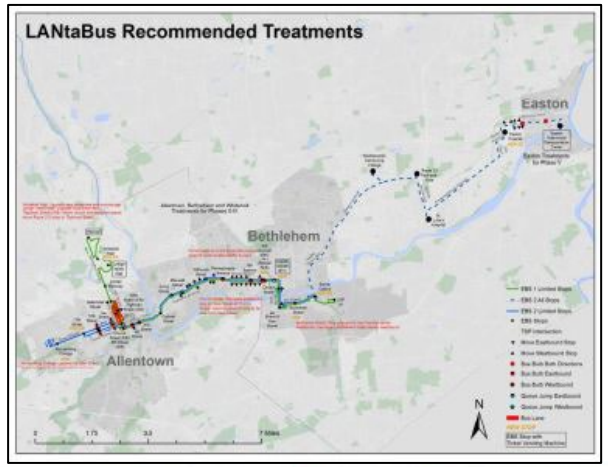
THE EBS PLAN INCLUDES THREE ELEMENTS:

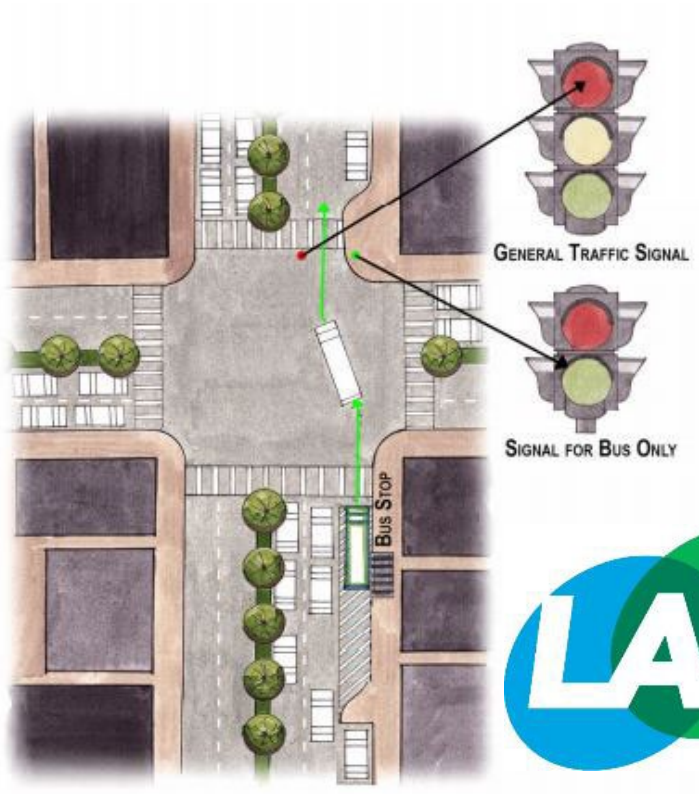
- **FIRST IS A SERVICE PLAN FOR WHERE, WHEN, AND HOW THE SERVICE ITSELF WOULD OPERATE.**
  - Includes the introduction of limited stop express service under which the bus only stops at designated stops rather than at all marked stops. This helps to reduce travel time on the transit system.



Enhanced Bus Service (EBS)

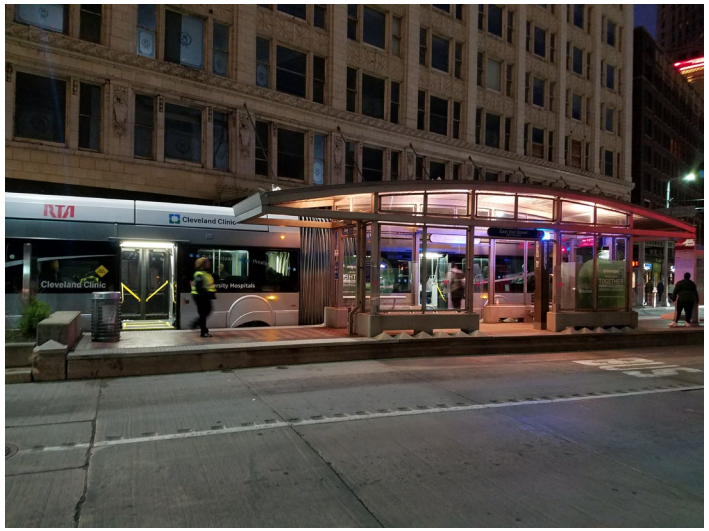
- **THE SECOND ELEMENT IS A SERIES OF RECOMMENDATIONS FOR ROADWAY IMPROVEMENTS THAT ARE DESIGNED TO EXPEDITE BUS TRAVEL SPEEDS INCLUDING:**
  - **Traffic signal prioritization** – TSP - for transit vehicles along key corridors
  - **Queue jump lanes** for buses at bottleneck intersections
  - **Sidewalk extensions/bus bulb out**
  - **Dedicated bus only lanes**





Enhanced Bus Service (EBS)

- **THE THIRD ELEMENT IS A SERIES OF IMPROVEMENTS TO DESIGNATED STATION STOPS ALONG THE CORRIDORS IN MULTIPLE PHASES:**
  - **Short Term – Seating, Schedules and Lighting where possible at all stops**
  - **Medium Term – Shelter and Lighting where possible at all stops**
  - **Long Term – Full station buildout**



Transit Service Progression

Where we are

Where we're aiming

Buses per Hour along Corridor

Current Levels

LANTA EB/BRT Phase I

LANTA EB/BRT Phase II

LANTA EB/BRT Phase IV

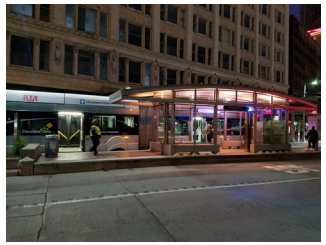
Added Capacity based on Demand

Added Capacity based on Demand

Mode Shift based on Demand and Cost Efficiencies

BRT/Limited Express Bus

Stop/Station Scale & Amenities



Enhanced Bus Service (EBS)

CURRENT STATION STOPS

All locations are current bus stops with signs indicating routes and contact information.



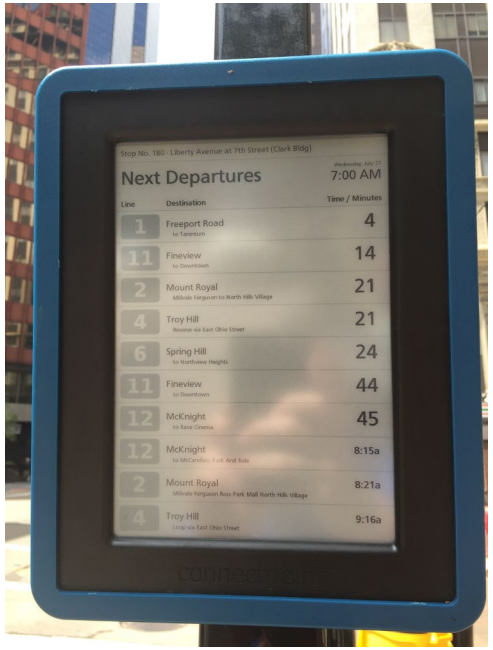




Enhanced Bus Service (EBS)

NEAR TERM IMPROVEMENTS

Within the next year, all stops should be improved to accommodate seating, schedule availability and shelter/lighting (where possible).



Enhanced Bus Service (EBS)

EBS Case Studies for Station Stop Improvements

Realtime Signage, Unique Branding, Ticket Vending Machines, Lighting and Shelter at all Station Stops.

Enhanced Bus Service (EBS)

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Minneapolis, MN
MetroTransit
A-Line

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Albany, NY
CDTA
BusPlus

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Cincinnati, OH
SORTA
MetroPlus

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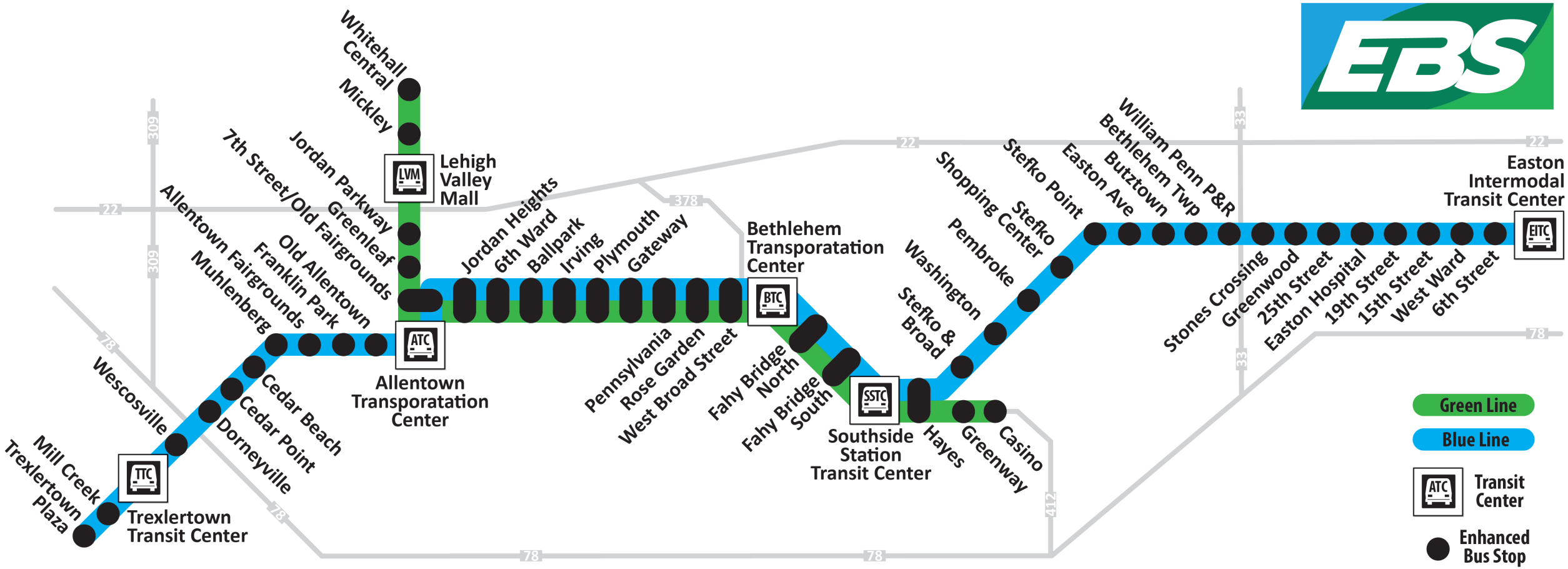
Richmond, VA
GRTC
Pulse

Enhanced Bus Service (EBS)



Enhanced Bus Service (EBS)

- While LANTA's Enhanced Bus plan lays out an ambitious vision for what such a network could look like in the Lehigh Valley, **it is not financially feasible to complete as one massive project.**

- We see it as a **multi-phase, multi-year build-out**.

- We encourage everyone to see **EBS not as a stand-alone project, but rather as a "transit priority" outline approach** as all partners collaborate.

- **Individual roadway and traffic signal projects can each independently create benefit for all transit service** operating along the corridors

- We encourage all municipalities to be mindful of and **pursue those recommendations as part of upcoming road improvement, streetscape, intersection, and signal improvement projects.**

Gradual, steady, and constant improvements will get us to the transit future we envision

Enhanced Bus Service (EBS)

Opportunities for Significant, Innovative Regional Solutions

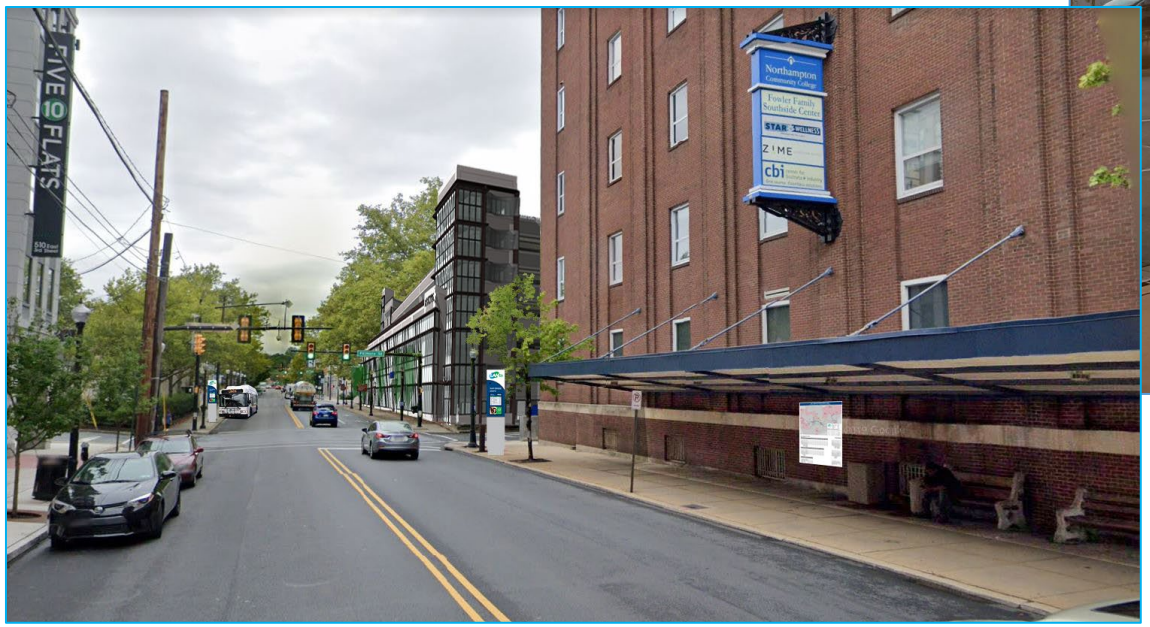
MacArthur Road / 7th St

Southside Bethlehem

Northampton Street- Easton

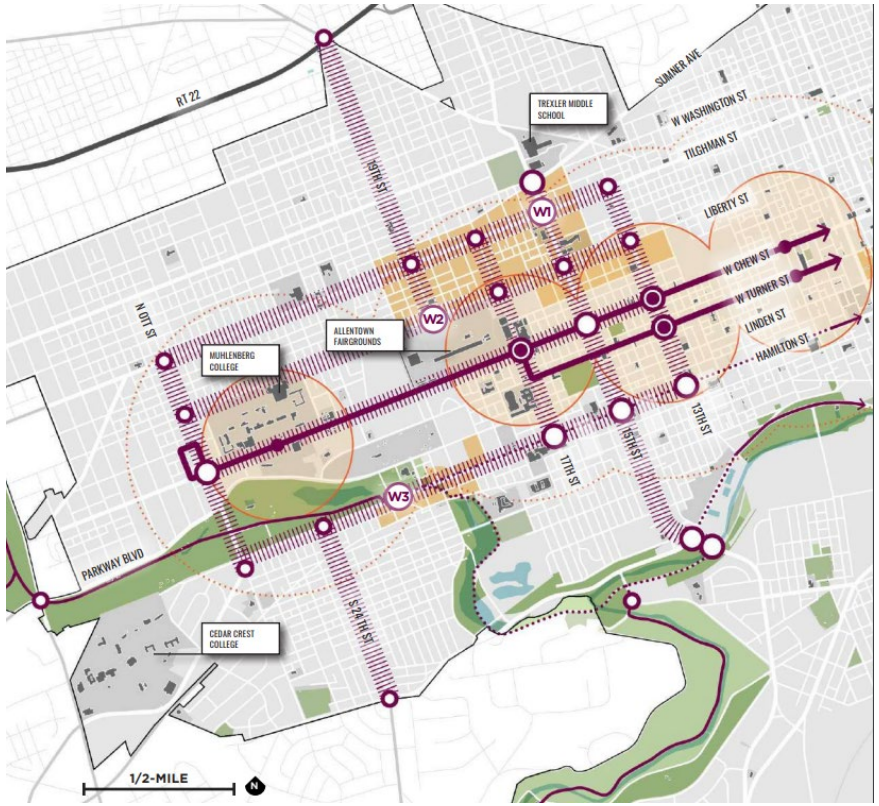
Hamilton Blvd - South Whitehall, Lower/Upper Mac

Metro Red Line
Metro Transit/MVTA
Apple Valley, MN



Enhanced Bus Service (EBS)

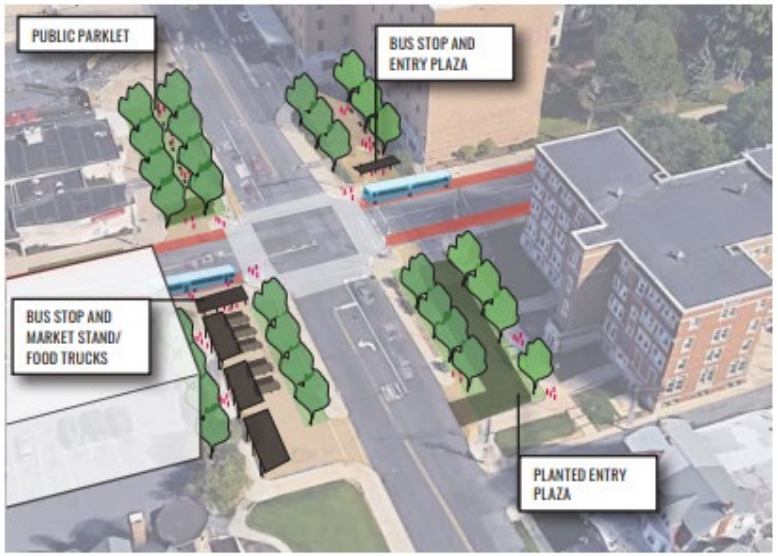
Coordination with regional comprehensive plans. These are from Allentown Vision 2030, the City of Allentown's comprehensive plan.

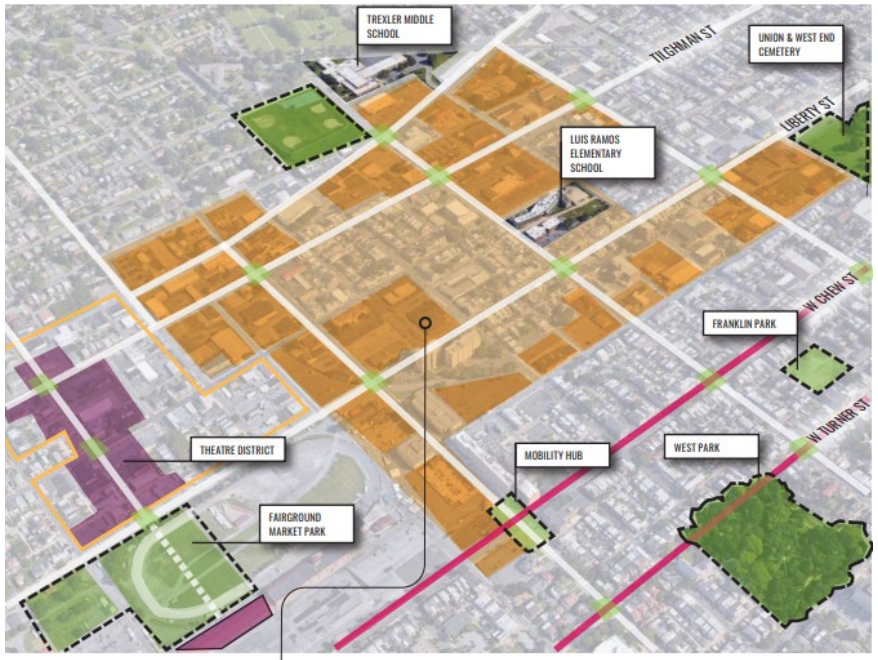


MOBILITY HUB

Example: Chew and 17th Streets

The site at Chew and 17th Streets could become a mobility hub with prioritized signals for bus service and unused pull-off areas could be repurposed for public plazas. These improvements would benefit students at nearby Allen High School and major employers in the area as well as attract other infill development.





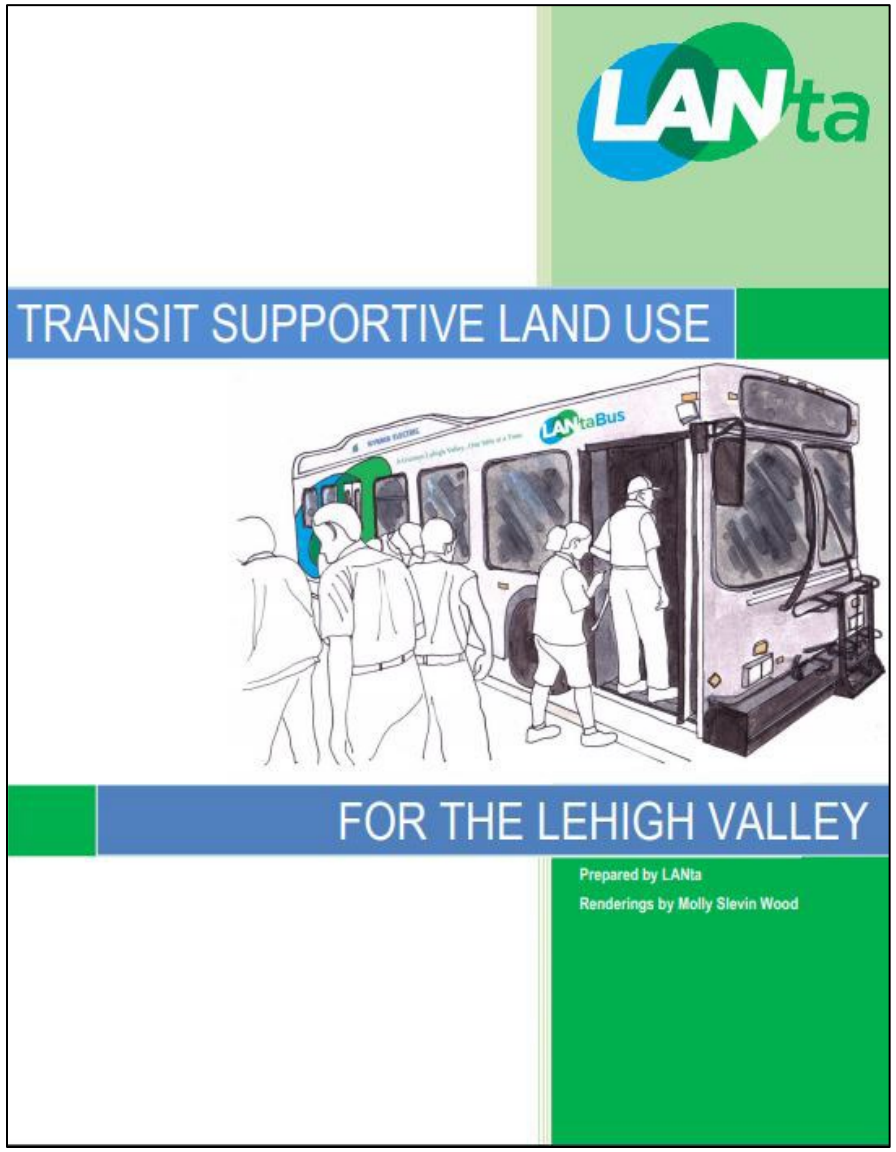
WHAT WE HEARD...

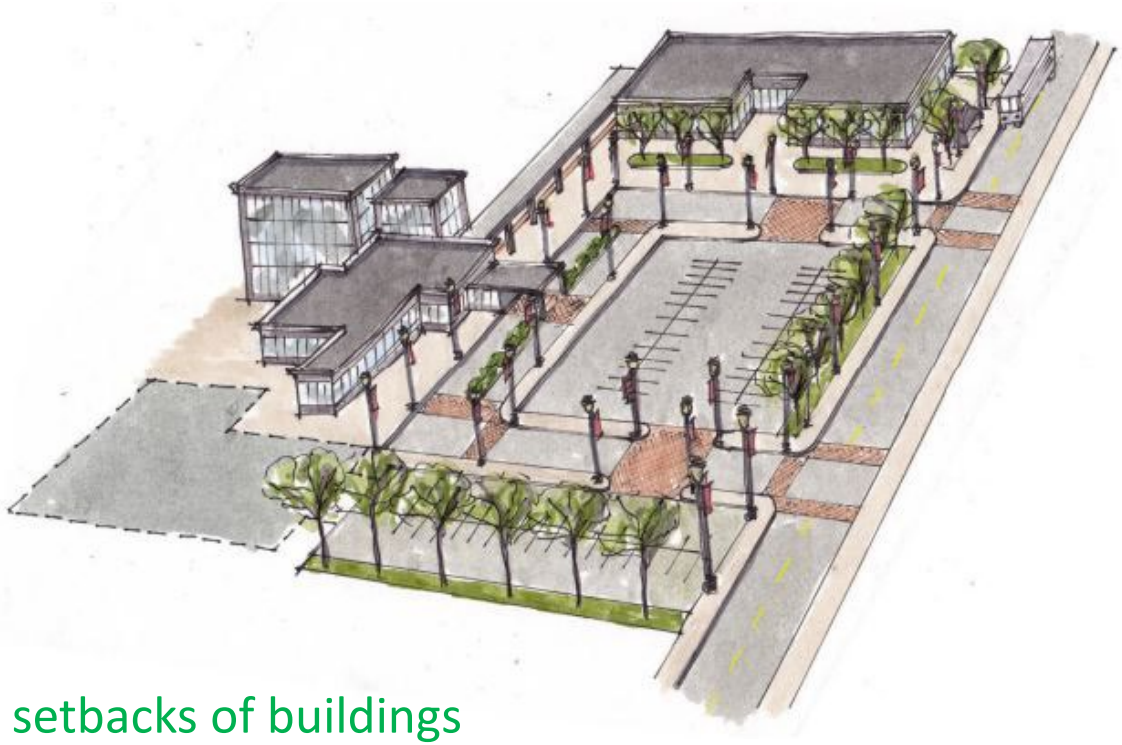
People in Allentown sometimes say "Allentown is built out." meaning there is no room for development. In fact, there is a great opportunity for infill development. The darker orange blocks above have large parking lots or have buildings with less square footage than the lot size (FAR<1). This area would be ideal for a commercial-flex district and could attract infill development.

LEGEND

- Commercial
- Low Density Commercial
- Theatre District
- Park or Open Space

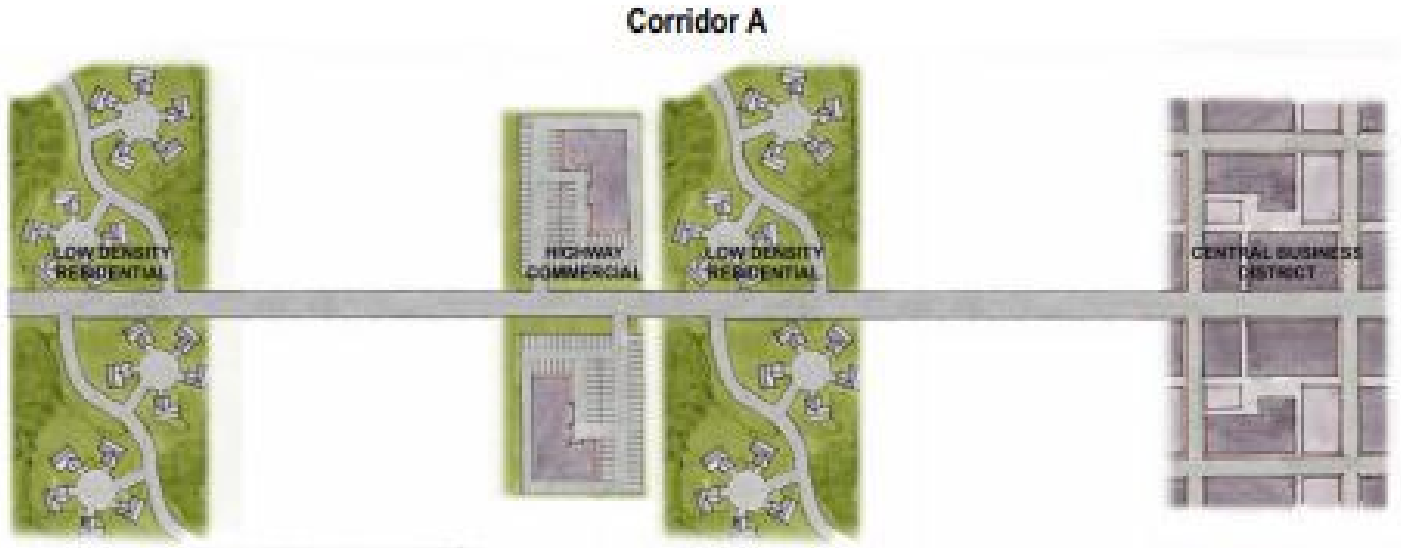
Transit Supportive Land Use – Site Planning Patterns

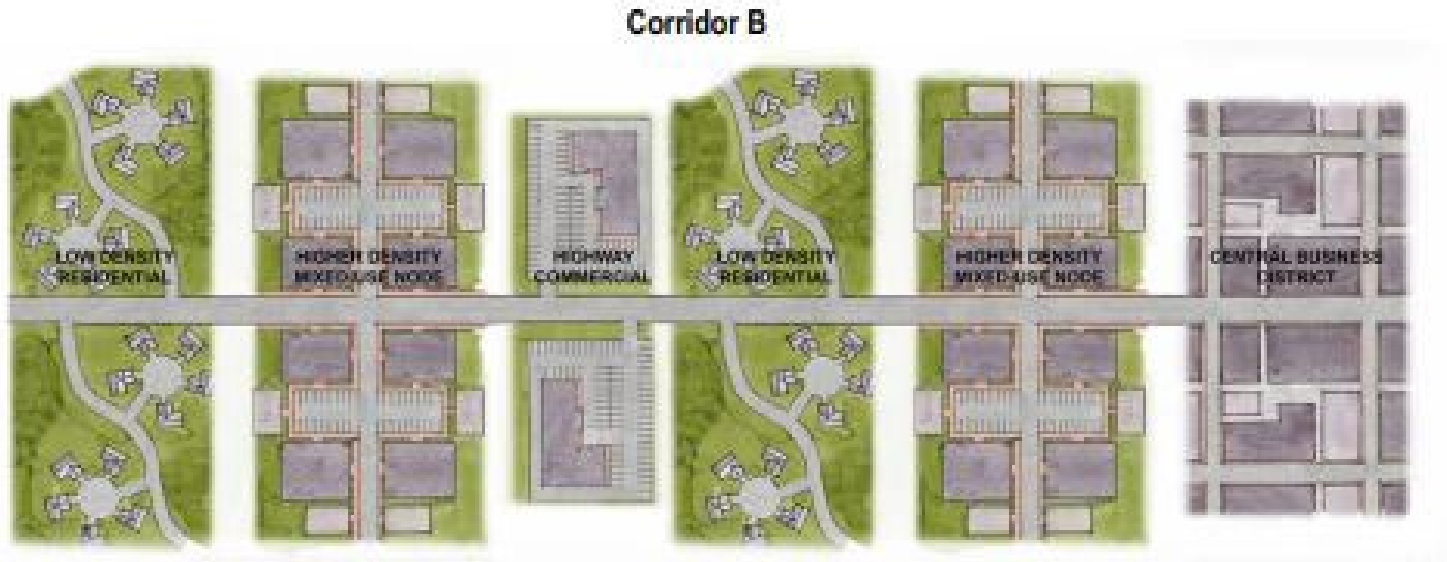




- Shallow setbacks of buildings
- Comprehensive pedestrian network throughout development
- Sidewalks on both sides of main corridor
- Marked crosswalks connecting two sides of the street for eastbound/westbound bus stop pairing

Transit Supportive Land Use – Density Patterns

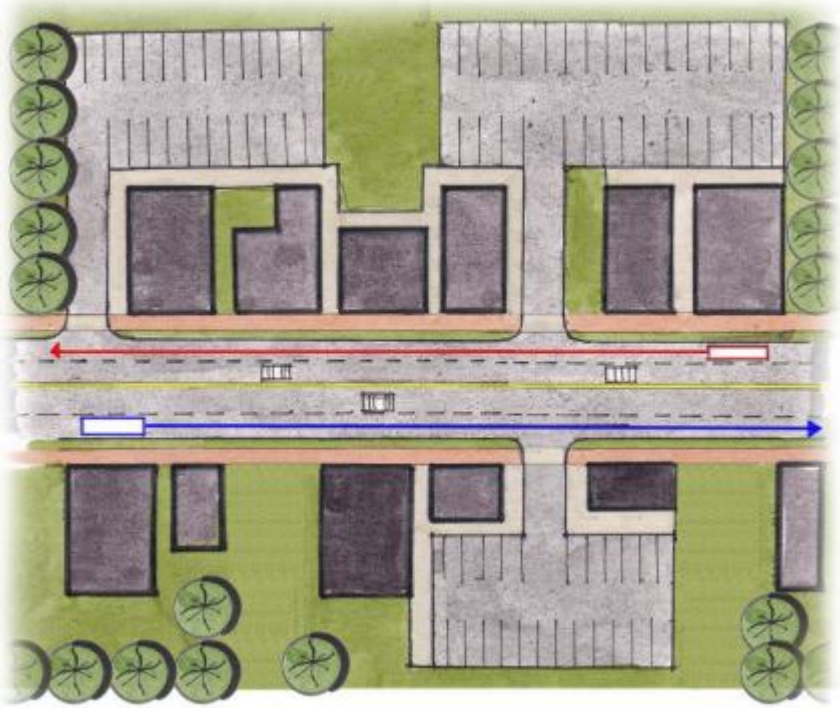


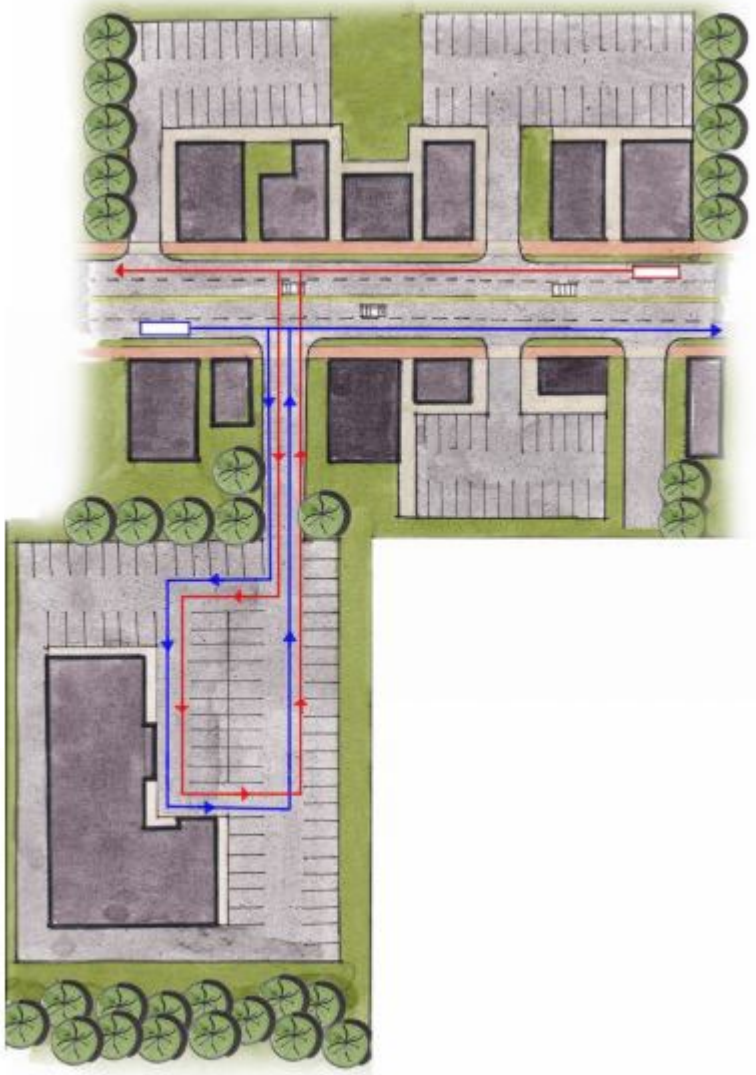


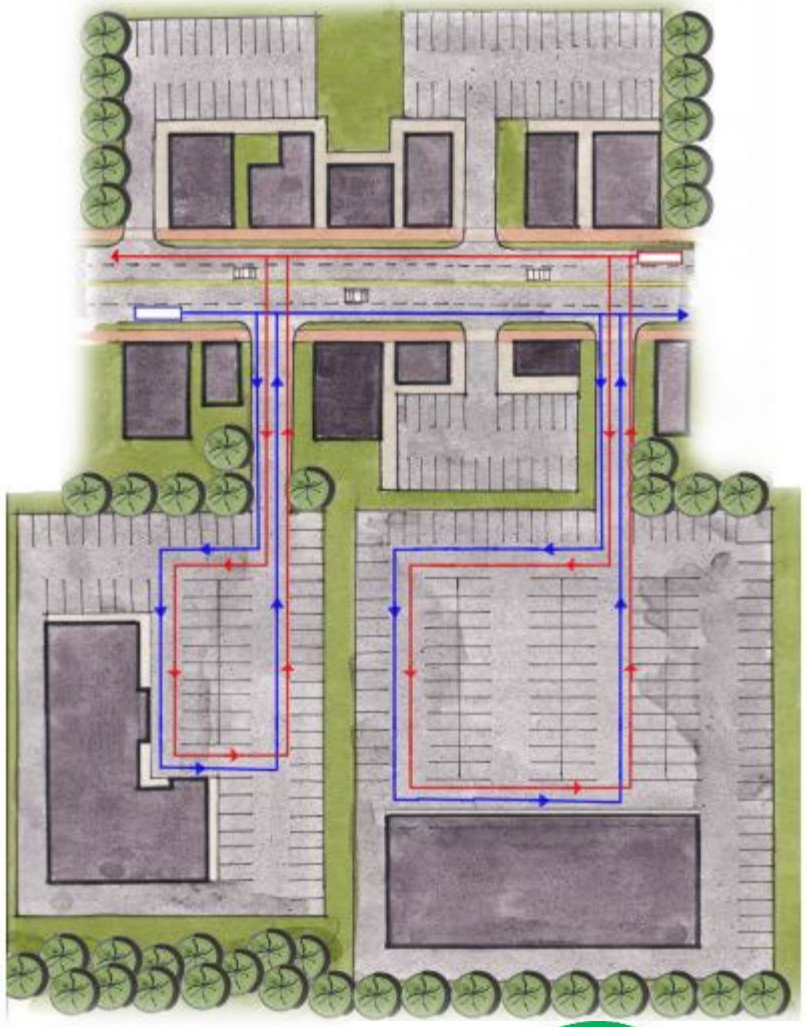
- **Corridor A:**
  - Morning and afternoon peak between residential and employment
  - Route will receive little demand in either direction
  - Very few destinations to attract riders

- **Corridor B:**
  - Higher density and mixed-use nodes along transit corridors can help improve the productivity of the transit service.
  - More nodes provide added destinations to serve different trip purposes throughout the day
  - Corridor infill allows demand for service to increase without costly additions of new routes or extensions of existing routes

Transit Supportive Land Use – Corridor Patterns



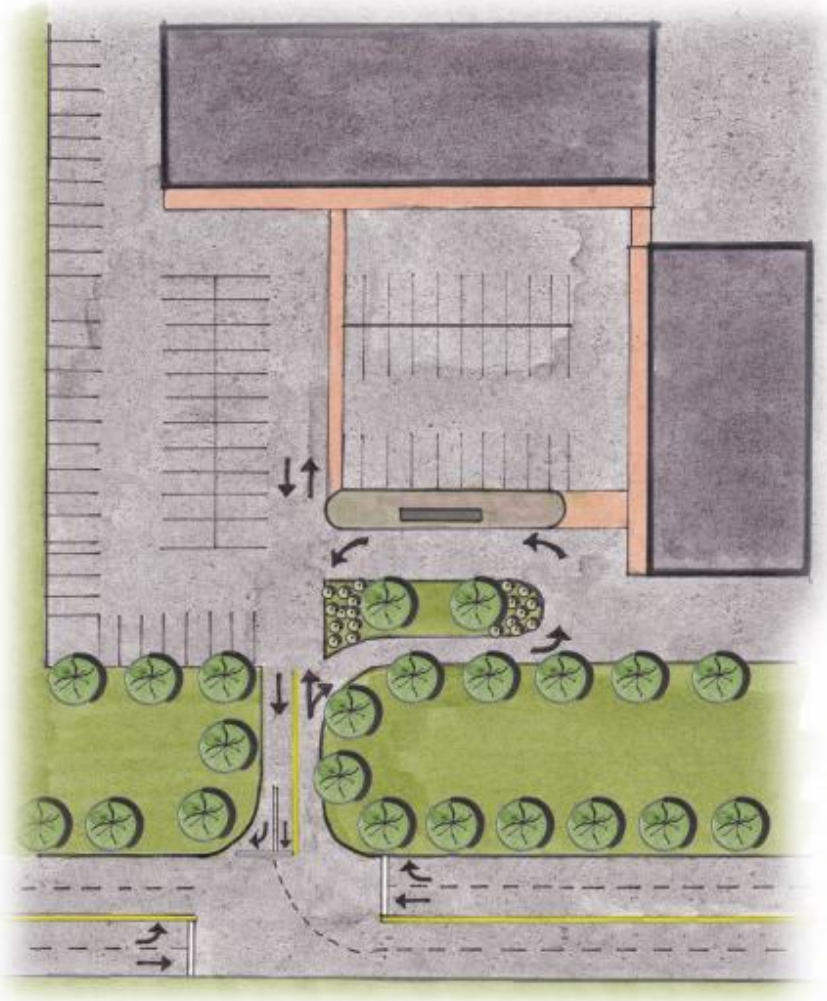




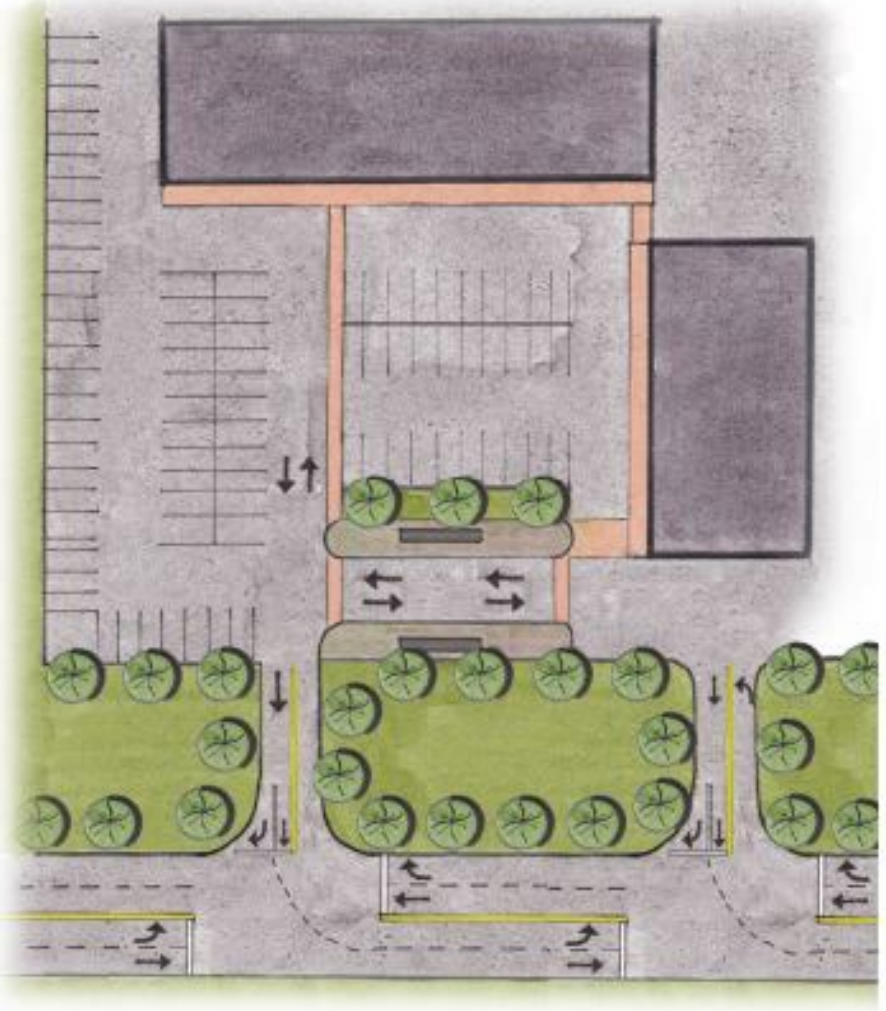
Measure	Requirements
Round Trip Running Time	0:50
Recovery Time	0:10
Total Cycle Time	0:60
Frequency of Service	Every 30 mins
Buses needed to maintain frequency	2

- **Main bus route without deviations:**
  - Schedule ensures reliability of service by allowing sufficient recovery time
- **New development off of main corridor:**
  - Every deviation adds significant time
  - Makes transit less convenient and more costly

Transit Supportive Land Use – Corridor Patterns

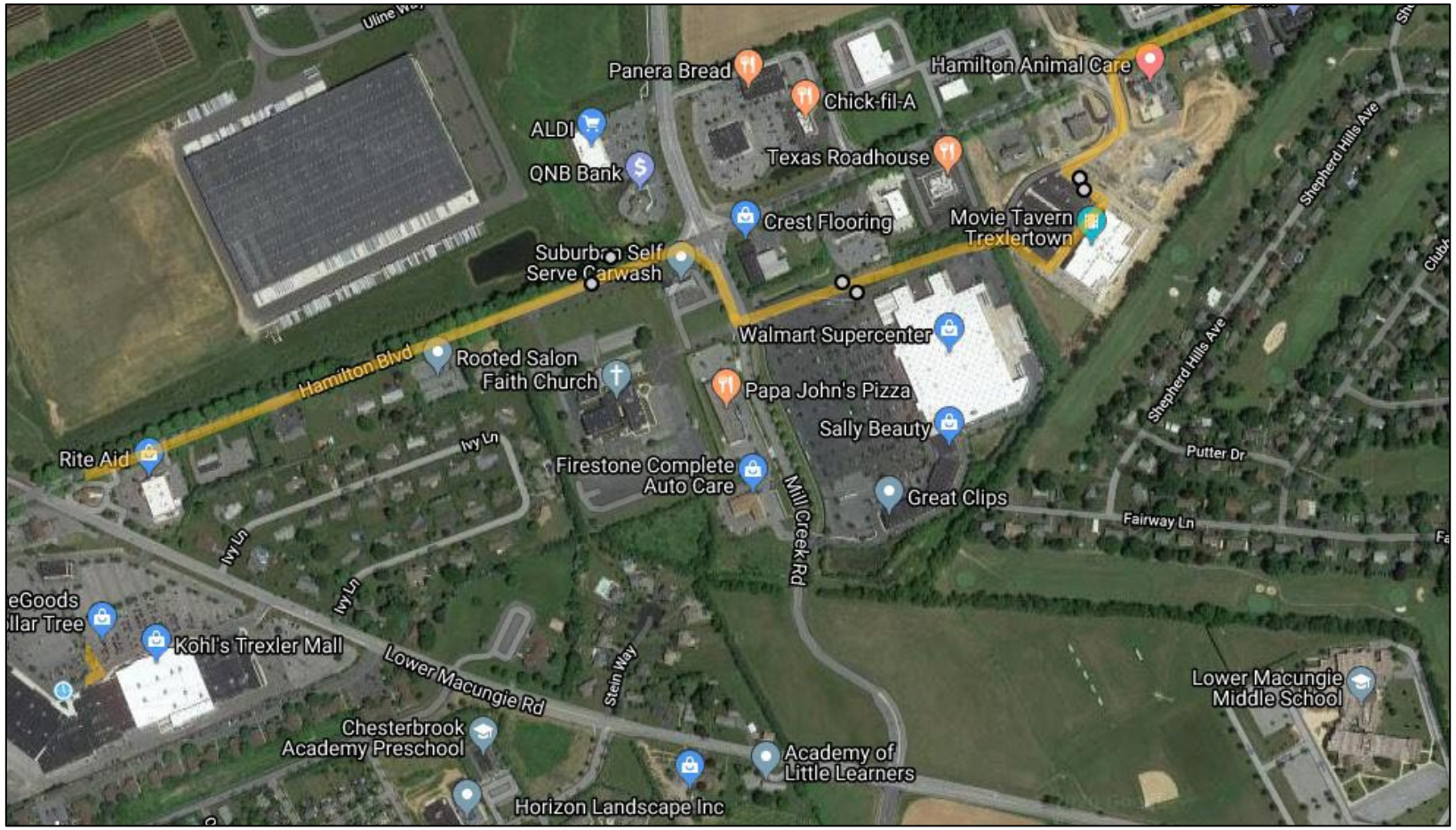


- **Minimize the need for internal circulation**
  - Plan for efficient circulation for buses that minimize the amount of time the bus must spend within the development.
- **Provide a transit stop at location immediately within the development**
  - Allows riders direct access to pedestrian network that connects to all areas of the development.



When the development/conditions are not accessible to pedestrians from the corridor

Transit Supportive Land Use – Corridor Patterns



- One successful example of serving adjacent developments is the new Movie Tavern in Lower Macungie, **using the access driveway to link to the adjacent Walmart property to serve that site as well**, reducing our time efficiently to then get back to the Hamilton Blvd corridor.

Transit Supportive Land Use – Sidewalk Infill Opportunities

- **Connect the transit corridor to the destination**
  - Opportunity to continue sidewalk and pedestrian connectivity from transit stop into shopping center/medical/employment destination

Design Guidelines: Key Notes

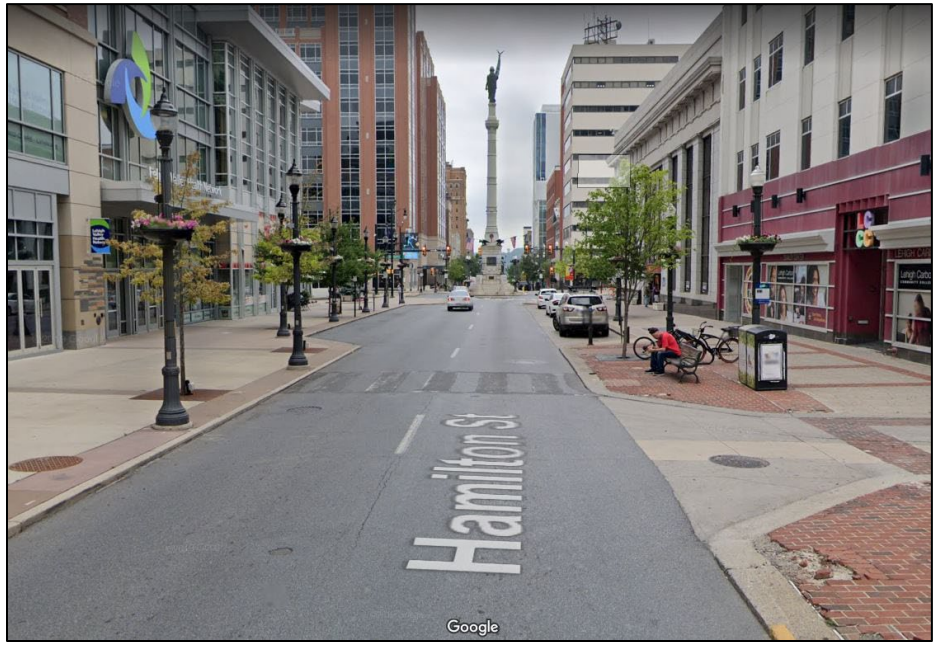
- **Farside stop** must be at least 50’ past intersection to clear a 40’ bus
- **Nearside stop** must be at least 10’ before crosswalk
- **Bus pull-off** must be at 12’ wide and at least 70’ long (including taper)
- **Shelter slab** must be at least 7’x9’ for a typical 5’x8’ shelter
- **No bus stop in right-turn lane** into shopping center – Farside stop is needed!
- **New shelter?** Need sidewalks connecting to closest ADA accessible curb cut
  - Includes replacement shelters!

- *Other bus stop design resources:*
  - *SEPTA Bus Stop Design Guidelines – DVRPC December 2019*
  - *Rethinking the Suburban Bus Stop – ACTA February 2016*

Design Guidelines: The Bus Pull-off vs Bus Bulb-Out

- **BUS PULL-OFF:**
  - Far-side bus stop location
  - Urban/suburban corridors
  - More traffic volume
  - Wider ROW
  - **Example**: Rt. 412, Bethlehem

- **BULB-OUT:**
  - Near-side bus stop location
  - Urban core
  - More density
  - Tighter ROW
  - Allows space for transit amenities like shelters, benches, etc.
  - **Example**: Hamilton and Hall Streets, Allentown



Enhanced Bus Service (EBS)