

SEPTA Forward: Bus Revolution

Transit Talk: Speed and Reliability

Meeting Goals

- Overview of transit speed and reliability
 - What we mean by it and why it is important
- Understand potential solutions
 - How they work and how they could benefit SEPTA
- Share your ideas and thoughts
 - Weigh in on different strategies to address SEPTA's speed and reliability issues

Transit Speed & Reliability

Transit Speed & Reliability

Reliability refers to the **concept of consistency** - the bus arrives at the same time or at predictable intervals, day after day.

Reliable service helps to **meet passenger needs and expectations** so riders can plan for when the bus will pick them up and know how long the journey will take.

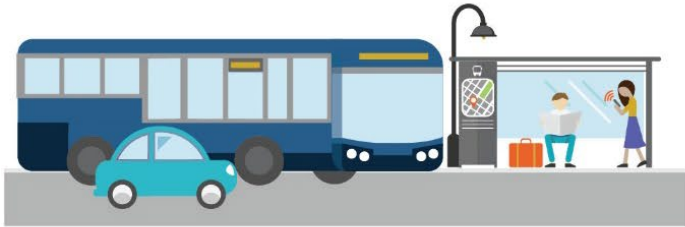
Reliability **builds confidence** in the bus; riders know they can get where they're going on time.

What are the key attributes of a good transit service?



Transit Reliability

A bus trip can take different amounts of time from day to day.



TUESDAY 22 MIN



THURSDAY 42 MIN



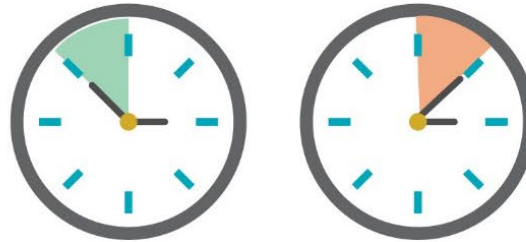
FRIDAY 36 MIN



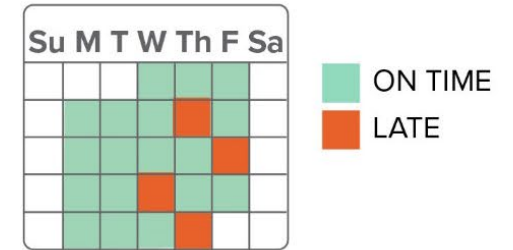
Schedules are conservative on purpose.



People would rather arrive **early** at their destination than **late**.



Buses are usually on time . . .



. . . but people don't want to be late even some of the time.



Transit Service Reliability

Traffic delays everyone on the road. It's built into bus schedules.



Unexpected incidents and heavier than normal traffic are hard to plan for and can cause the bus to be late.



Streets have limited capacity and aren't designed to accommodate the unexpected.

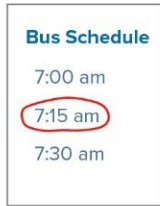


In unpredictable traffic, the bus is late, and passengers are either on transit for longer than planned or stuck waiting.

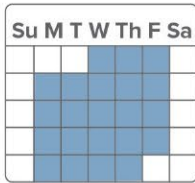


Transit Reliability

I plan for extra time traveling.



I take an earlier bus to make sure I arrive on time



15 minutes of extra travel time
x 5 days a week
= 75 minutes of extra time a week



Time that could be better spent on something else

It can cost me money.



I'm late for work and could lose my job



I get a late pickup fee at childcare



I'm charged a no-show fee at the doctor

It adds stress to my day.



The bus arrives so crowded that I have to wait for the next one



I miss my transfer

Benefits

- More time to do the things you want to do
- Less stress, more productivity
- More transit riders

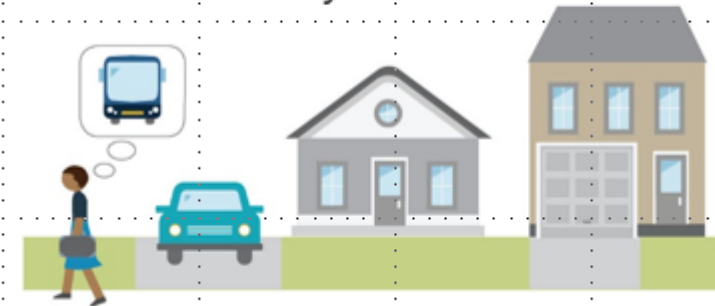
I spend less time waiting for the bus.



I spend more time at home with loved ones.

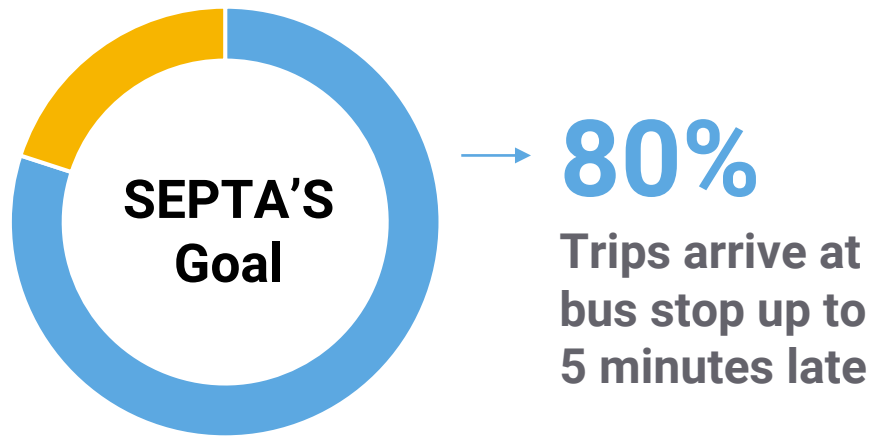


When the bus is reliable, I'm more likely to leave my car at home.

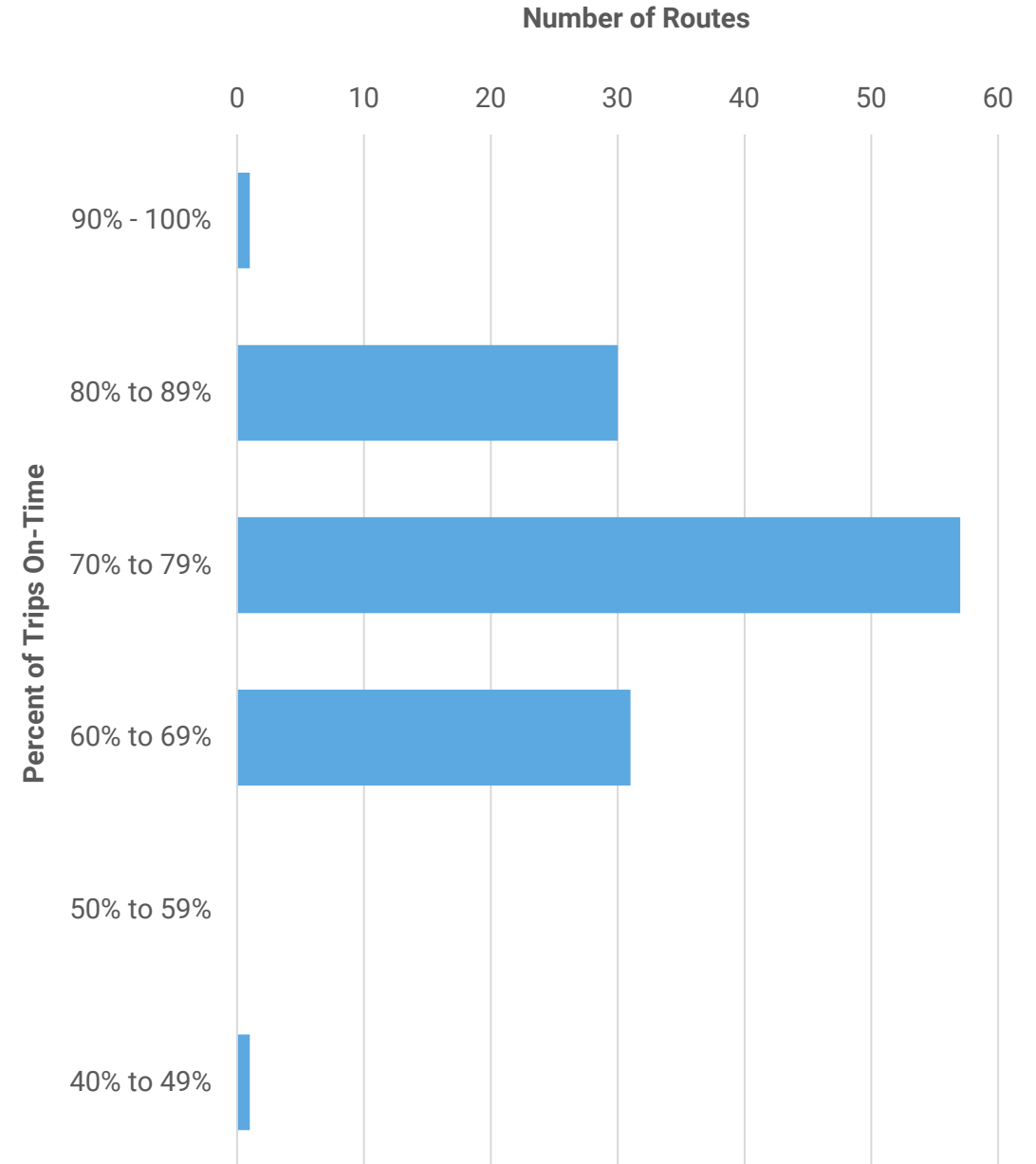


**What does Transit Reliability look
like in Southeast Pennsylvania?**

Speed and Reliability



Roughly **30 Routes** meet the standard (and about 90 don't)



Speed and Reliability

SEPTA's **25** highest
ridership routes

Carry **50%** of all bus
riders

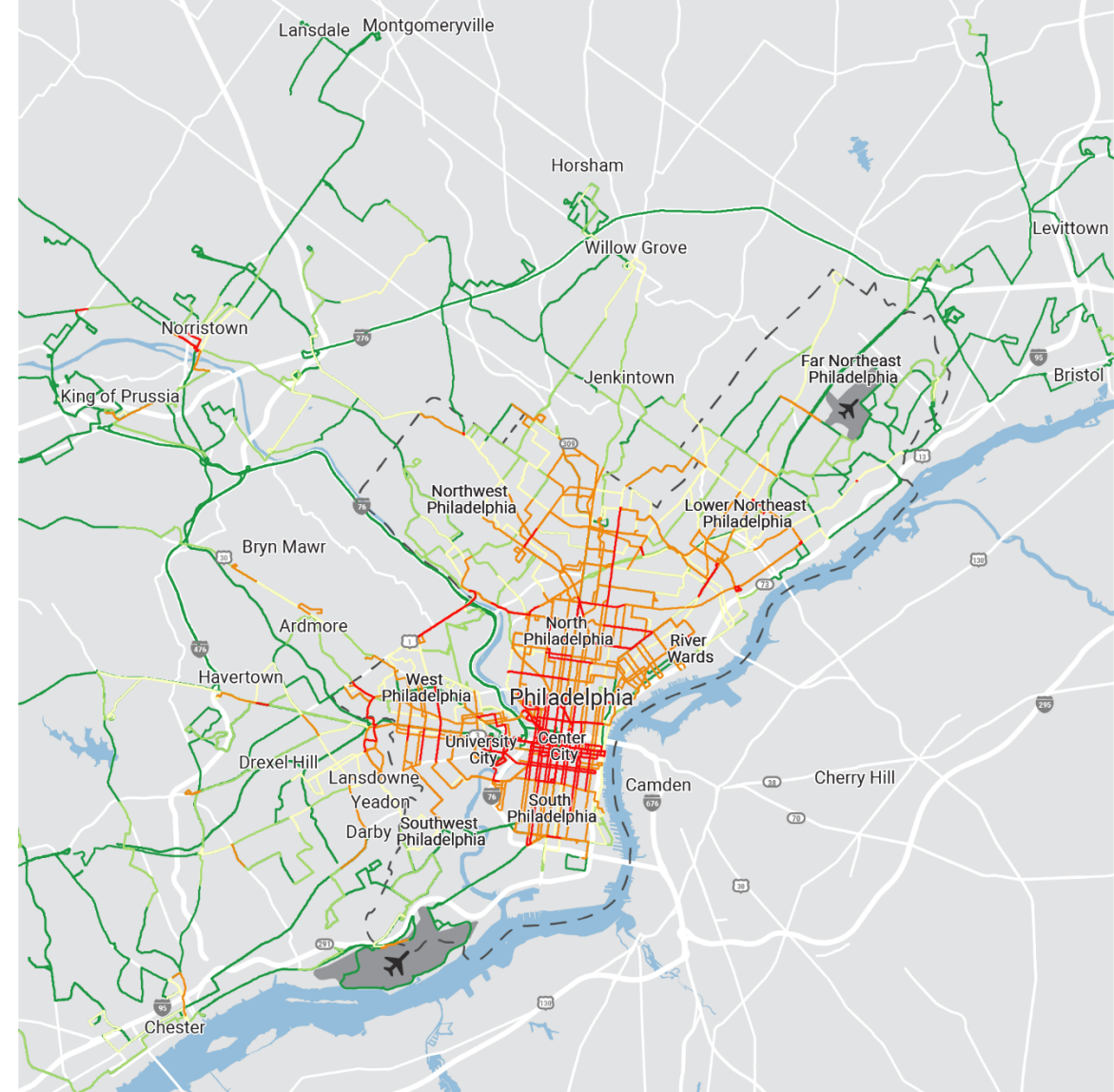
With On-time
performance of
65%-75%

	Riders per day	On-time Performance
Route 47 Whitman Plaza to 5 th -Godfrey	18,000	66%
Route G Overbrook to Columbus Commons	17,000	74%
Route 23 Center City to Chestnut Hill	15,000	68%

* All day from Fall 2019

SEPTA Speed & Reliability

Travel speeds are slow.



PM Peak Corridor Speeds

Average weighted speed on corridor during Weekday PM Peak hour of 5pm

Corridor Speed (mph)

- < 8
- 8 - 10
- 10 - 12
- 12 - 15
- > 15



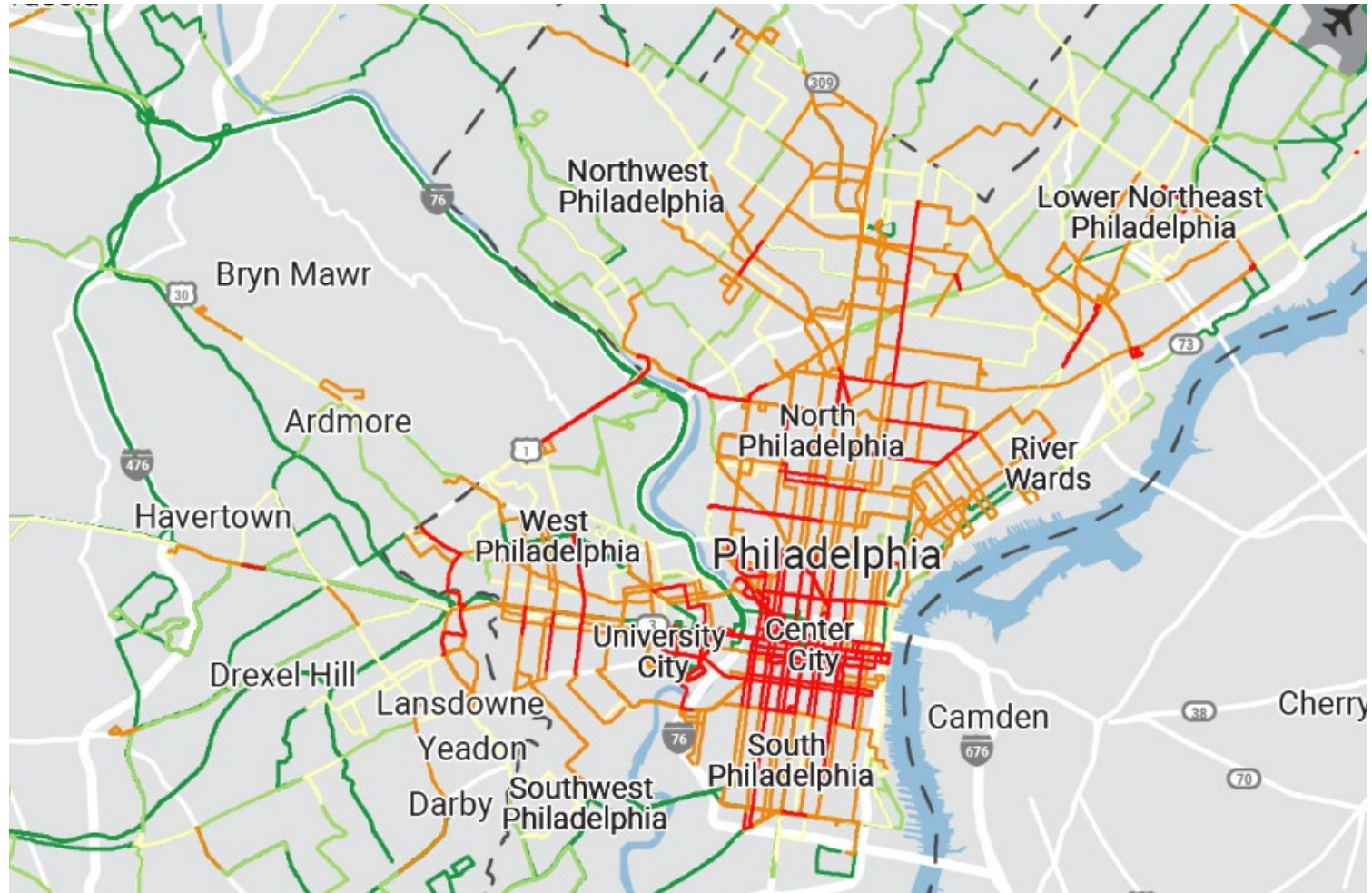
Speed and Reliability in Philadelphia

Much of **SEPTA's bus service** in the City of Philadelphia travels **8 mph**

Most of the urbanized area travels at **10 mph or less**

In U.S. "average" bus speed is **13-14 miles per hour***

Walking speed is **3-4 miles per hour**



Potential Strategies & Solutions

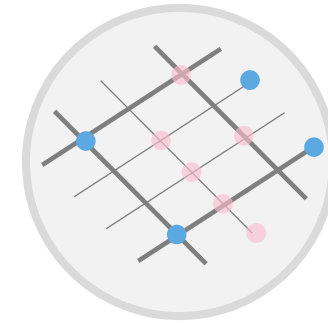
Potential Solutions



Increase Service Frequency



Straighten Routes



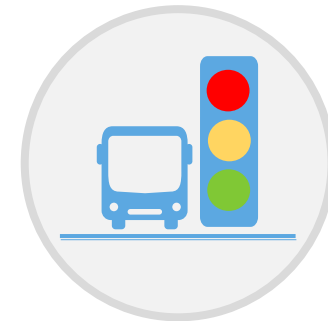
Rebalance Bus Stops



Build bus bulbs



Build Bus lanes



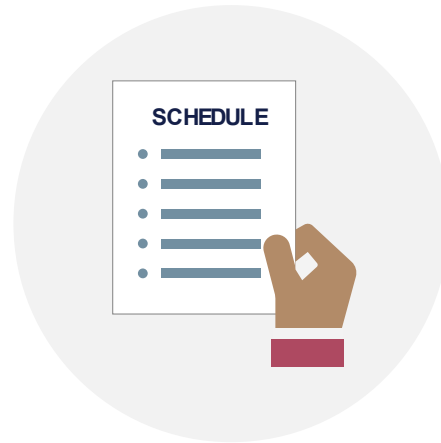
Expand Transit Priority

Increase frequency



What is it?

How often the bus comes, e.g., every 5, 10, 15, or 30 minutes



Why is it important?

More frequent service makes it easier to take the bus without planning around the bus schedule



How does it help fix SEPTA's issues?

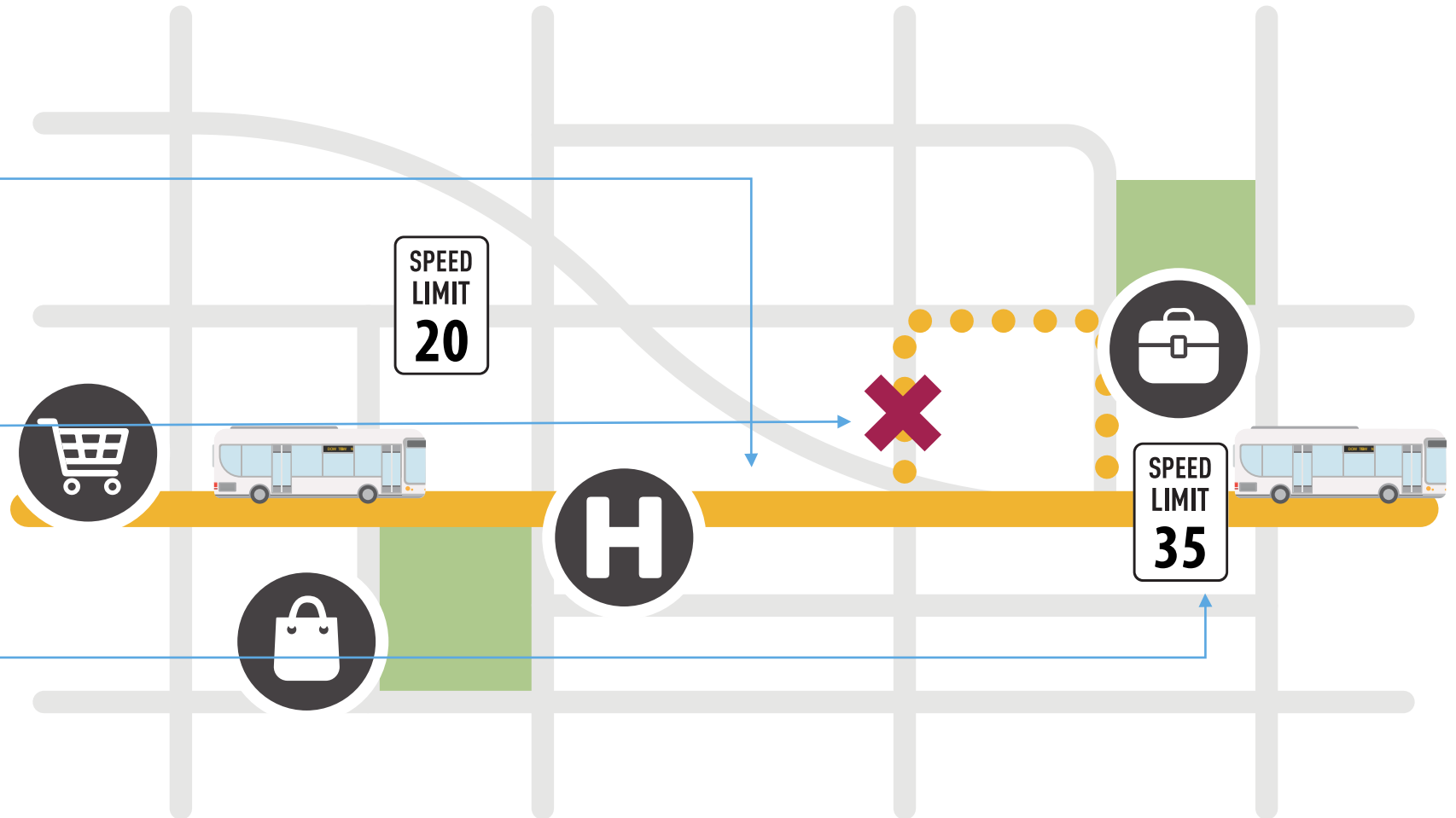
More frequent service makes transit more convenient

Design Straight and Simple Bus Routes

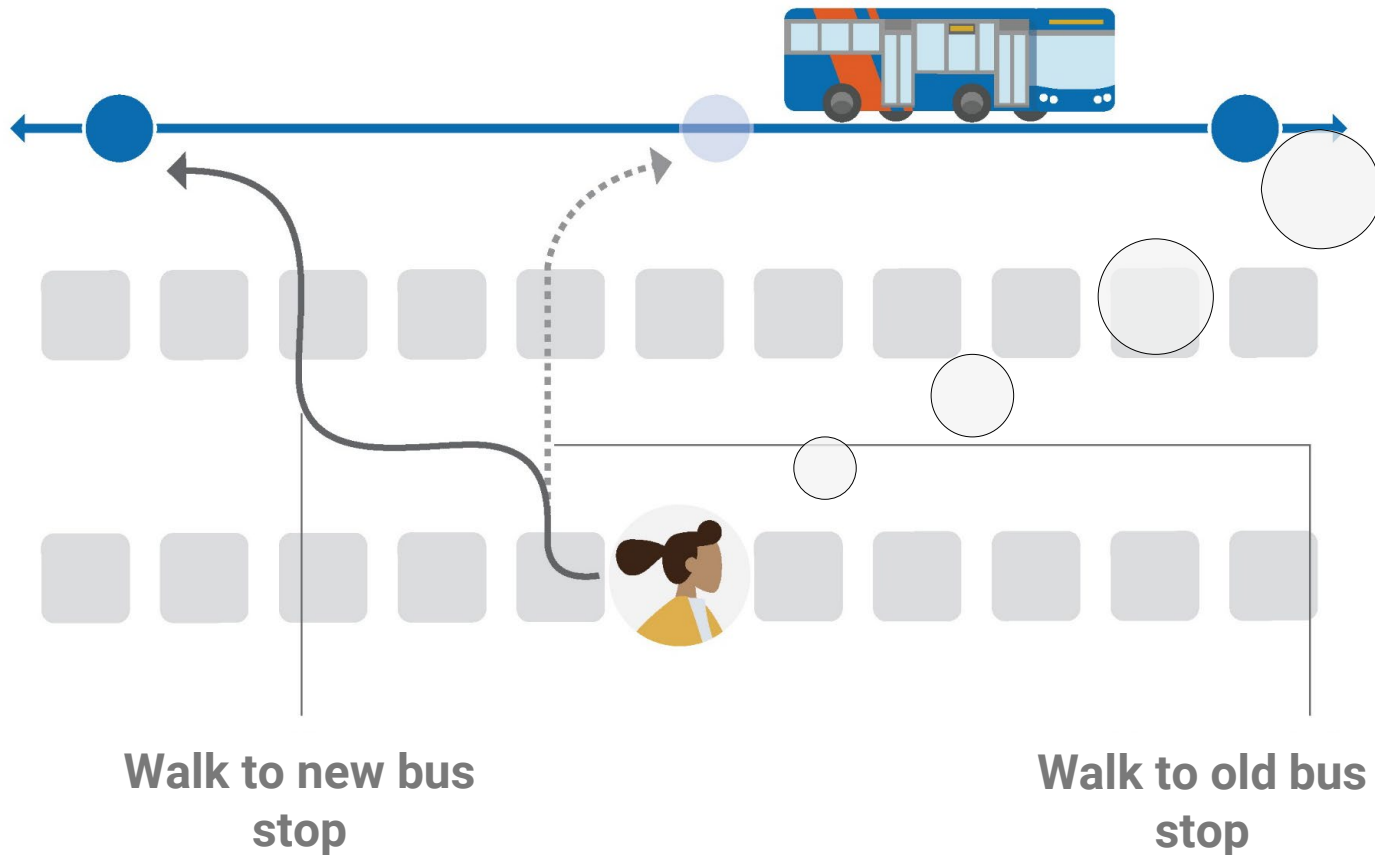
- Keep bus on main roads and avoid turns.

- Limit turns to avoid conflicts with pedestrians and vehicles

- Faster speed Limits



Bus Stop Spacing



With fewer stops, the bus is **faster and more reliable**. It takes about an extra minute or so to walk to the new stops.

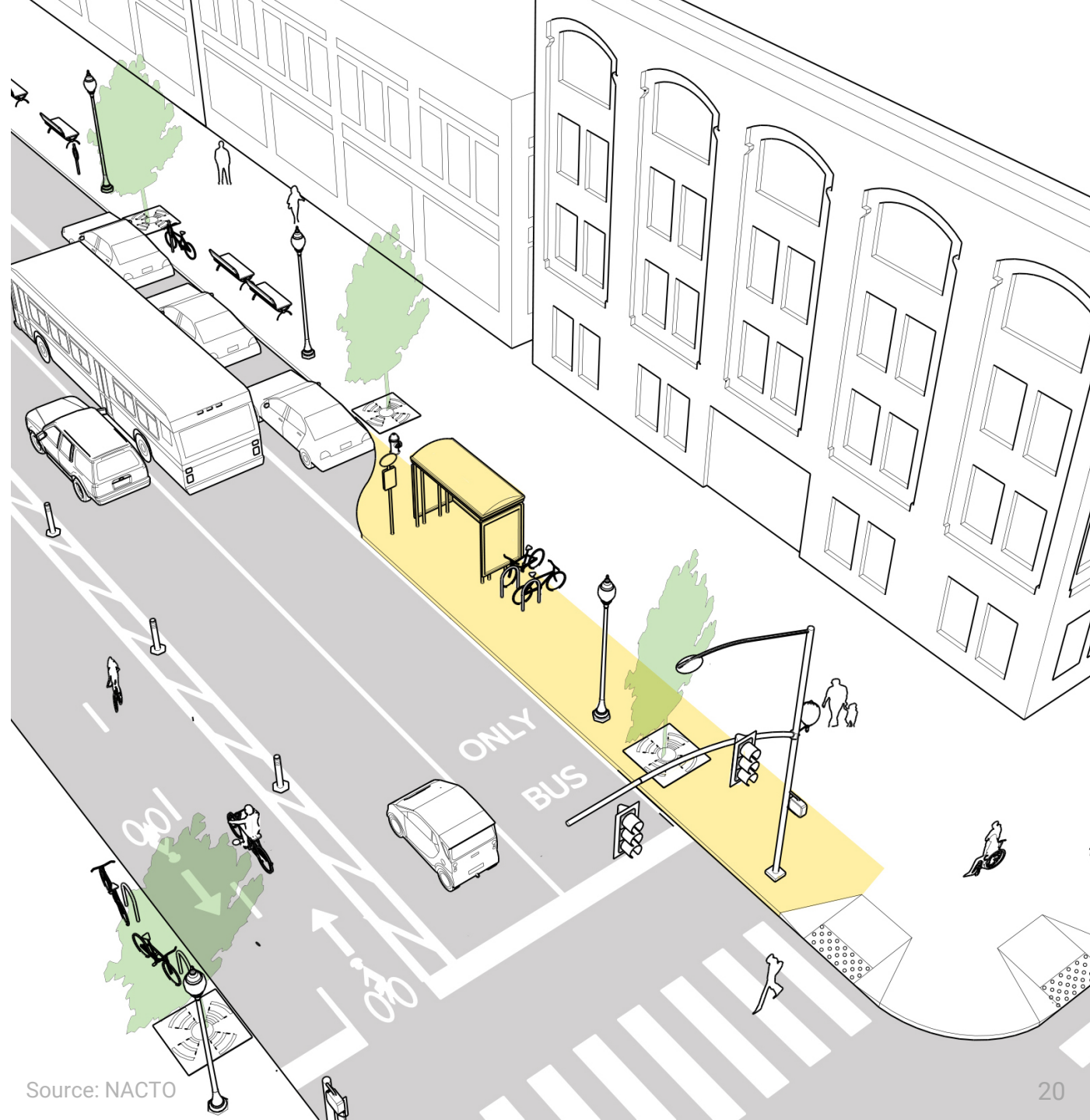
Stop spacing affects speed. Every time the bus stops, it has to slow down, let passengers on and off, and speed back up. Stopping takes a SEPTA bus about 30 seconds, or up to 90 seconds with a ramp deployment.

Over a 7-mile commute, a passenger is likely to spend

- 12 minutes stopping if bus stops are every 1/8 mile.
- Stops spaced every 1/4 mile would reduce stopping time by 5.5 minutes.

Build Bus Bulbs

- Bus Bulbs **expand side walks to the bus lane**
- Makes bus stops **more accessible** and **reduces the amount of time a bus spends at each stop**



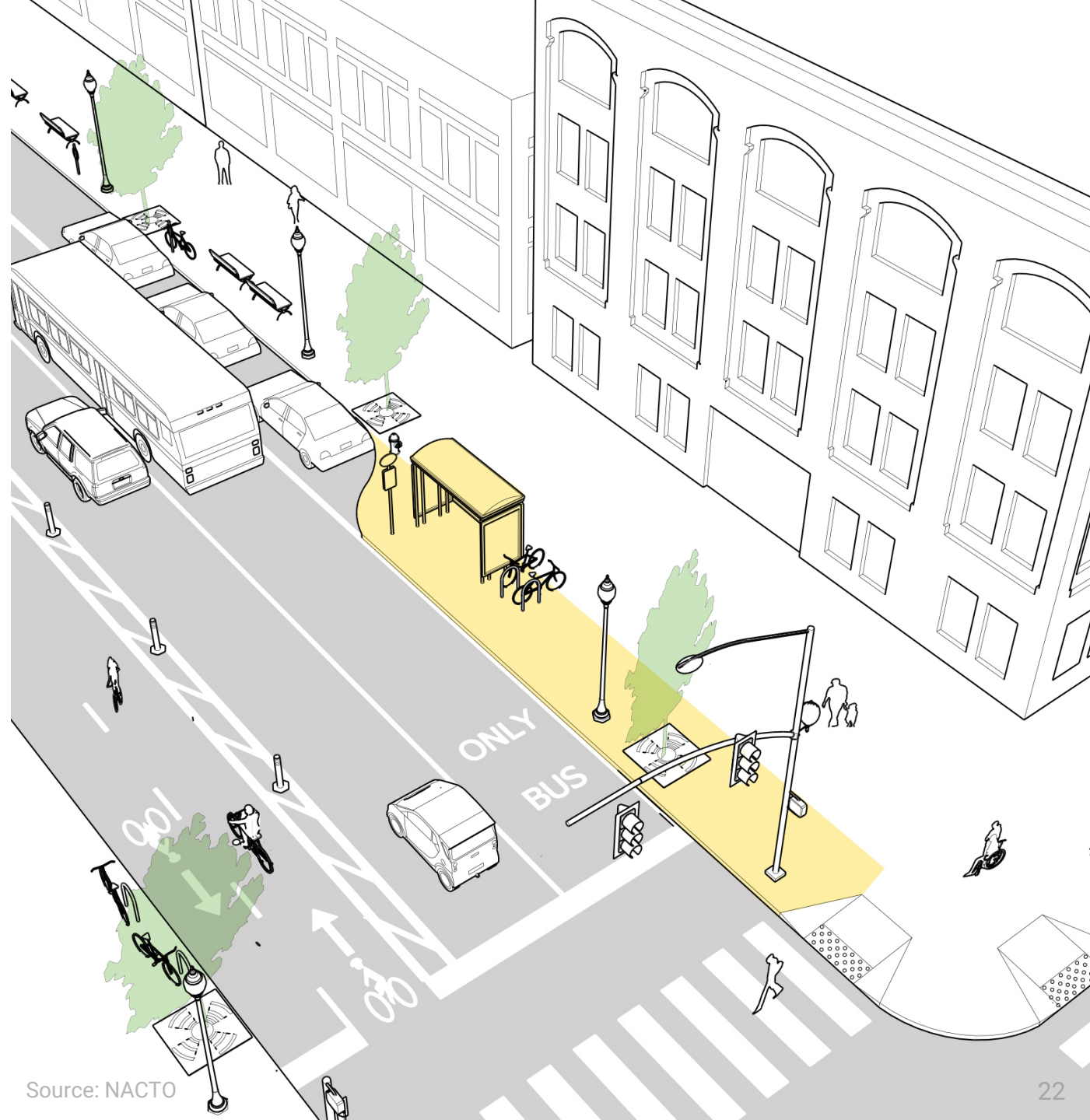
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Transit Priority: Traffic Signal Priority

Transit Signal Priority helps **buses move through intersections faster.**

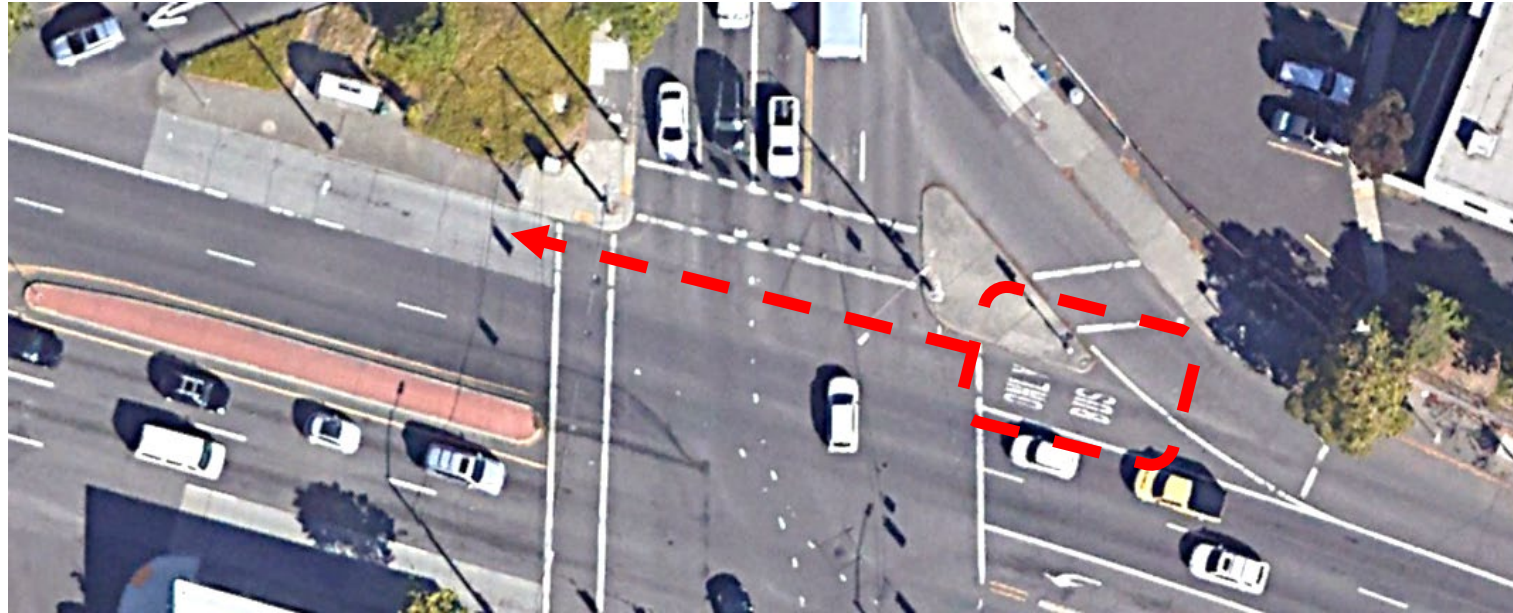
It involves equipment on buses and on the traffic signals so the bus can **extend the signal length** so the bus can pass through.



Transit Priority: Queue Jump Lanes

Queue Jump Lanes also help **buses move through intersections faster.**

Queue Jump Lanes create lanes for buses to move to the front of the roadway. It also **creates a traffic signal to let the bus go first.**



Bus Only Lanes



A bus-only lane in downtown saves the bus time and keeps it running on schedule....



...which means the bus saves time along the entire route. People outside of downtown benefit from an on-time departure, too.



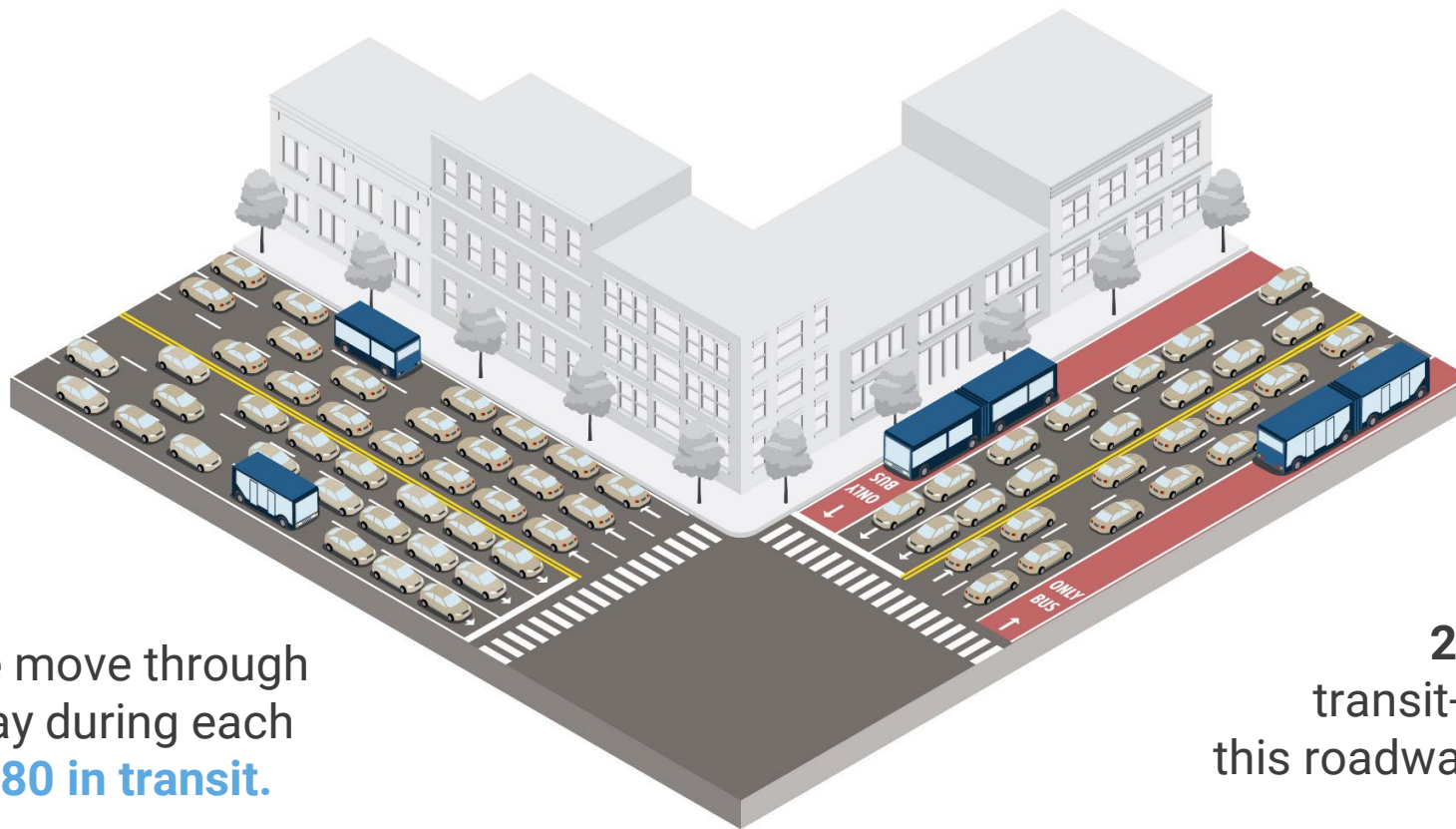
As transit becomes more competitive with driving, more people take the bus, relieving traffic congestion.

Bus Only Lanes



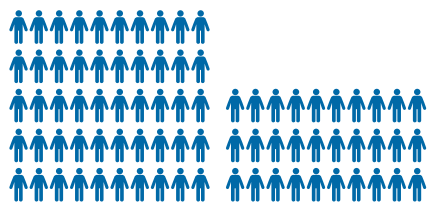
Source: Global Designing Cities Initiatives

Bus lanes use road space more efficiently.



126 people move through this roadway during each light cycle. **80 in transit.**

In transit . . .



In cars . . .



235 people on a road with transit-only lanes move through this roadway during each light cycle. **204 in transit.**

In transit . . .



Tailor Solutions to Conditions

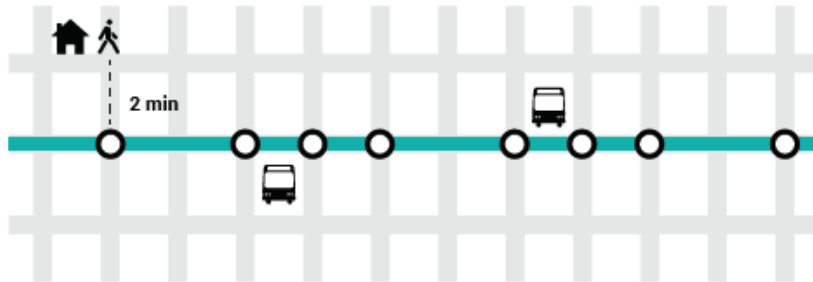
- Prioritize travel corridors with most transit riders, people, jobs and destinations
 - Most bus service (Highest frequency)
 - Straightest routes
 - Fewest bus stops
 - Bus bulbs
 - Bus only lanes
 - Traffic signal priority

- Adjust investments in travel corridors according to ridership, people, jobs, and destinations
 - Frequent service
 - Straighter routes
 - Few bus stops
 - Traffic signal priority

Choices and Trade-offs

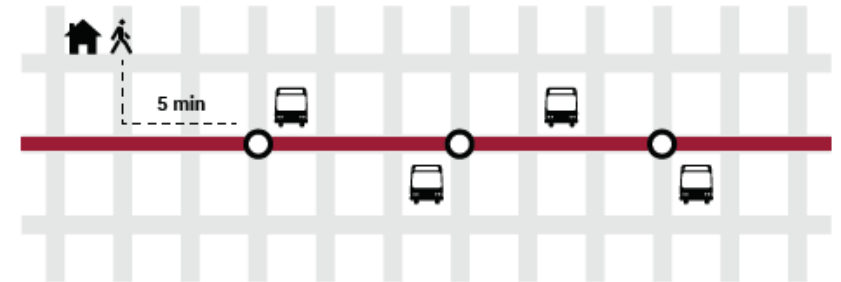
What do you like best?

A shorter walk to a slower bus?



OR

A slightly longer walk to a faster bus?



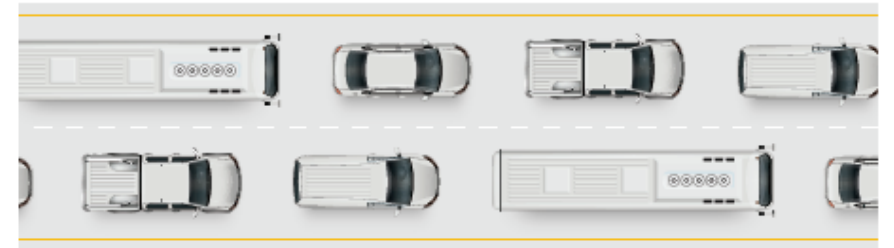
What do you like best?

Buses should have their own travel lanes?



OR

Buses should share the road with cars and other vehicles?



What do you like best?

A bus that takes an indirect path and is slower
but stops closer to your destination?



OR

A bus that travels more directly and is faster, but
stops a little bit further from your destination?



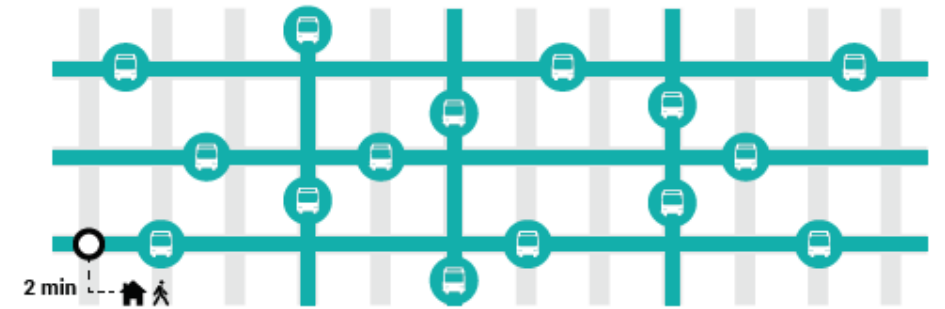
What do you like best?

Fewer options with higher frequency?



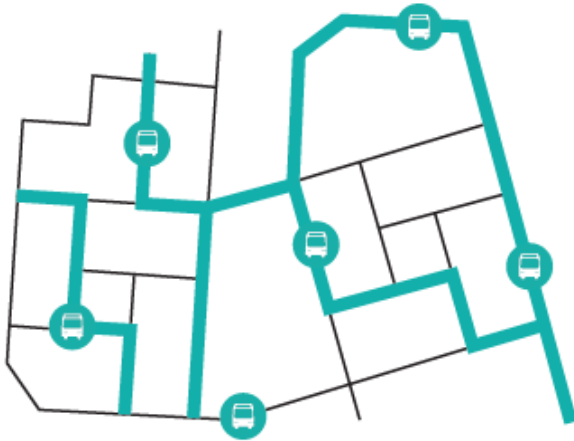
OR

More options with less frequency?



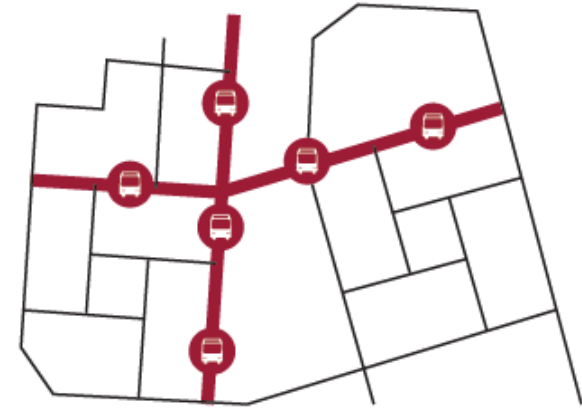
What do you like best?

Buses serving a larger area with less frequent service?



OR

Buses serving a smaller area with more frequent service?



Questions & Answers

SEPTA Forward: Bus Revolution

Stay in touch!

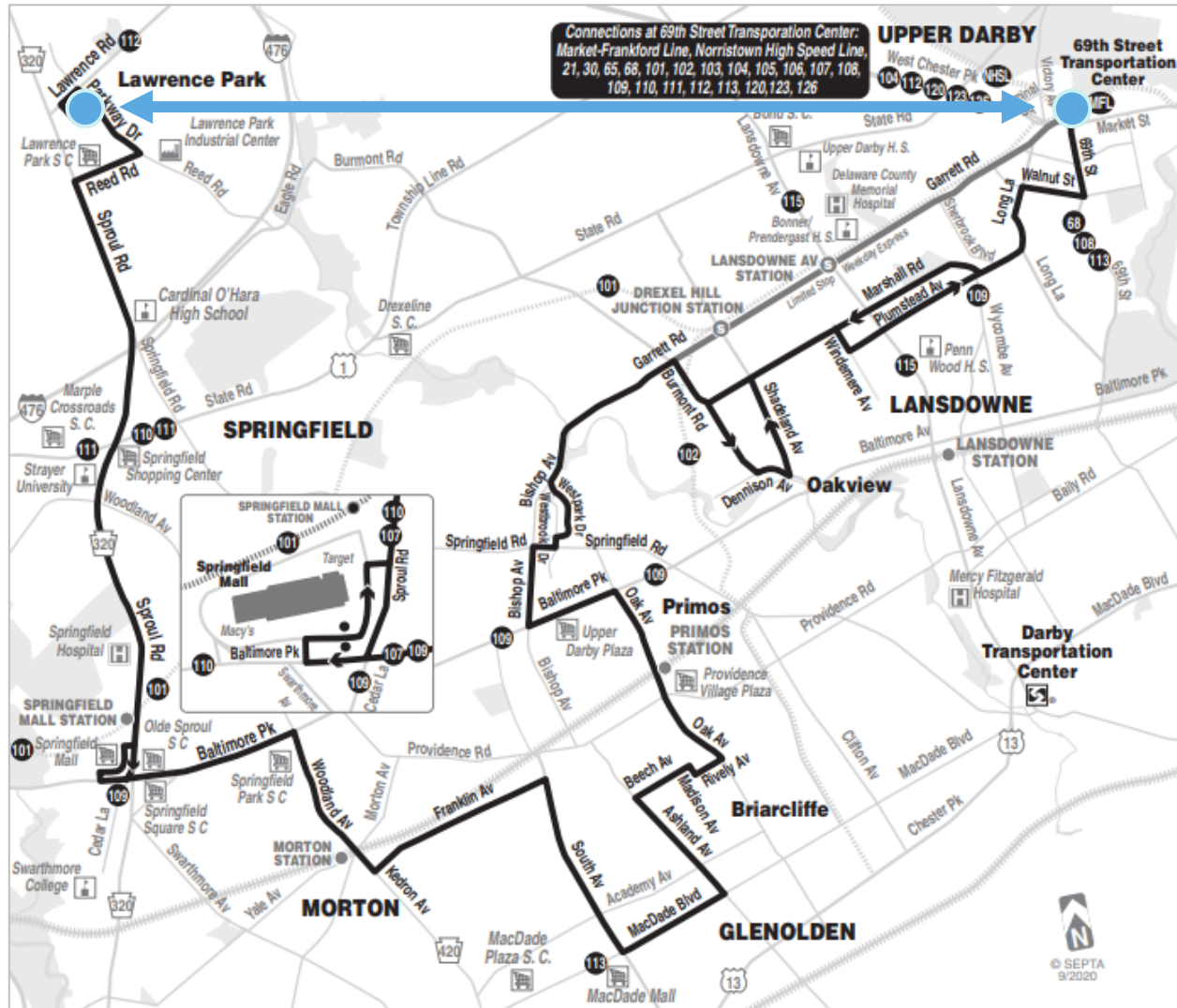
septabusrevolution.com

BusNetwork@septa.org

Upcoming Events

Date	Location	Time
9/7 Tue	POSTPONED 69 th St. Transportation Center	
9/9 Thu	Virtual Transit Talk - Register here	6:30 pm
9/10 Fri	Frankford Transportation Center	3-6 pm
9/12 Sun	52 nd & Market	2-5 pm
9/15 Wed	Chester Transportation Center	8-11 am
9/21 Tue	Norristown Transportation Center	4-7 pm
9/23 Thu	Olney Transportation Center	8-11 am
9/28 Tue	15 th & JFK	11 am-2 pm
9/30 Thu	Virtual Transit Talk - Register here	6:30 pm
10/7 Thu	Broad & Oregon (Marconi Plaza)	2-5 pm
10/13 Wed	Torresdale & Cottman Loop	10 am-1 pm
10/16 Sat	Frankford Transportation Center	12-3 pm
10/19 Tue	Cheltenham & Ogontz Loop	4-7 pm
10/21 Thu	Darby Transportation Center	3-6 pm

Design Straight and Simple Bus Routes



Route 107 travels

17.7 Miles

miles to cover distance between
 Lawrence Park and the 69th Street
 Transportation Center, which is only

5.0 Miles