



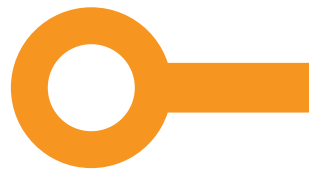
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*Your Plan, Your*  
**Orange Line**





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# WHY PLAN THE ORANGE LINE

## » THE NEED AND THE VISION

Capital Metro began developing the Project Connect Vision Plan in 2016. The need for the Project Connect vision is the result of Central Texas' booming population which is projected to double by 2040. This growth will cause additional strain on the roadway network, result in increased travel times and travel costs, decrease our mobility, hinder our region's economic health, and threaten our air quality.

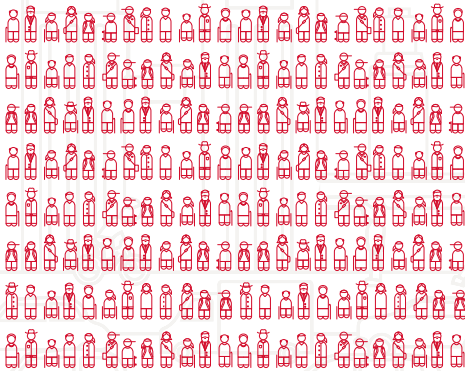
In December 2018, the Capital Metro Board of Directors approved the **Project Connect Vision Plan**, which identified corridors for potential investment in High Capacity Transit (HCT), in addition to other improvements like new MetroRapid routes, Red Line improvements, development of the Green Line, additional MetroExpress routes with park-and-rides, and Neighborhood Circulators.

In 2019, the Austin City Council approved the **Austin Strategic Mobility Plan**, which establishes a policy goal to quadruple the share of commuters who use transit by 2039. The Project Connect Vision Plan is included as an integral part of the ASMP, and both initiatives provide a way forward for solving future mobility challenges the region faces.

Constructing and operating HCT is an effective tool to address the region's growth pressures, improve mobility, and connect Central Texans to their travel destinations. HCT will make peak transit travel times faster than peak automobile travel times and create transit service that is reliable. Project Connect is a multi-generational investment and will be planned to accommodate the latest vehicle technology when it comes to market.

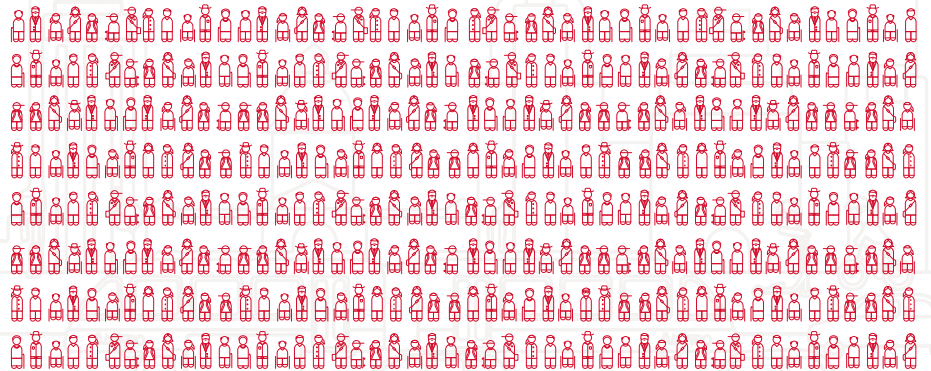
**2019**

Population: **2M+**



**2040**

Population: **4M+**



## » HOW THE ORANGE LINE FITS INTO THE SYSTEM

The Project Connect Vision Plan identified two HCT corridors - the Blue Line Corridor and the Orange Line Corridor - as the backbone of the future system. Capital Metro initiated the Orange Line Corridor Study in 2019 to better define Orange Line HCT, and to explore how it could advance as an individual investment (to attract federal funds) and as a part of the Capital Metro system (as part of the local and regional planning process). The **Project Connect System Plan** will be significantly advanced following the adoption of the Orange Line Locally Preferred Alternative (LPA).

This document provides an overview of the process used to evaluate HCT in Austin and the path to develop a proposed LPA, including how public and agency input was used to craft the proposed LPA. Key features and benefits of the LPA are illustrated, and future actions on the path toward implementation are outlined.

### FUTURE-PROOFING THE SYSTEM

- » Identifying how the Orange, Blue, and Gold Lines will intersect (serve the same station) or interline (operate on the same portion of tracks)
- » Considering the costs and benefits associated with building a transit tunnel for the Orange, Blue, and Gold Line
- » Coordinating with MetroRapid, Red and Green Lines, MetroExpress, and Neighborhood Circulator planning to facilitate connections across the system



# CORRIDOR PLANNING & ROUTE EVOLUTION

## » ORANGE LINE CONCEPT DEVELOPMENT

In April 2019, Capital Metro initiated a formal study to investigate the viability of high-capacity transit (HCT) from Tech Ridge in North Austin to Slaughter in South Austin. Based on previous system planning exercises, Capital Metro identified the Orange Line as an approximately 21-mile corridor with 21 stations. Technical evaluation and community feedback determined that Light Rail Transit (LRT) is the preferred mode to serve travel demand on the Orange Line Corridor and to maximize compatibility with the Blue Line & Gold Line.



## PROJECT CONNECT ROUTES

The configuration of the LRT system allows for multiple routes to operate in the same corridor – creating many route combinations. The overlap of routes can provide riders more frequent service, or shorter times waiting for a bus or train. The segments that would have overlapping service include:

» Gold Line/Blue Line overlap on 4th Street between the Downtown MetroRail Station and Republic Square

» Orange Line/Blue Line overlap between Republic Square and North Lamar Transit Center

» Orange Line/Gold Line overlap between Republic Square and South Congress Transit Center

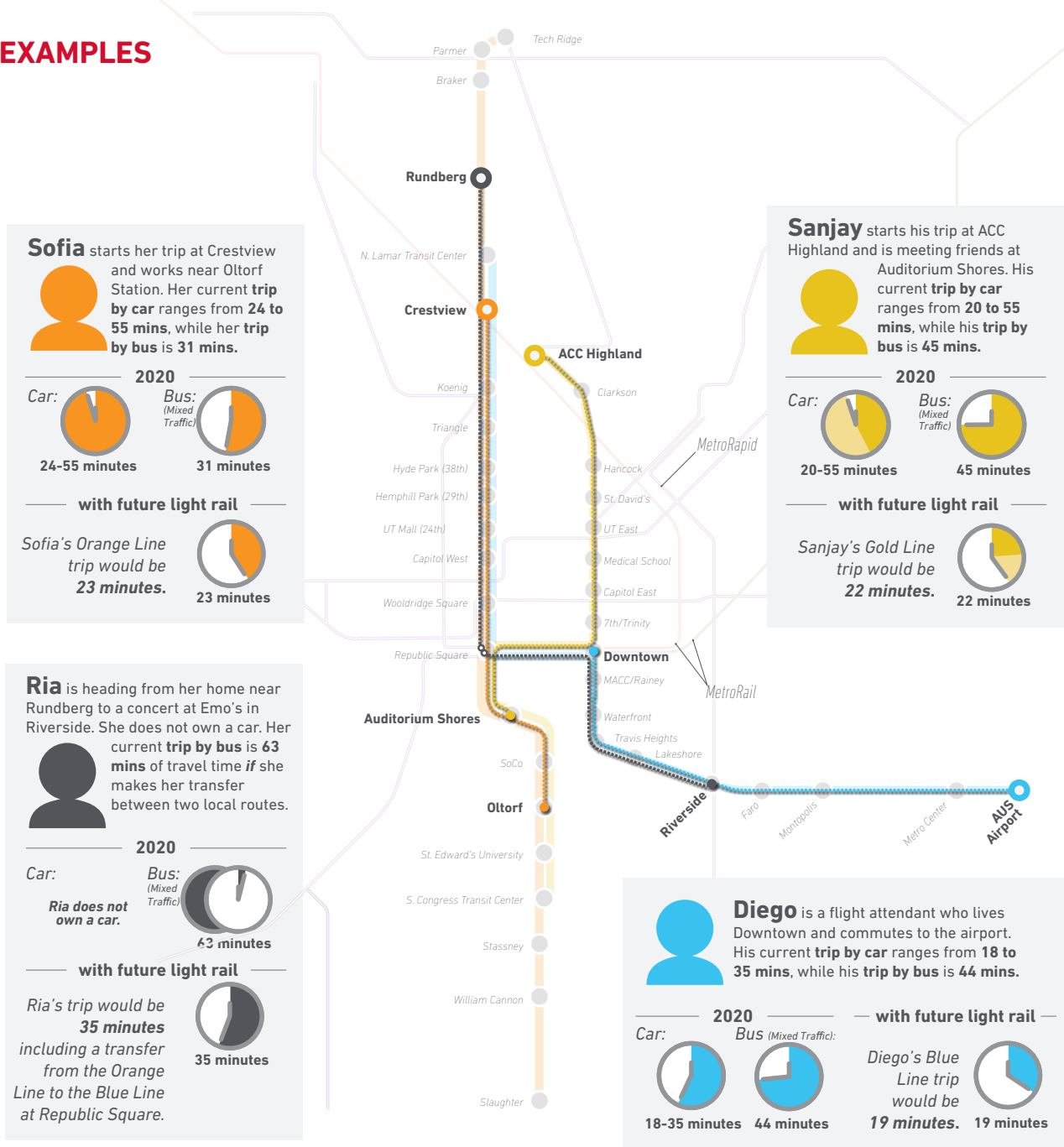


## » BETTER TRANSFERS AT KEY POINTS

The Project Connect program includes a plan to enhance some of Capital Metro's existing transit centers to become inviting places that function as multimodal mobility hubs. Mobility hubs are more than just typical transit stations or park & rides. They are programmed, well-designed places with ample amenities and opportunities to access transportation needs. Successful mobility hubs can help make transit service more welcoming to both daily and occasional riders. The Orange Line is planned to stop at existing transit centers that can evolve to mobility hubs to facilitate ease of system use and route transfers.



## » TRIP EXAMPLES





# EXPLORING OUR OPTIONS FOR A TUNNEL

Depending on the frequency of service and how the LRT system interlines, a downtown tunnel could provide operational benefits. When operating at the street level, the number of trains per hour through a specific intersection (e.g., 4th Street and Guadalupe or Cesar Chavez and Trinity), could adversely affect the transportation network, as other modes wait for the train to pass. Frequency of the trains could be adjusted with longer time between trains to mitigate these effects, but this would limit the capacity of

the system. A tunnel not only avoids street-level conflicts, it also eliminates capacity constraints.

The Project Connect team will continue to study the viability of a transit tunnel during the environmental phase. The estimated cost of the tunnel is \$2-\$2.5 billion dollars. This cost would be shared along with other system-wide costs of the Orange, Blue, and Gold corridors.

## » SAFER OPERATION WITH COMPLETE SEPARATION:



A downtown tunnel will provide a safer environment for all mobility modes.

## » PLACEMAKING OPPORTUNITIES:



These types of transit spaces could include:

- retail/food
- restrooms
- public art
- AC-controlled environments

## » FUTURE-PROOFING:



Allows the system to increase capacity for future service demand.

## » IMPROVEMENT IN TRANSIT OPERATIONAL RELIABILITY:



The benefits of grade separation and the elimination of surface conflicts improves travel time reliability and ultimately the quality of the customer's trip for everyone citywide.

## » FASTER SERVICE UNDERGROUND:



The downtown tunnel would bypass approximately 20% of surface level traffic signals, which improves speed and reliability of the whole network.

There are

**14** TOWERS BUILT BETWEEN 2010 AND 2018

**37** TOWERS being planned for DOWNTOWN AUSTIN

including an additional **3.7** MILLION FT<sup>2</sup> of office space to the area

Source: Austin Business Journal, March 2020

WHICH WILL BRING **TENS OF THOUSANDS** OF WORKERS TO DOWNTOWN

## » REDUCTION IN SURFACE CONFLICTS:



With the construction of a downtown tunnel, approximately twenty percent of the intersections could be made conflict free resulting in improved safety, reliability and travel time for all mobility modes, including emergency vehicles.

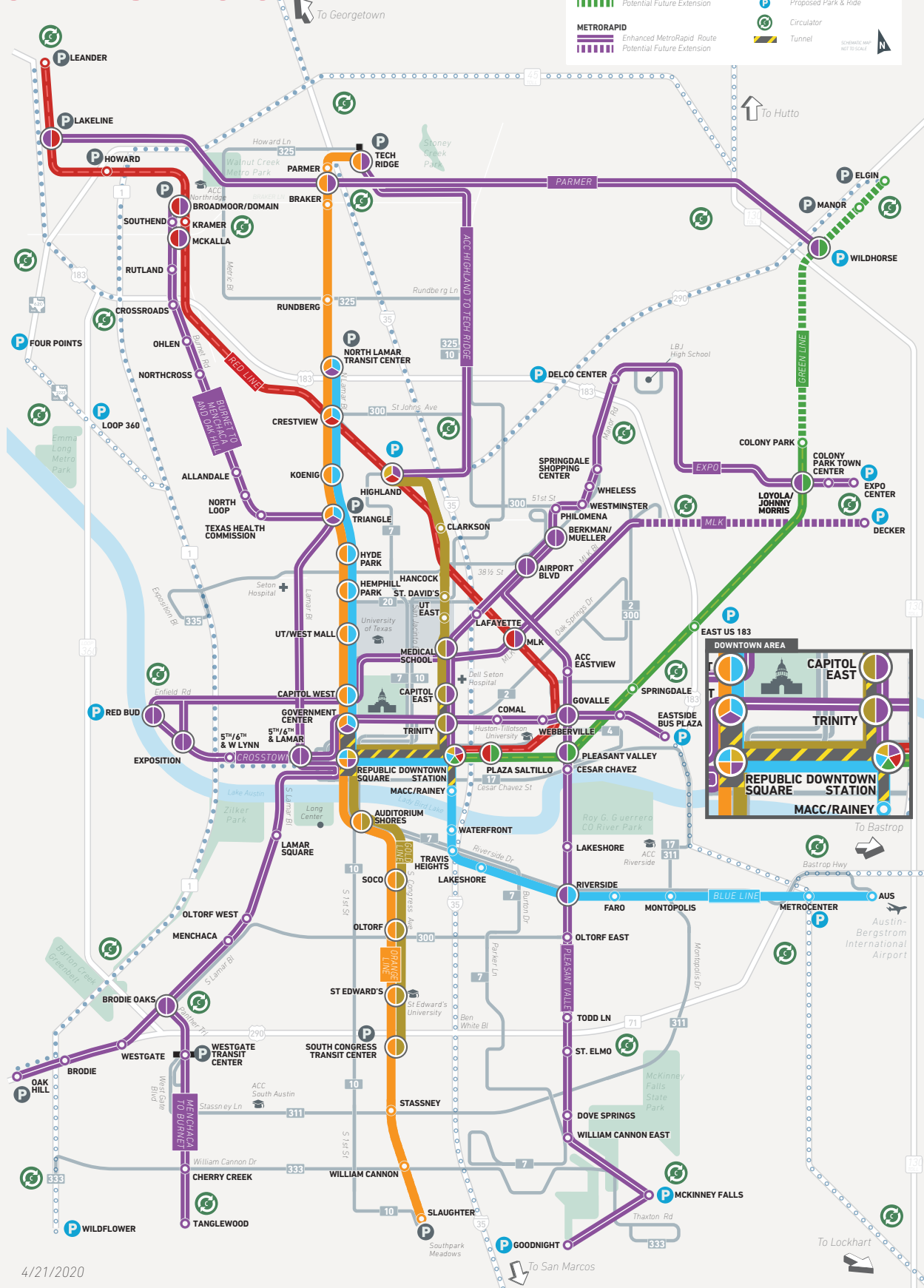
## » EXPANDING TRANSIT FOOTPRINT:



By placing a light rail transit system in a tunnel and expanding the service options of the corridor, one can help maintain the mobility capacity of the corridor and react to the growth and the congestion that comes with it.



# HOW IT ALL COMES TOGETHER



4/21/2020



## » WHAT IS A LOCALLY PREFERRED ALTERNATIVE?

LPA is the technical term that the Federal Transit Administration (FTA) uses to describe a community-selected transit investment that is seeking federal capital funds. Project Connect will seek Federal funding in line with recent trends in Capital Investment Grant authorizations under the New Starts Program. The program will consider awarding up to 50 percent. An LPA, or project, is made up of a route, transitway, vehicle,

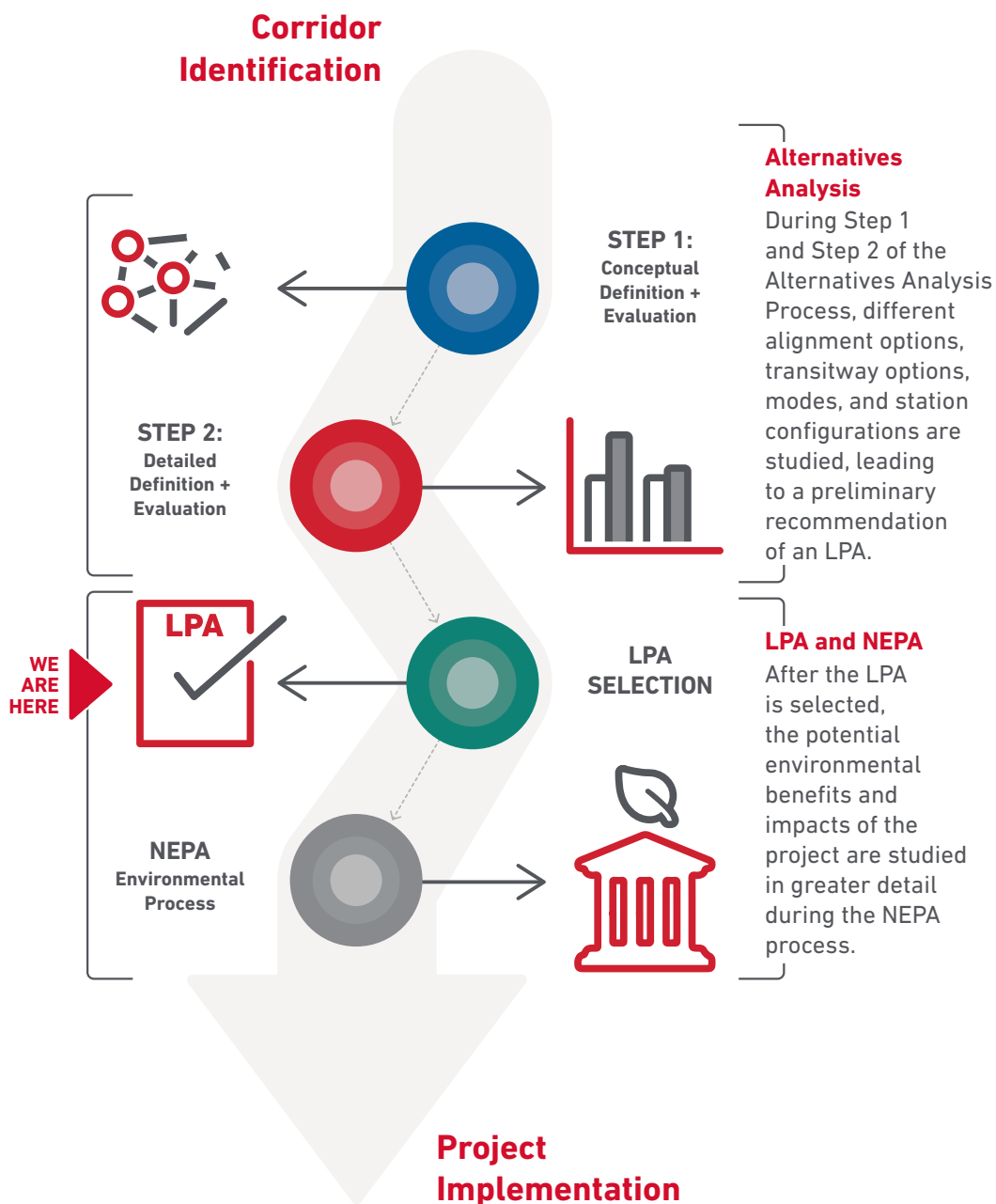
service plan, and any required support infrastructure (tracks, stations, and maintenance facilities). The LPA may be broken into phases for implementation.

Capital Metro is working with stakeholders across the region to identify individual LPAs for each of the Project Connect transit investments that are seeking capital funding from the FTA.

## HOW WE GOT HERE

### » THE PROCESS

The Orange Line Corridor Study has used a phased approach, in conjunction with guidelines set by the FTA. The process is structured as a tiered screening, where alternatives are defined, evaluated, and refined or eliminated in each step of the process. The result is a proposed LPA that will be further refined in the National Environmental Policy Act (NEPA) process and future project phases.





# WHO IS INVOLVED



## COMMUNITY LEADERS

Public input has been essential to the development of the LPA. Capital Metro has worked with the Project Connect Ambassador Network (PCAN), made up of more than 150 community organizations and stakeholders to provide input through a community lens.



## PARTNER AGENCIES

Throughout the process, Capital Metro regularly convened a Technical Advisory Committee (TAC) of public agency staff members from local cities, counties, transportation agencies and other entities to provide technical feedback related to the project. TAC members included:

- The City of Austin and the Austin Transportation Department
- Texas Department of Transportation (TxDOT)
- Capital Area Metropolitan Planning Organization (CAMPO)
- Travis County
- ...and many others



## YOU, THE PUBLIC

To date, Capital Metro has conducted three rounds of formal public engagement to gather input at key points in the process. Capital Metro made a special effort to meet people in their communities: the Project Connect team tabled at community events, conducted outreach at transit stops, and implemented innovative strategies including online open houses for members of the community who could not attend public meetings in person.



## STAKEHOLDERS

Capital Metro conducted extensive outreach to stakeholders, including neighborhood meetings, corridor working groups, and small-group presentations. Stakeholder working groups helped provide focused feedback on critical pinch points within the corridor.







## » WHAT ALTERNATIVES WERE CONSIDERED?

### Alignment

Alignment alternatives for the Orange Line Corridor were evaluated and eliminated during the Project Connect system planning phase.



### Transitway

The Project Connect Team studied whether the Orange Line Corridor would operate in a street level, elevated, or underground dedicated transitway depending on corridor constraints.



Street Level



Elevated



Underground

### Mode

Two options were considered for the vehicle type that would operate on the transitway: **Bus Rapid Transit (BRT)** or **Light Rail Transit (LRT)**.



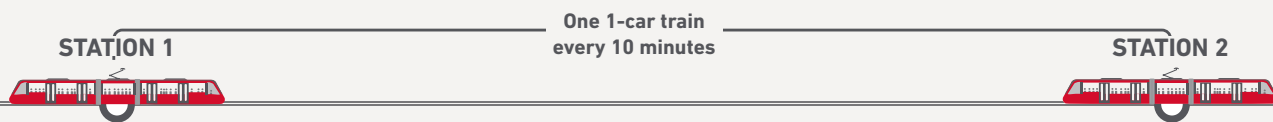
OR



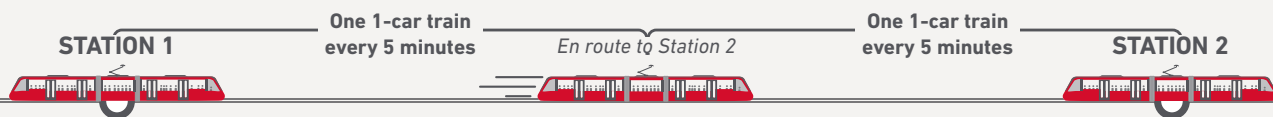
## » HOW TO ENSURE THE MOST FLEXIBILITY

The technical recommendation for the Orange Line is Light Rail Transit (LRT). LRT allows for the most capacity and operational flexibility to handle the needs of existing and future estimated ridership.

### To Carry 1,032 People Per Hour:



### To Carry 2,064 People Per Hour:



### To Carry 4,128 People Per Hour:



Note: Capacity illustrations are single-direction only. Downtown block lengths (272 feet) can accommodate up to three-car consists.

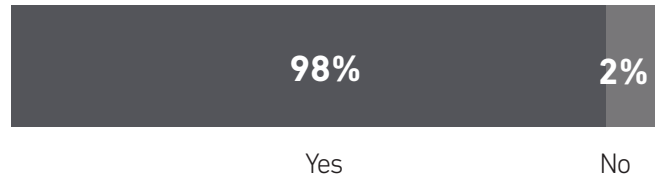


# WHAT WE HEARD

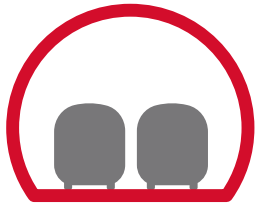
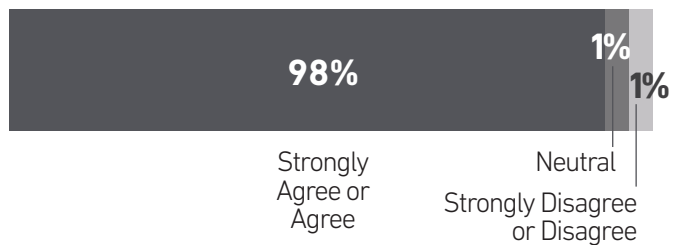


There is broad support for building dedicated transitways as part of the Orange Line corridor.

## » BUILD ALTERNATIVE BETTER MEETS THE PROJECT PURPOSE AND NEED

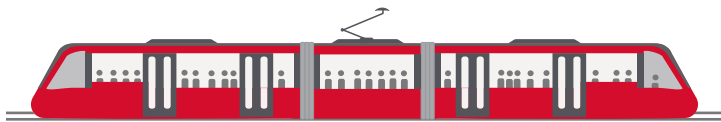
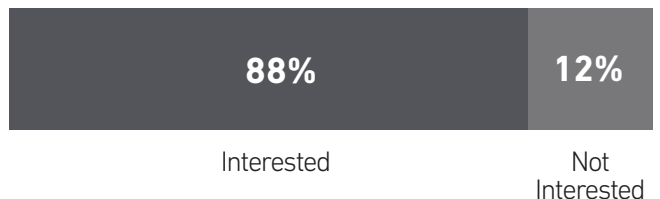


## » DEDICATED TRANSITWAY IS IMPORTANT



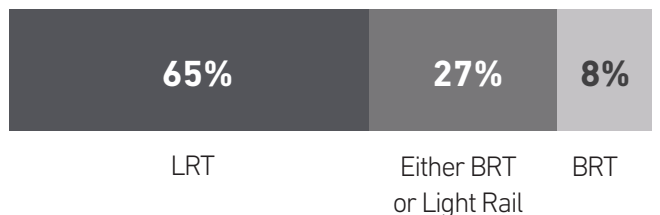
There is interest in further studying a Downtown tunnel.

## » PUBLIC INTEREST IN TUNNEL



Light Rail is the mode preferred by most respondents.

## » MODE CHOICE

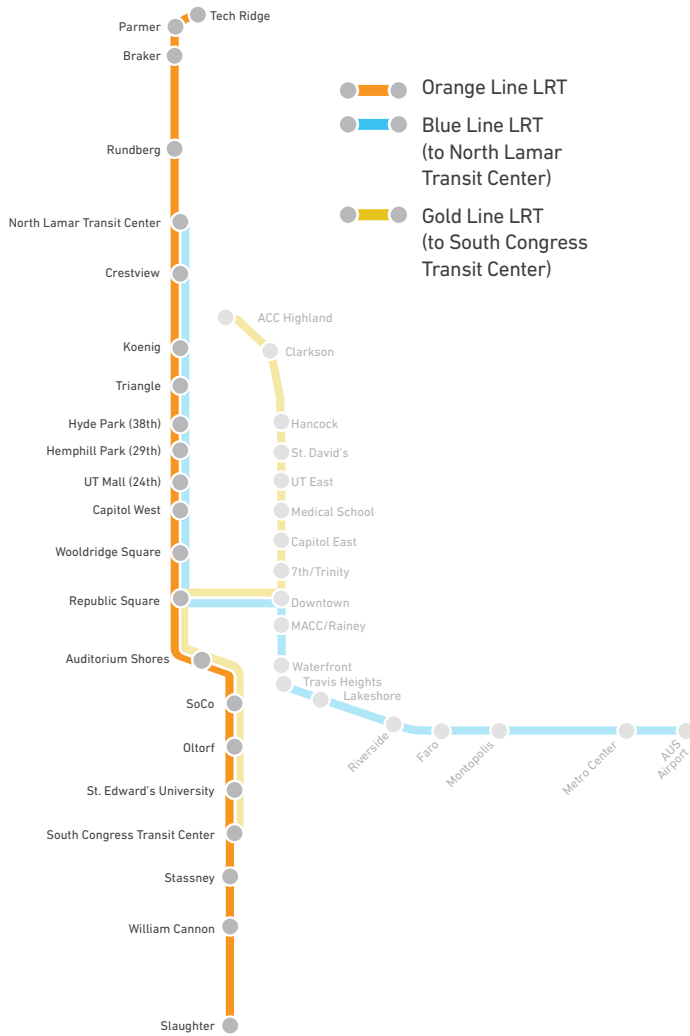


Note: Based on survey responses during July and November 2019 Engagement



# HOW IT COULD BE IMPLEMENTED

## » ORANGE CORRIDOR LPA & LONG TERM VISION



The Blue Line, Gold Line, and Orange Line work together as a system of interconnected services. A funding and construction sequencing plan will outline how and when each part of the system is paid for, built, and operated.

## » PROJECT CONNECT CORRIDORS

As the Project Connect corridors proceed through the federal process, the following definitions will be used to categorize projects separately for engineering purposes. These definitions are most useful to the technical team but may be helpful in understanding how the Project Connect team will delineate projects within formal applications for federal funding. These corridor definitions are also used in this report to ensure that key performance metrics – such as capital cost and ridership – best reflect the projects that will be carried into the federal environmental process.

### ORANGE CORRIDOR

Tech Ridge to  
Slaughter Lane

### GOLD CORRIDOR

Republic Square  
to ACC Highland

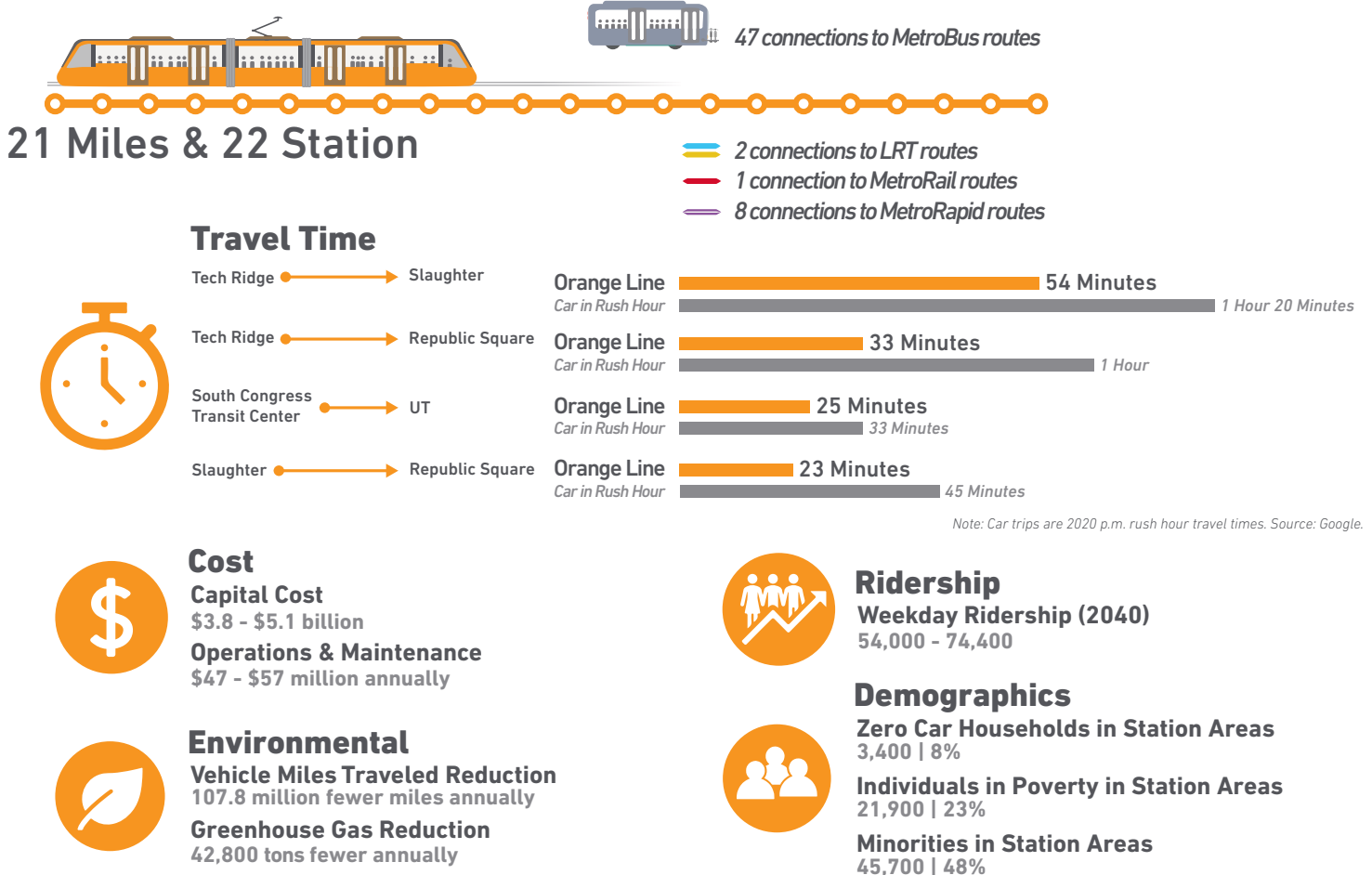
### BLUE CORRIDOR

Austin Airport (AUS)  
to Republic Square



# ORANGE LINE *at a glance*

## Mode *Light Rail*



## » WHAT IS THE PROPOSED ORANGE LINE LPA?

The proposed Orange Line LPA is Light Rail operating in a 21-mile dedicated transitway from Tech Ridge on the northern end of the corridor to South Park Meadows on the southern end of the corridor.

The transitway is proposed to operate at street level (center running) throughout most of the corridor. The Orange Line transitway profile near Crestview Station and the Red Line crossing will be determined pending the outcome of a separate study. Through Downtown and UT, there are four potential transitway options: street level, partially elevated, short tunnel, and long tunnel. Selection of the preferred transitway option (or combination of transitway options) between Auditorium Shores and Hemphill Park Station (29th St) will be made during the next project phase (Preliminary Engineering).

Twenty-two stations are planned along the route. The placement of these facilities will be coordinated with the local community during the design phase. Service has been modeled to operate every 10 to 15 minutes, seven days a week, from 5:00 a.m. to 3:50 a.m. (12:50 a.m. on Sundays), the next day. The Orange Line will feature off-board fare collection, larger stations with level boarding, ADA accessibility, and intersection signal prioritization.

The Orange Line will connect with the Blue & Gold Line in downtown Austin; the location of that connection (including potential joint use of a tunnel) will be determined in Preliminary Engineering.

Note: the data presented in the “at a glance” section reflects only the Orange Line as an independent project.



# WHAT'S IN IT FOR YOU

## IMPROVED RELIABILITY

- The Orange Line will operate in dedicated transitways (separated from general traffic).
- This means fewer service interruptions and freedom from congestion.
- Dedicated transitways take the guesswork out of estimating transit travel times.

## EXPANDED ACCESS TO JOBS

- 8%+ of Orange Line corridor households do not have access to a car.
- 23%+ of Orange Line corridor individuals live below the poverty line.
- 150,000+ jobs will be accessible from the Orange Line.
- The Orange Line will provide a frequent, reliable connection between jobs and the residents who need them.

## EXPANDED SPAN OF SERVICE

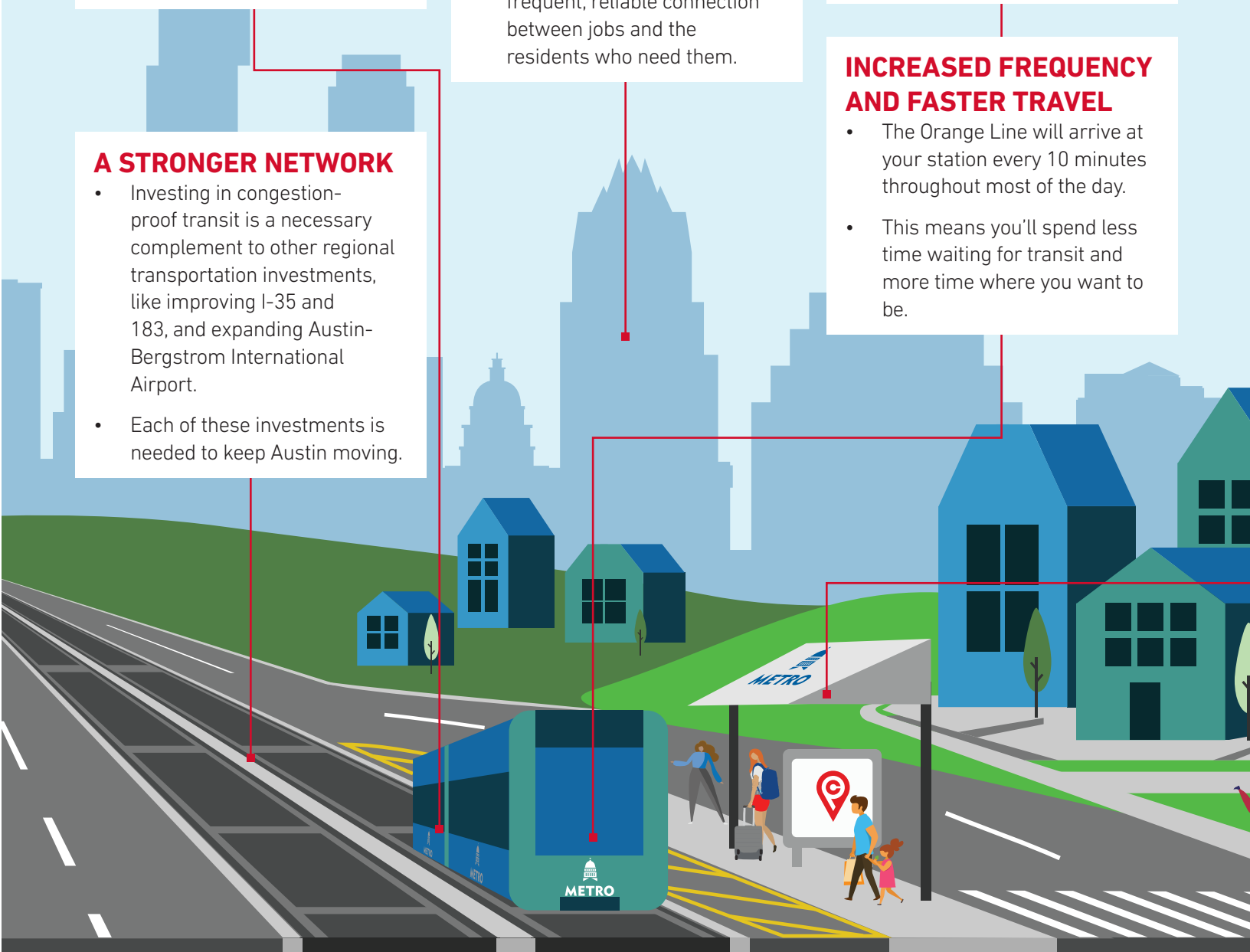
- Orange Line service planning model assumes a start at 5:00 a.m. and end at 3:50 a.m. the following day (except 12:50 a.m. on Sunday).
- This nearly 24-hour, 7-days-a-week modeled service means that the Orange Line will be ready when you are.

## A STRONGER NETWORK

- Investing in congestion-proof transit is a necessary complement to other regional transportation investments, like improving I-35 and 183, and expanding Austin-Bergstrom International Airport.
- Each of these investments is needed to keep Austin moving.

## INCREASED FREQUENCY AND FASTER TRAVEL

- The Orange Line will arrive at your station every 10 minutes throughout most of the day.
- This means you'll spend less time waiting for transit and more time where you want to be.





## SUPPORT FOR REGIONAL PLANS

- The Austin Strategic Mobility Plan envisions that 16% of Austinites will use transit to get to work by 2039.
- Fast, reliable, frequent transit service (like the Orange Line) is necessary to make this happen.

## MORE OPTIONS

- The Orange, Blue, and Gold Line corridors are being designed to maximize connections to where you want to go.
- Congestion-proof transit will get you there without the headache of traffic and parking.
- If you're a driver, there will be fewer cars in front of you.

## THRIVING COMMUNITIES

- Central Texas' population is expected to nearly double over the next 20 years.
- Housing construction is not meeting this demand, which means housing costs will continue to increase.
- The Orange, Blue, and Gold Lines can be a tool to help preserve affordable housing and produce housing for Austinites of all income levels.

## SUSTAINABILITY AND IMPROVED AIR QUALITY

- Transportation plays an important role in confronting environmental challenges.
- Investing in the Orange Line will help Austin meet national air quality standards by reducing overall vehicle emissions and pollutants.
- The Orange Line supports the greenhouse gas reduction goals of the City of Austin's Community Climate Plan.

## INVESTMENT IN THE FUTURE

- The Orange Line corridor is the backbone of Austin and the region.
- Rethinking how we use this space to move people is key to a healthy Austin.
- The Orange Line is a major step toward a more sustainable future and has been future-proofed to evolve with technology.





# WHAT'S NEXT

Once the Capital Metro Board of Directors adopts the Orange Line LPA and the Austin City Council endorses it, the project will be ready to advance through next steps in the implementation process. These next steps include: identifying an implementation plan including funding, completing the federal environmental review process, completing final design, and starting construction. Capital Metro will continue to engage with the community as the Orange Line project advances.

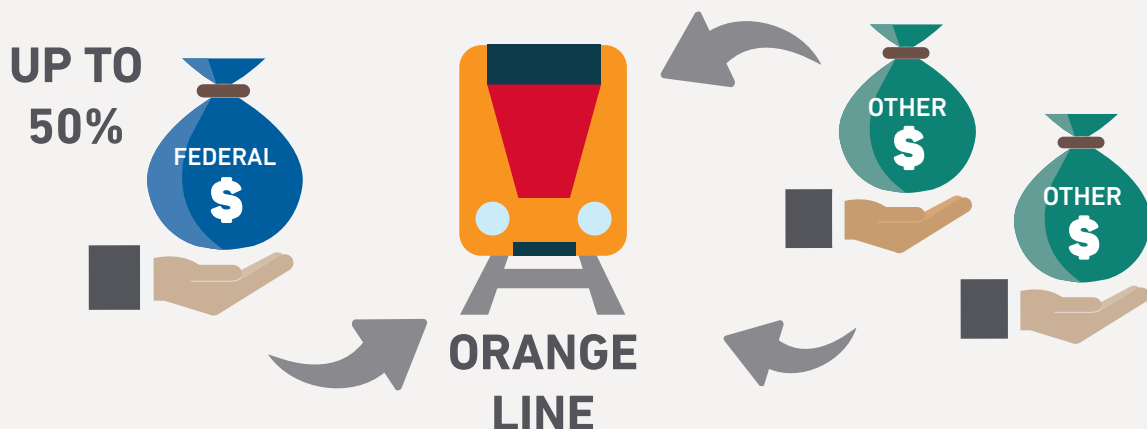
## Orange Line

*It's time for regional public transit we can rally behind.*  
***It's Go Time!***

### » HOW WILL IT BE FUNDED?

Once an LPA is adopted, the Orange Line would be eligible for Federal funding in line with recent trends in Capital Investment Grant (CIG) authorizations. The CIG program may award up to 50% of the capital

cost. Other funding will primarily come from local sources, and authorization of new local funding to be directed towards some or all of the Orange Line could be on the November 2020 ballot.





## Capital Metro Board Action on LPA

- Capital Metro Board adopts independent corridor LPA
  - Necessary step for federal funding
- Capital Metro Board adopts System Plan



## Local Partner Action on LPA

- Austin City Council endorses LPA
- CAMPO adopts LPA into Long Range Transportation Plan (LRTP) in June 2020



## Implementation

- Develop implementation plan
- Define projects for construction/funding
- Finalize funding package



## Investments Advanced

### Environmental Work (NEPA)

Potential impacts to natural, social, and built environments

### Engagement

### Preliminary Engineering

Design advanced to support environmental work

### Final Design

- Design is finalized for construction
- Costs are finalized
- Funding is finalized

### FTA Approval & Construction

- FTA funds
- Construction begins

# Orange Line Implementation

2020



2025





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## QUESTIONS?



**Visit the Project Connect Community Office  
located at 607 Congress Ave.**

Talk with project staff, ask questions and provide  
feedback between 9 a.m. and 4 p.m.



**Visit [ProjectConnect.com](http://ProjectConnect.com)**

We value your input! Sign up to receive  
updates or learn about upcoming meetings.



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