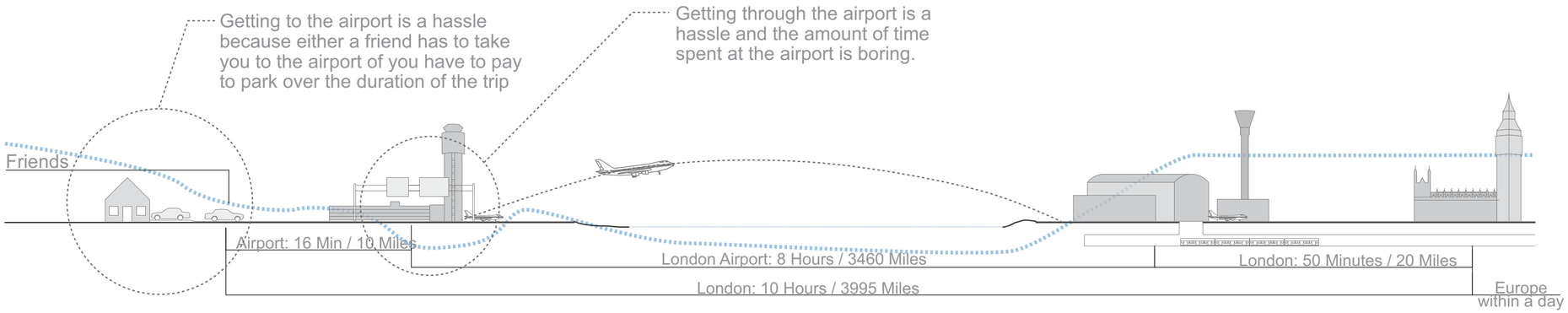
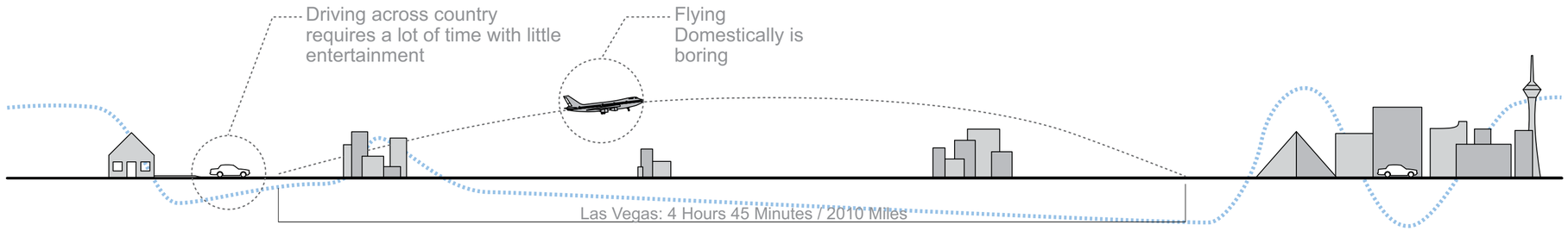
What negative experiences are part of travel?

Many factors add to negative experiences when traveling

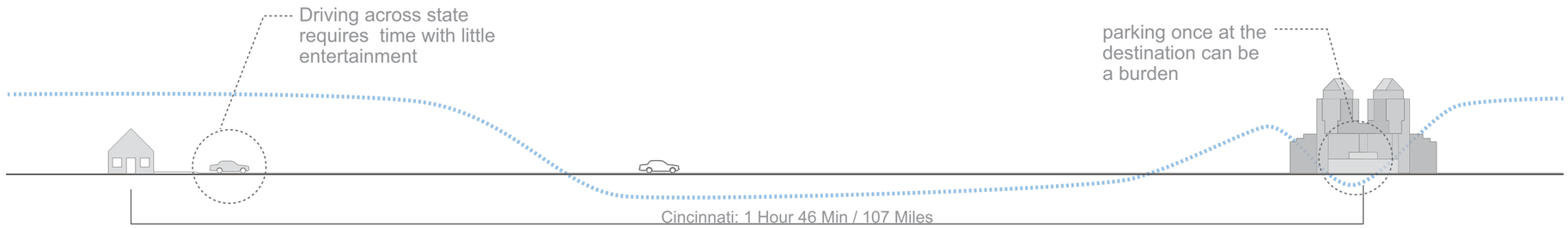
International



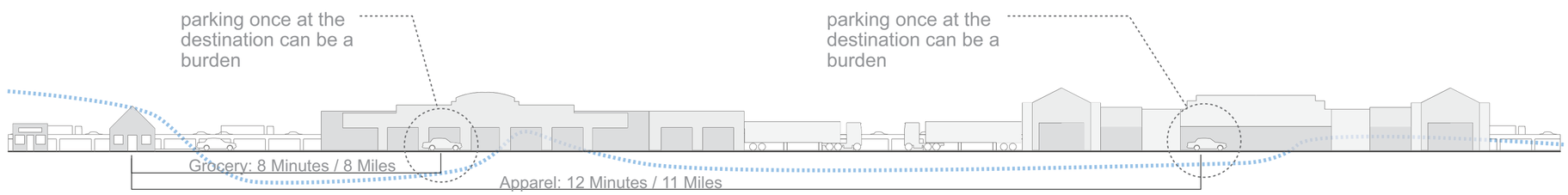
National



State



City



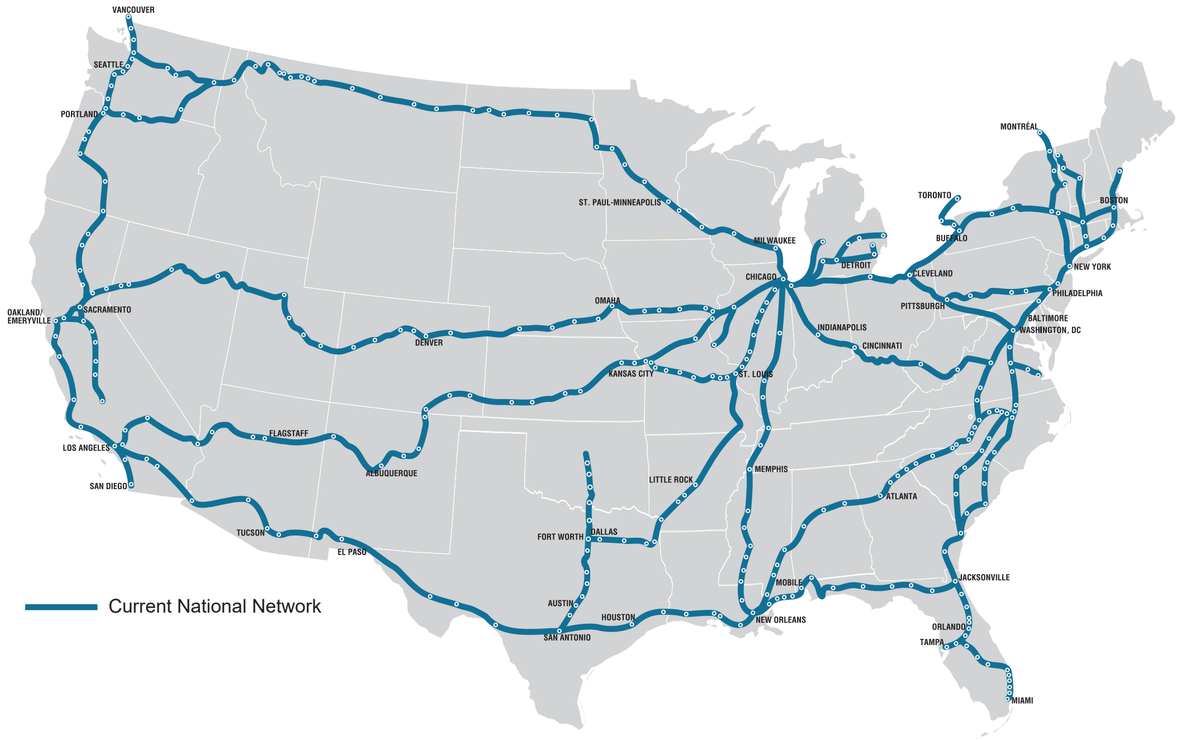
Why a Network?

A network at multiple scales would allow for usage of rail between the entire United States. The transfer points between scales allow for easy moves between the scales.

Existing System

The current Federal Amtrak system.

National System



Enhance Current System

Enhance the system by constructing dedicated high speed lines around current infrastructure eliminating the conflict with freight traffic.

Expand Current System

Construct new lines to allow better continuity between the system and include connections to each of the 48 states.

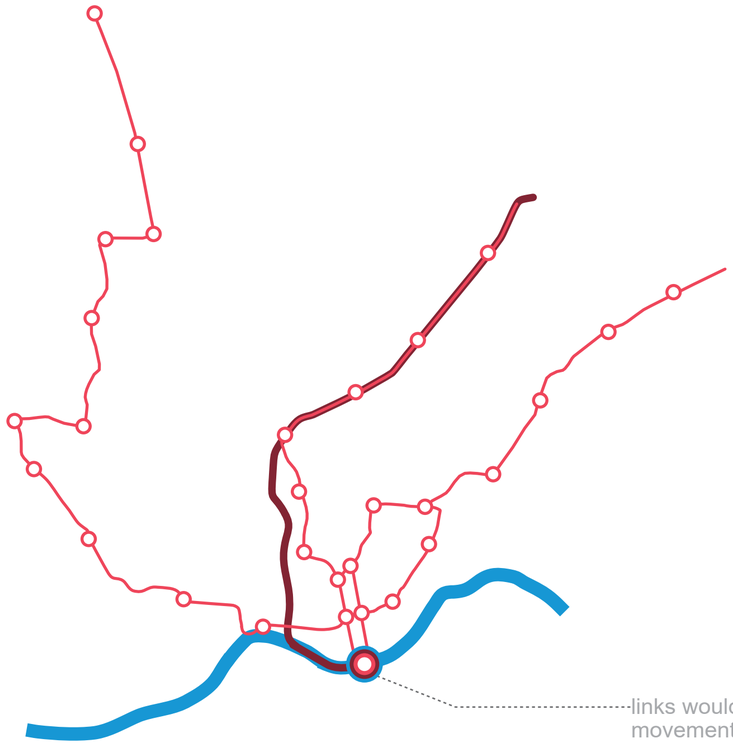
National System

Ohio State System

The Federal Government expands the current funding structure for the Interstate system to include rail infrastructure. States plan routes to link into the national system.

Ohio City System

Cities adapt current systems and plan new systems to link into the state system or national system when applicable.



Local Network

State Network

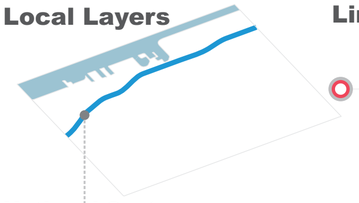
National Network

How Would the Three Cs Look with Multiple Scale Networks?

Given the characteristics of each city the transportation network would differ.

Cleveland

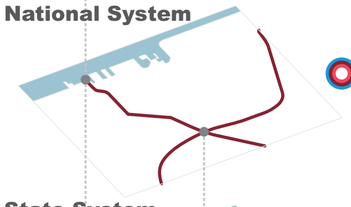
Local Layers



Links

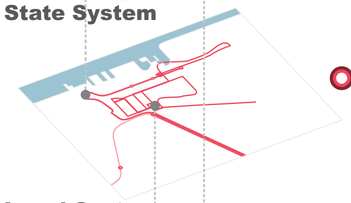
The Cleveland Hopkins International Airport could be accessed via the local, light rail network that is closely linked to the state line.

National System



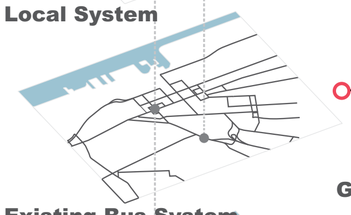
National, state, and local networks would all meet at a central, downtown location to provide easy transfers to final destinations both near and far.

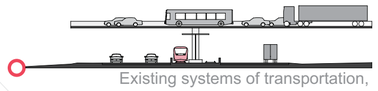
State System



The state and local networks would also intersect at a number of points throughout the city.

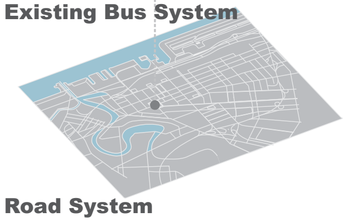
Local System



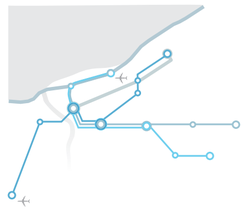


Existing systems of transportation, including busses and cars, will also be linked to the new systems.

Existing Bus System

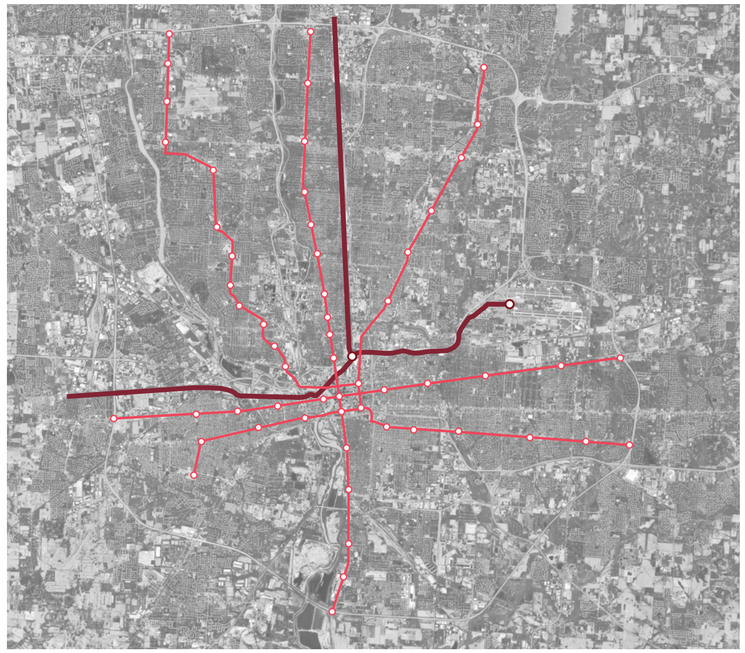


Graphical Network

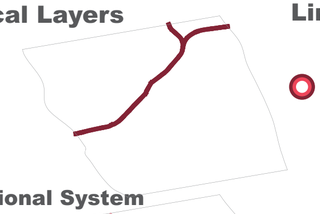


Road System

Columbus



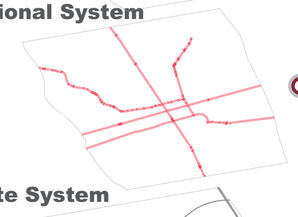
Local Layers

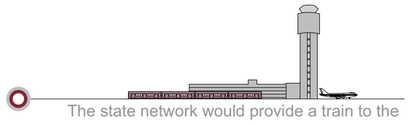


Links

Just outside the downtown, the state line splits off to the airport, or you can enter the local line

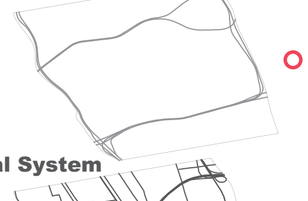
National System





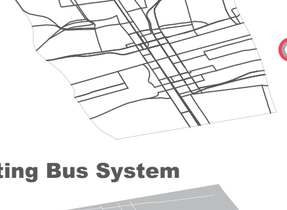
The state network would provide a train to the airport creating a central airport connection within the state

State System



The local train crosses and loops around the crossing of the two main street of Columbus: High and Broad

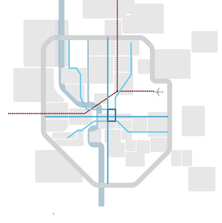
Local System



As the local line spreads out, the bus routes begin to link up and create a more fluid connection to the neighborhoods of Columbus

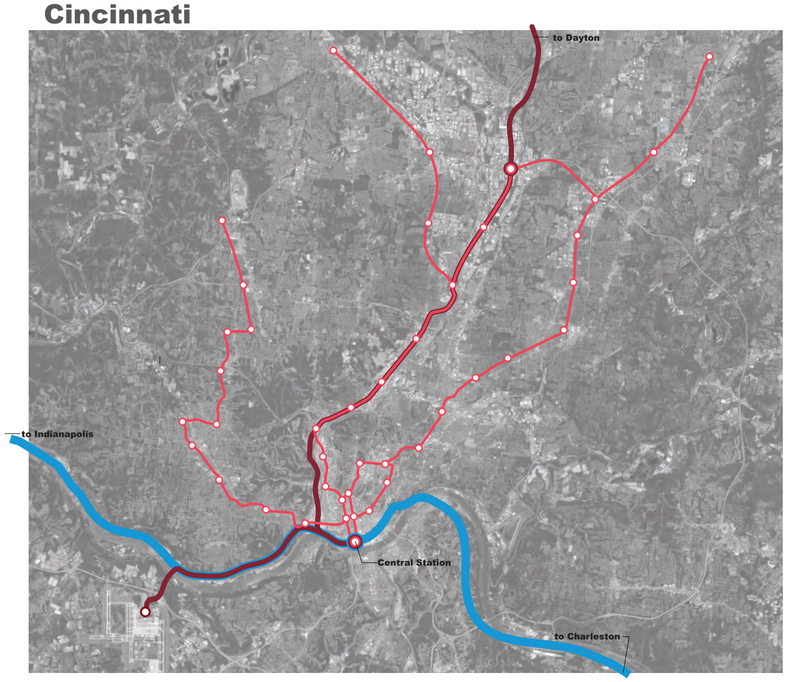
Existing Bus System

Graphical Network

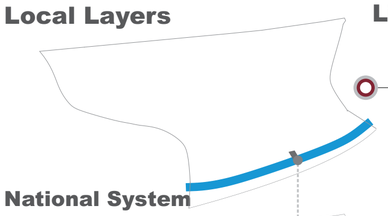


Road System

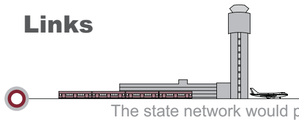
Cincinnati



Local Layers

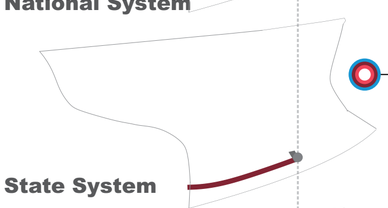


Links



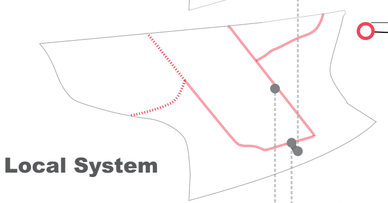
The state network would provide a train to the airport. Enhancing both Cincinnati and the states transportation systems.

National System



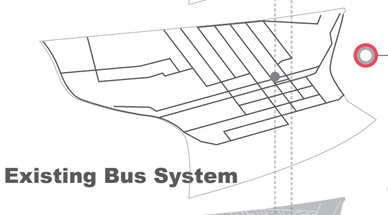
All the train systems will transfer at the central station, providing easy access to all the networks from one location.

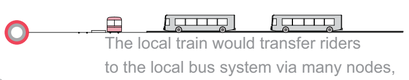
State System



Cincinnati local train network would include transition of above ground and below ground conditions. This would consider the road width and current infrastructure such as the existing subway tunnels.

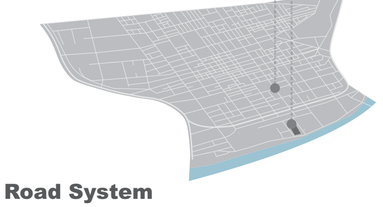
Local System



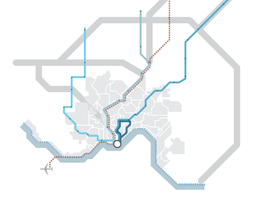


The local train would transfer riders to the local bus system via many nodes, but certainly the government center block where a most bus routes originate from.

Existing Bus System



Graphical Network

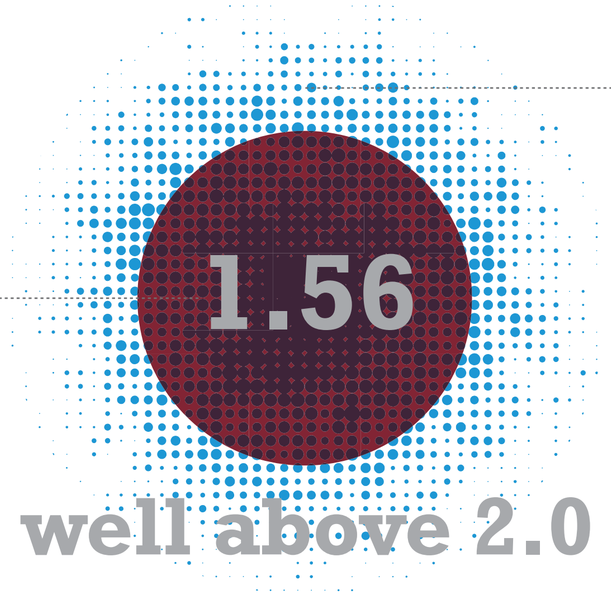


Road System

Does investing in rail make economic sense for Ohio?

The facts and figures on transportation expenditures in Ohio.

Under a High-Speed Scenario, the Ohio Hub system is forecasted to obtain a benefit/cost ratio of 1.56.



If the impacts on the connecting Mid-West Regional Rail System corridors are also included, the benefit/cost ratio rises well above 2.0.

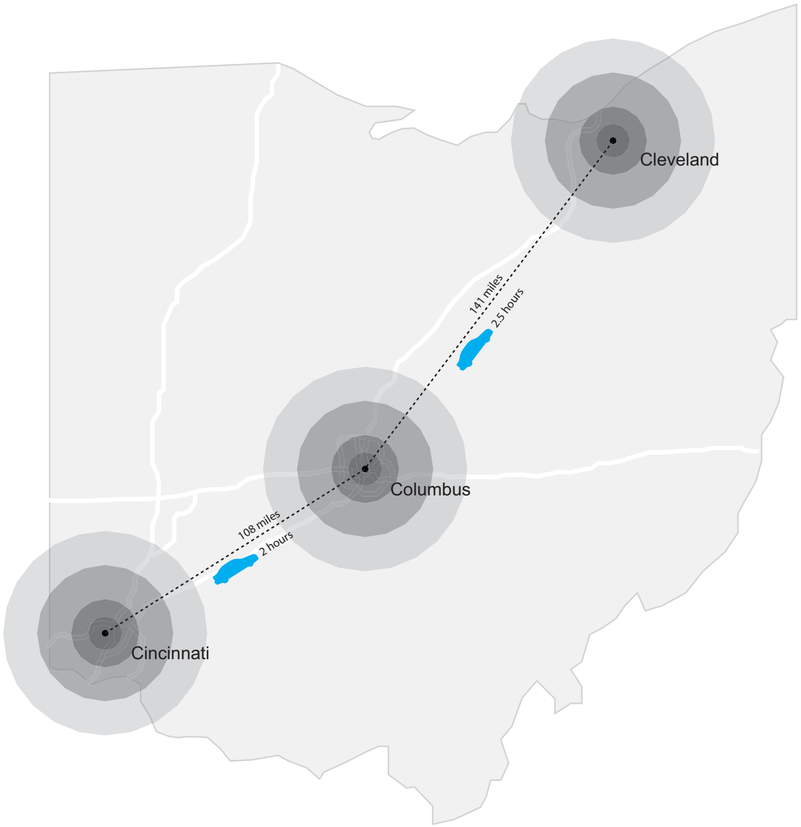
The entire high-speed, **3C corridor** (@ $1,166,568,900) could be built for slightly more than the cost of **one B-2 Bomber** or **48 hours of war in Iraq and Afghanistan**.

How can trains save time?

By embedding daily activities into the commute, time is gained at the end of the day.

Train vs. Car

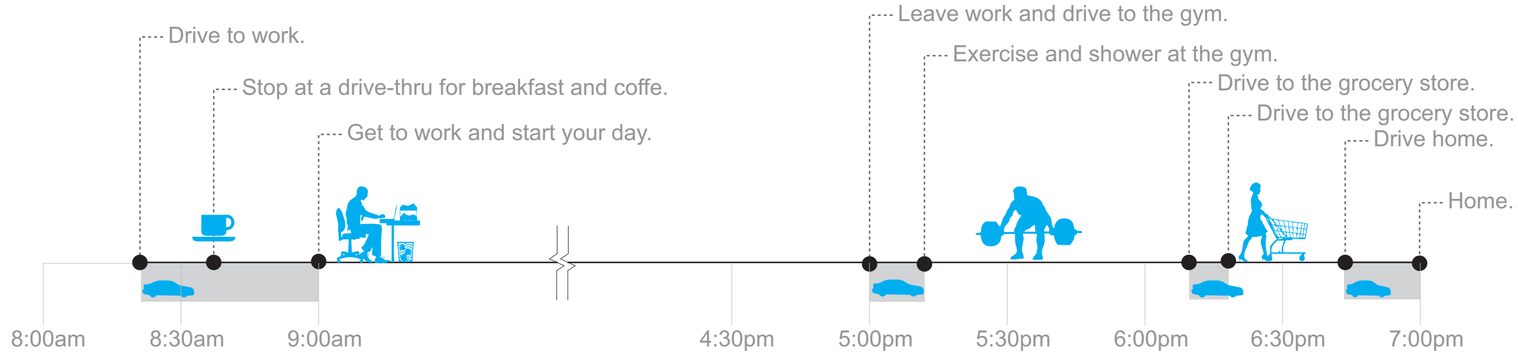
A train may not have a quicker travel time than the car, but it can save time over the span of a day. By including daily activities into the station and the train cars, less time is spent commuting to other locations.



A Day in the Life

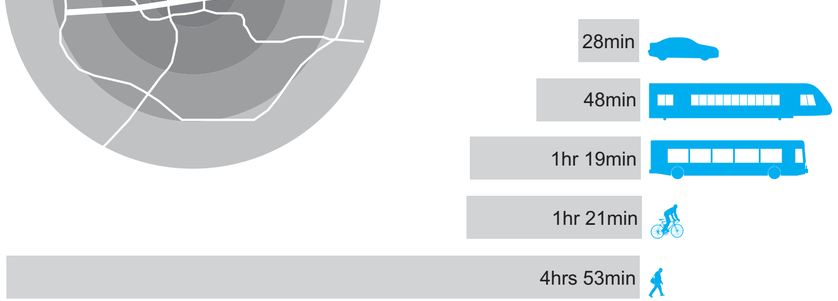
Here is a break down of activities that occur before and after work on a typical weekday. The timeline demonstrates how they add up using a car and using public transportation.

Car

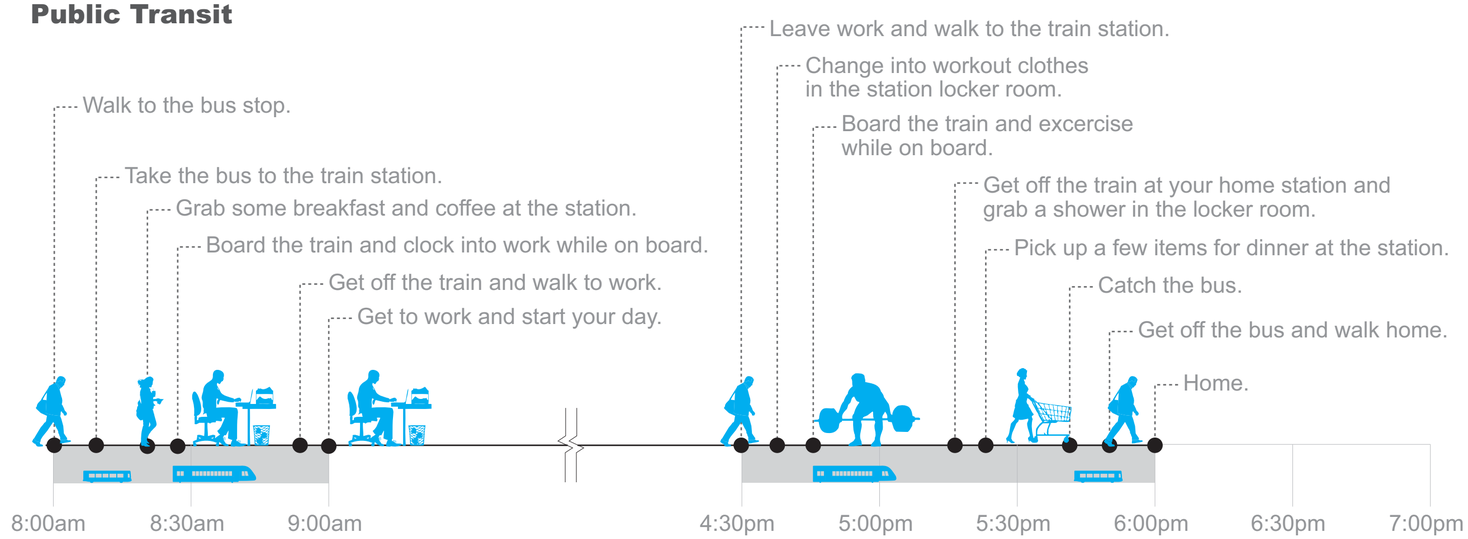


Traveling Across Broad St.

The distance across Broad St. is 15 miles. Here is how the travel times of different modes of transportation compare.



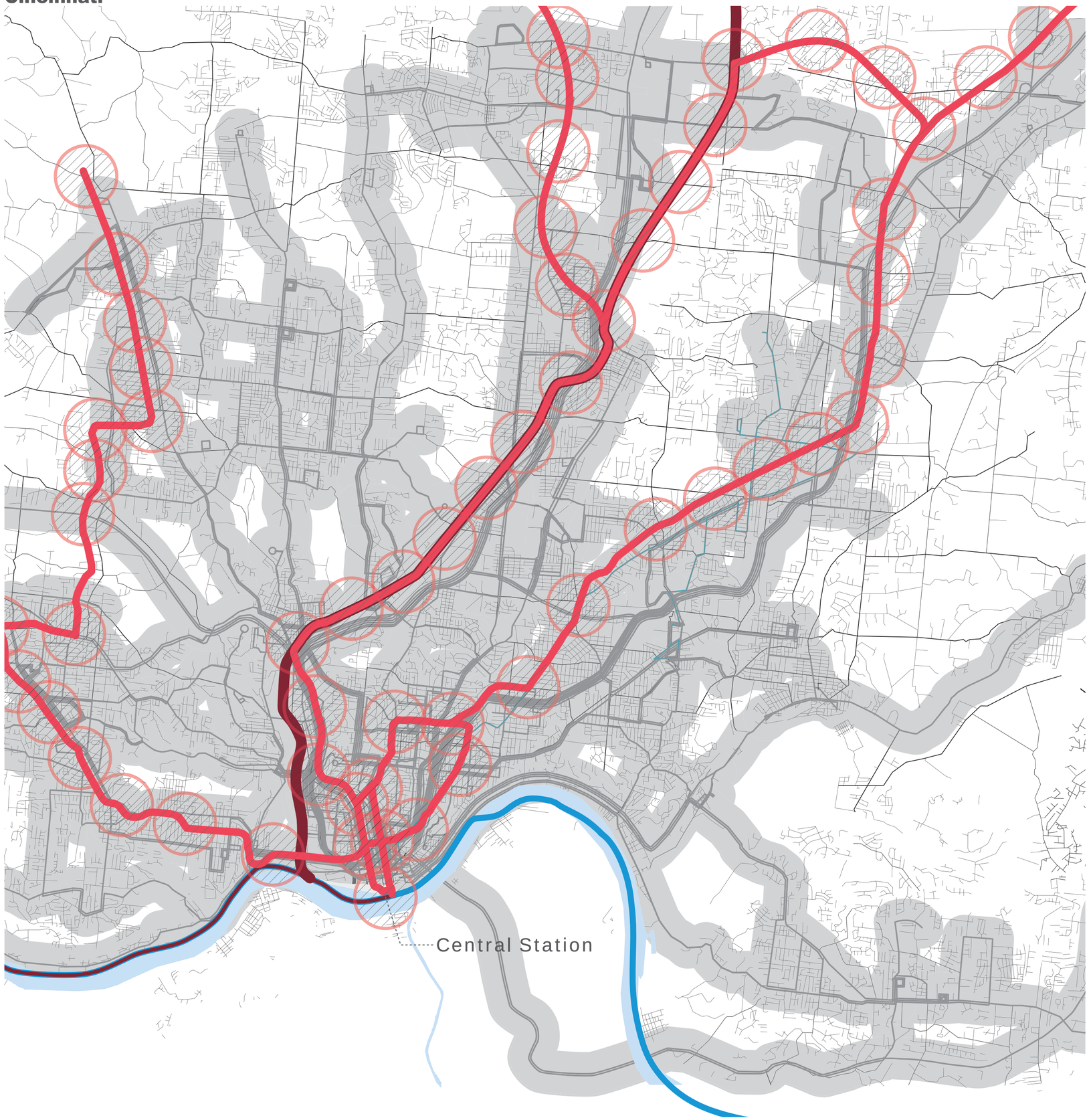
Public Transit



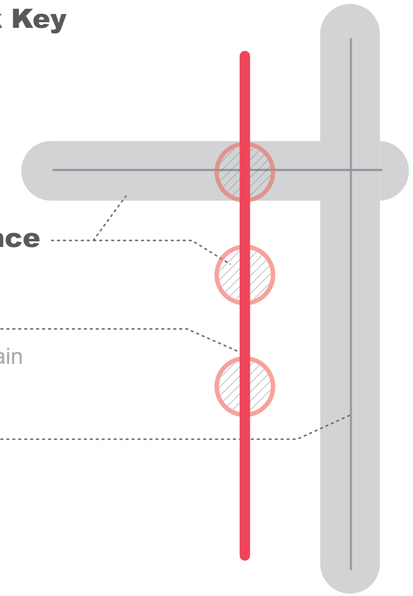
How would a city network connect to the user?

The city train system would cater to population centers and people outside the network would use secondary systems such as a bus to transfer to the city train.

Cincinnati



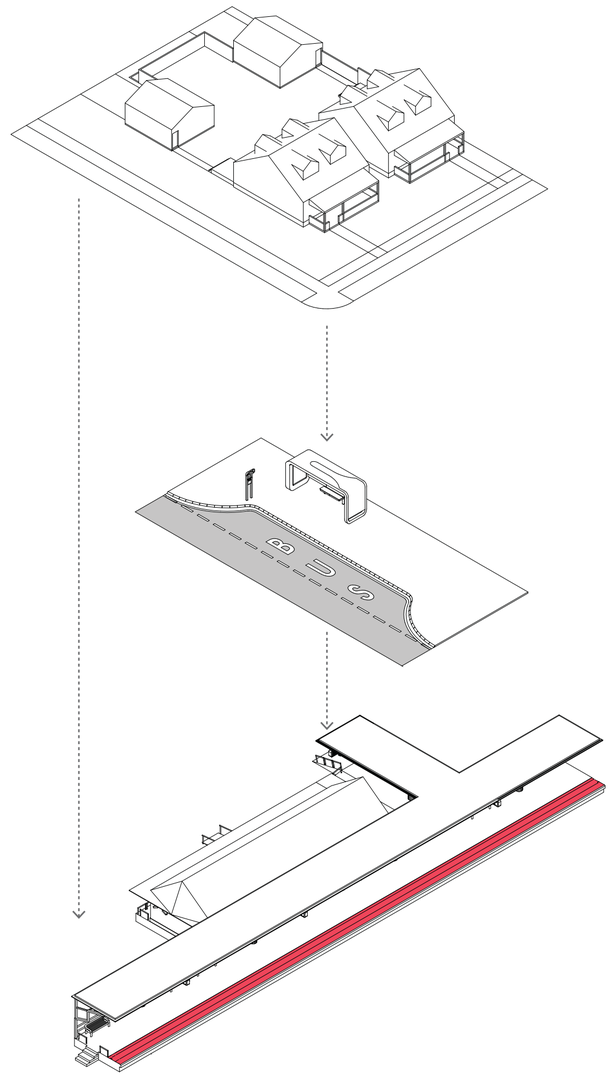
Travel Time and Network Key



10 Minute Walking Distance
From given stops or line.

City Rail Line
The primary system leading to the train station serving all larger networks

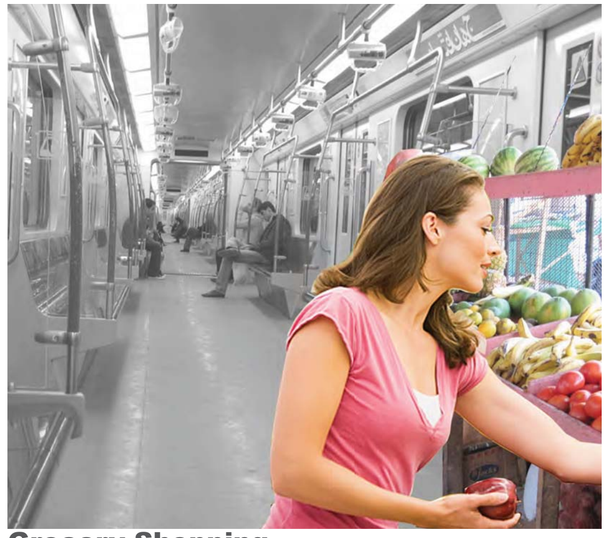
Bus Line
Indicated in gray is the existing bus network that would plug into the rail system to plug populations from outside the 10 minute walking radius into the city rail system



How can time on trains be productive?

When one embeds a train ride into daily activities, one can accomplish so much more than when one drives

Airport Security Checkpoint



Grocery Shopping

Sleeping Seats

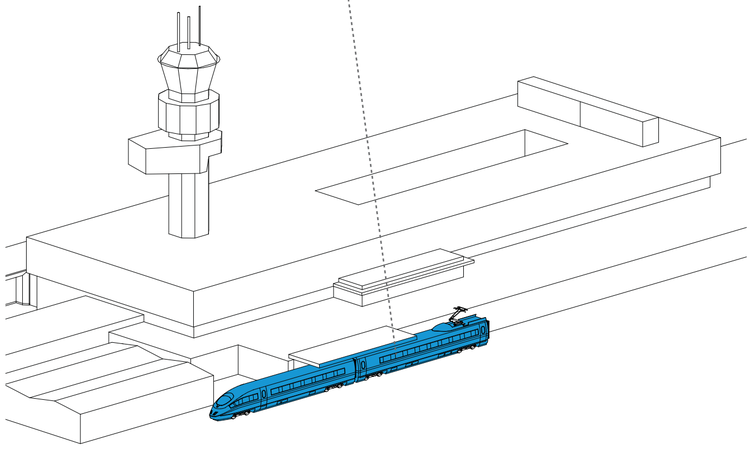
Office Space

Present Home/Work-to-Flight Schedule

Revised Home/Work-to-Flight Schedule

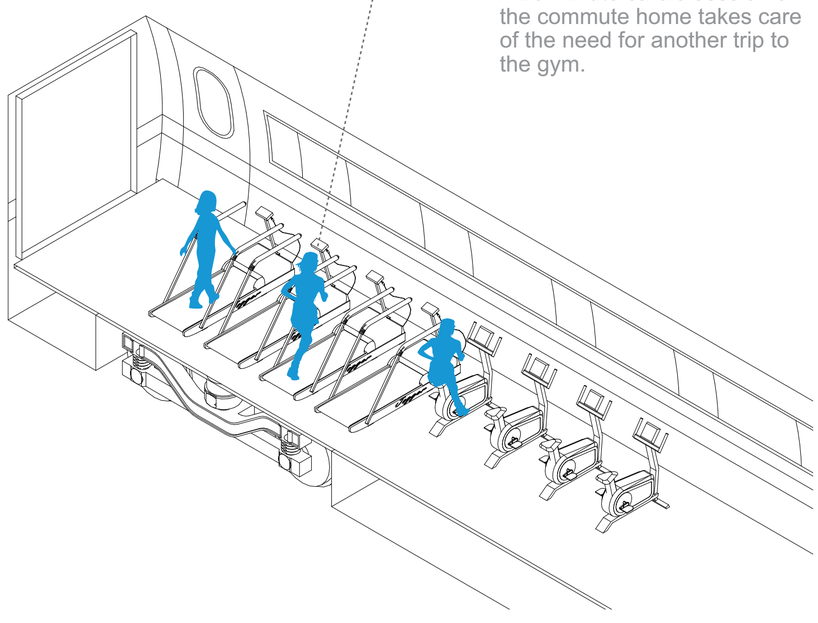
Arrival at Gate

Having passed through a TSA security check point on the train, the passengers are able to by-pass the security screening at the airport and arrive directly at their gate.



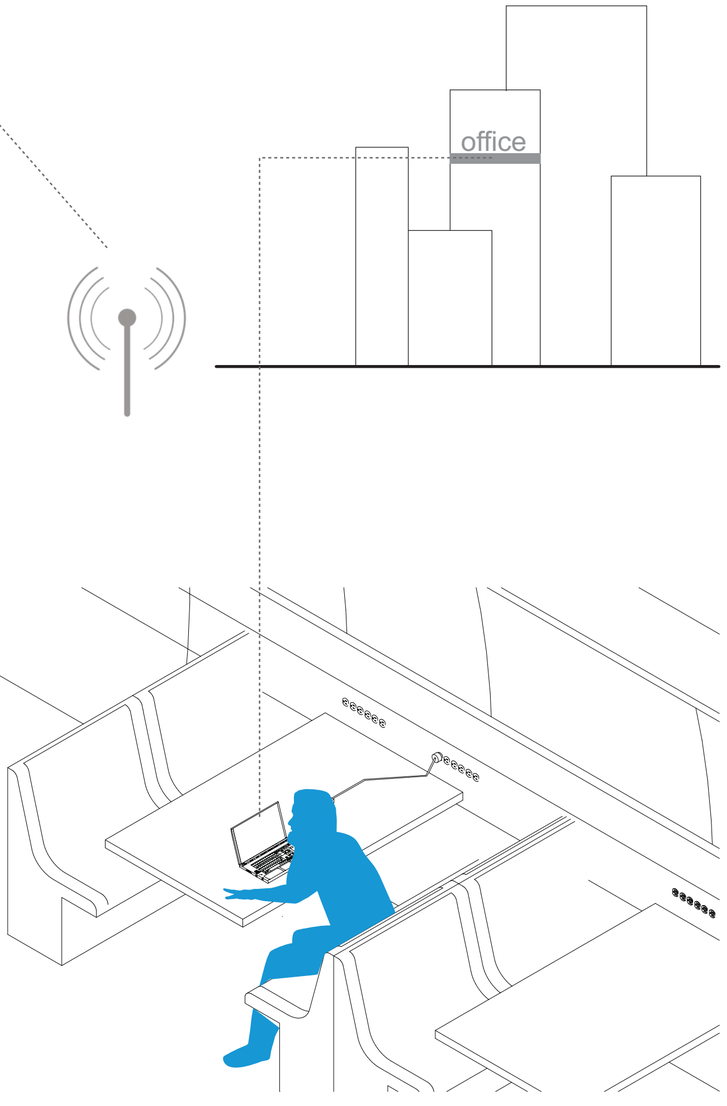
Exercise Car

A 20-minute cardio session on the commute home takes care of the need for another trip to the gym.



Commuter Clock In

Commuters clock in once on the train to count as work time. This would offer incentives for workers to use mass transportation options.



How can trains provide more convenience?

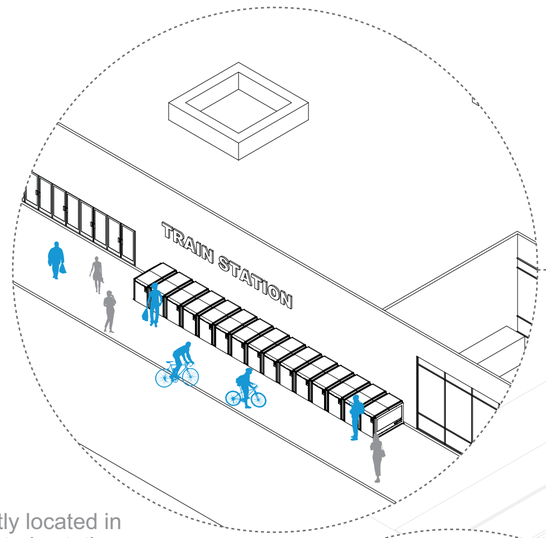
Additional services offered on trains activate the "dead" time in travel

Bicycle Lockers
For reliable security bicycle lockers would to store rider's bicycles.

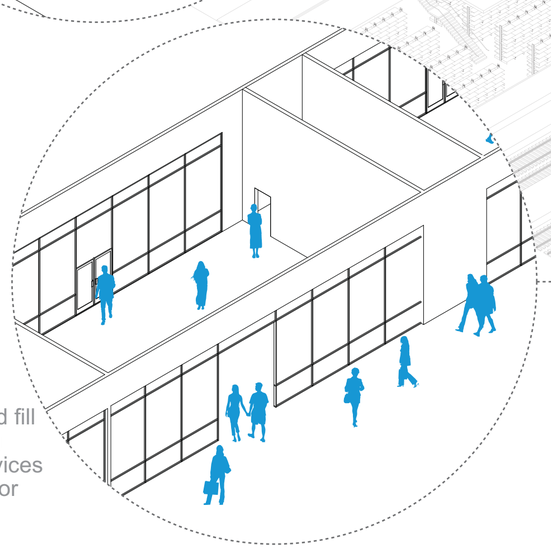
Shopping
Space within the station can provide needed amenities to travelers such as shopping, libraries, and pharmacy

Showers
Working with gym car on some trains locker and shower facilities would provide users with ways to refresh

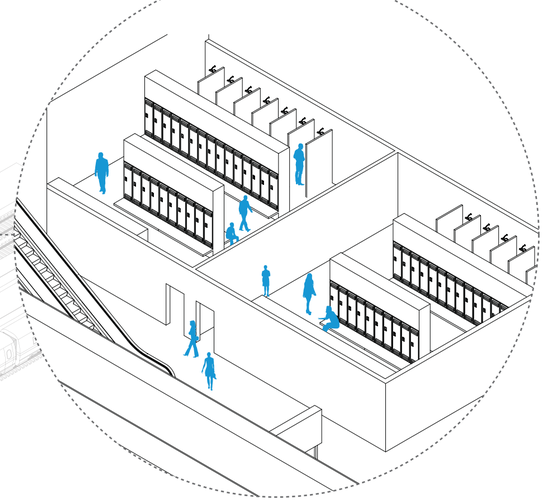
Pick-up Window
Good ordered before arrival to the train station would be ready for pick up at the train station pick up window



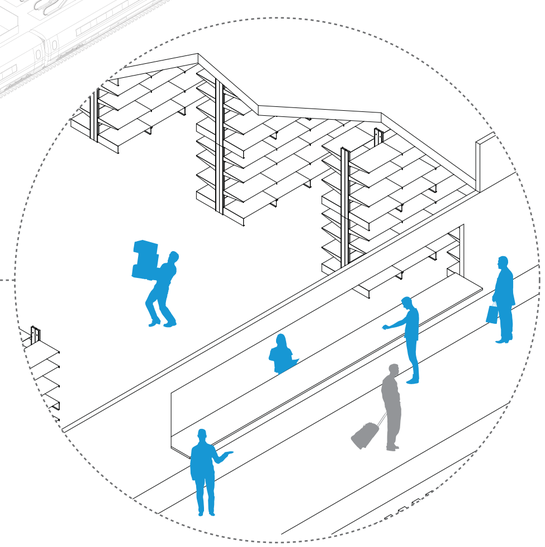
Conveniently located in front of the train station



Commercial space would fill a majority of the building providing good and services and providing revenue for the station



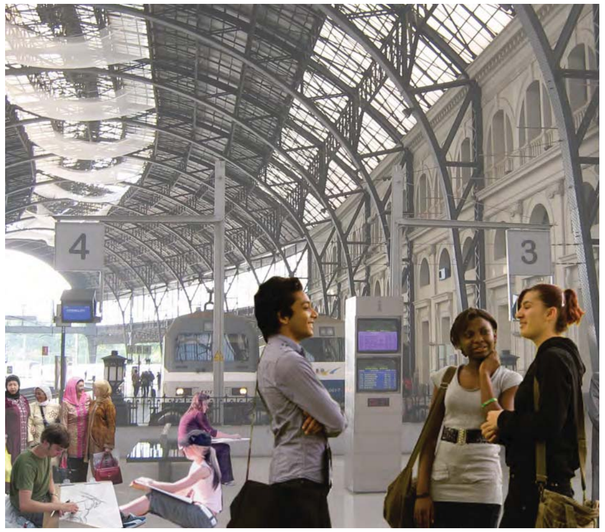
For both users of gym cars and bicycle riders showers would provide users with a means to refresh



Within the train station would lie the storage of goods sold both on the train and within the station

How can trains be social?

Ride the train with a friend or make a new one.



Friends Riding Together

The system would coordinate friends on the system via popular social network systems.

Friend Tracker

Use social networking platforms integrated into the system to ride with friends.

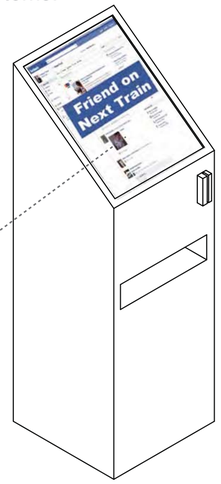
Seat Matcher

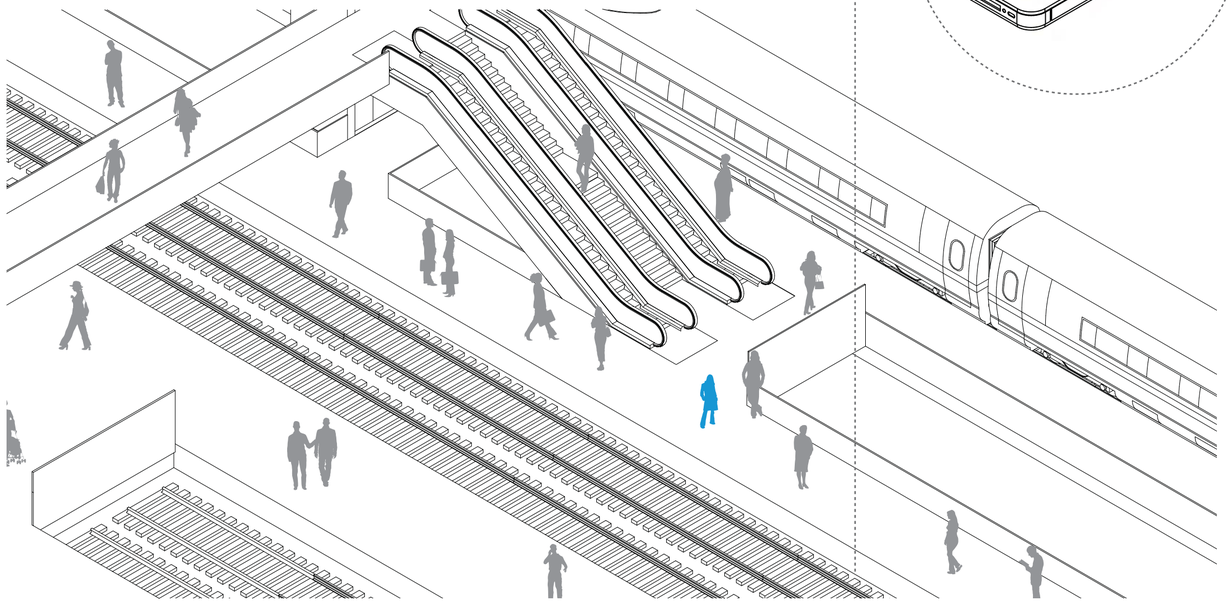
Matching people with similar interests, sparking new social exchanges

Similar Interests Car

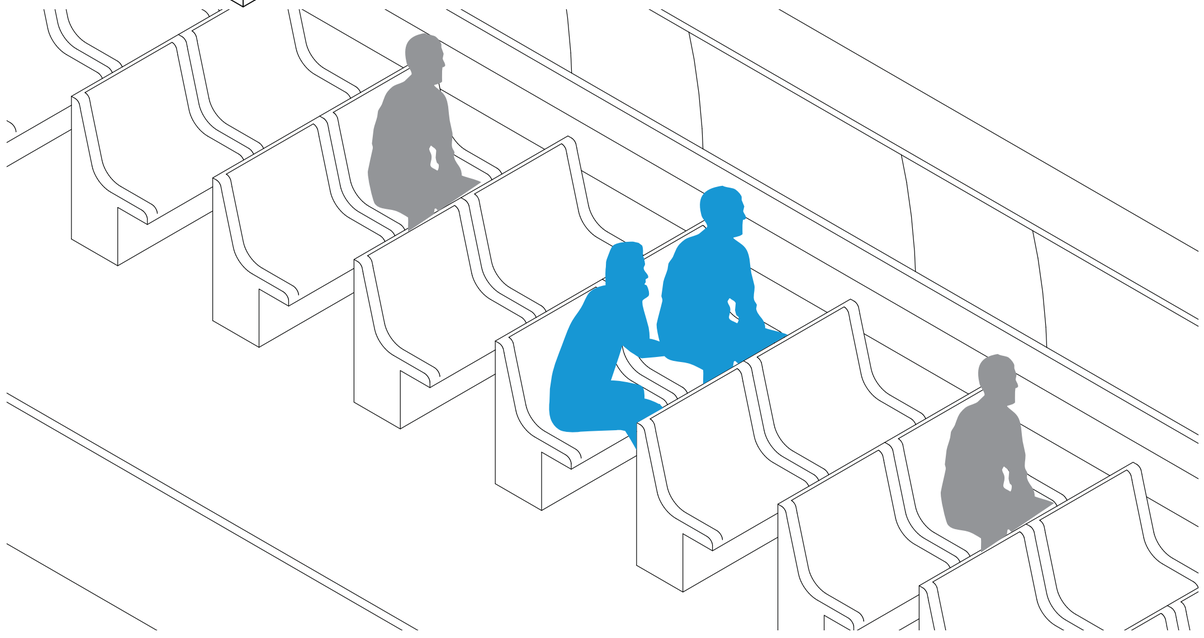
With coordination of the system people with similar interests could gather on a train car and share their interests.

When purchasing a ticket the computer system alerts you about friends that may be around you.





An opt-in system would attempt to match people with similar interests.



How can trains be more entertaining?

Added amenities will make train rides more stimulating for the user

Programmed-by-Distance

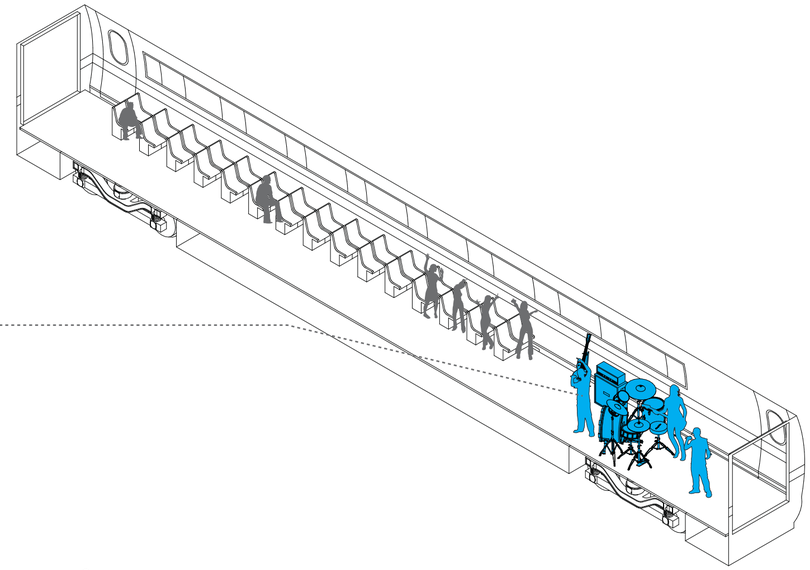
Entertainment on the train could be programmed by the distance that the typical rider on that train is expected to travel. For example, Starbucks might advertise their new flavor on a local, commuter car, while an intimate concert by The Killers might be offered on a national line headed to a summer music festival.

National
> 3 Hours

State-Wide
1 - 3 Hours

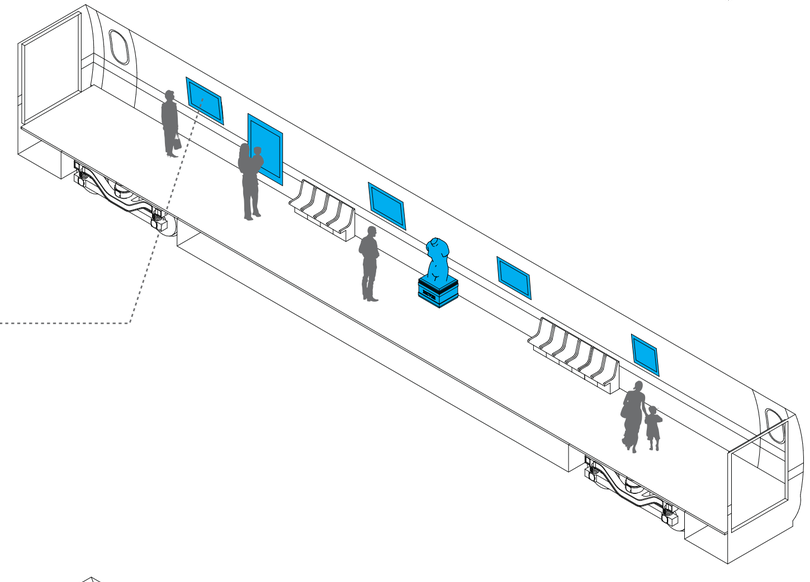
Local
< 1 Hour

Band Car
Riders can enjoy live music.



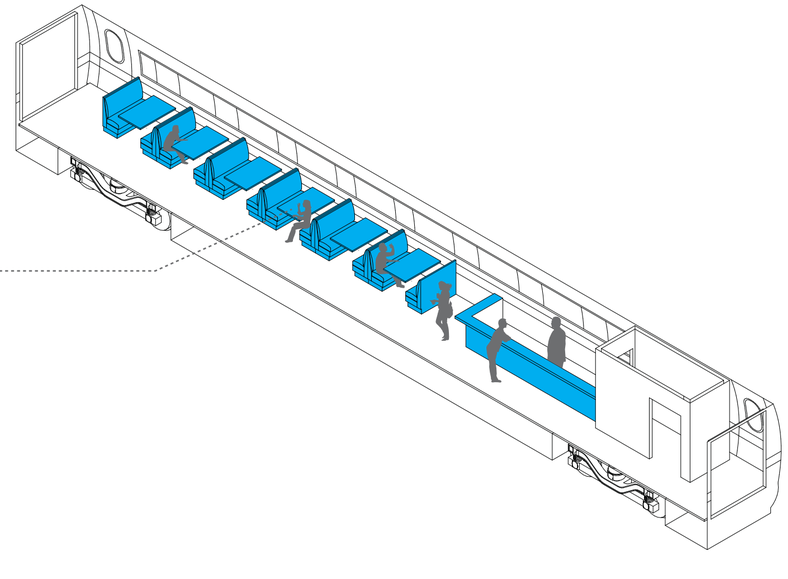
Bar Car
Happy hour and beyond.

Museum Car
Check out some artwork on the way to the museum.

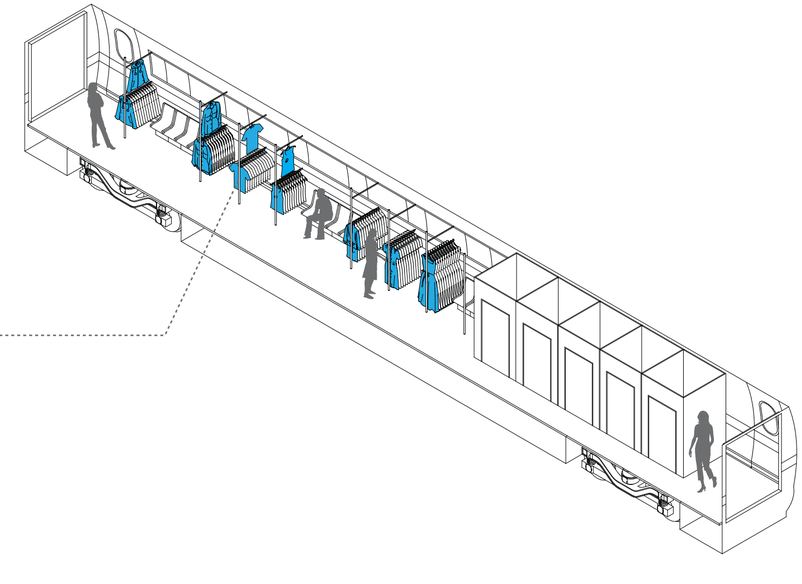


Sponsored Car
Car leased by a sponsor to promote a product.

Dining Car
Grab a meal on the train.



Shopping Car
Goods can be sold on the car.



How can trains and train lines be more versatile?

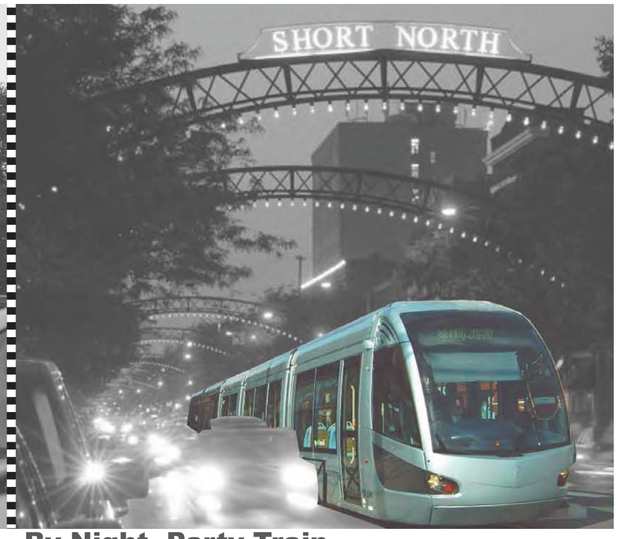
Layering programs and allowing for flexible schedules maximizes the productivity of a rail network

Combining Commuter and Freight Cars

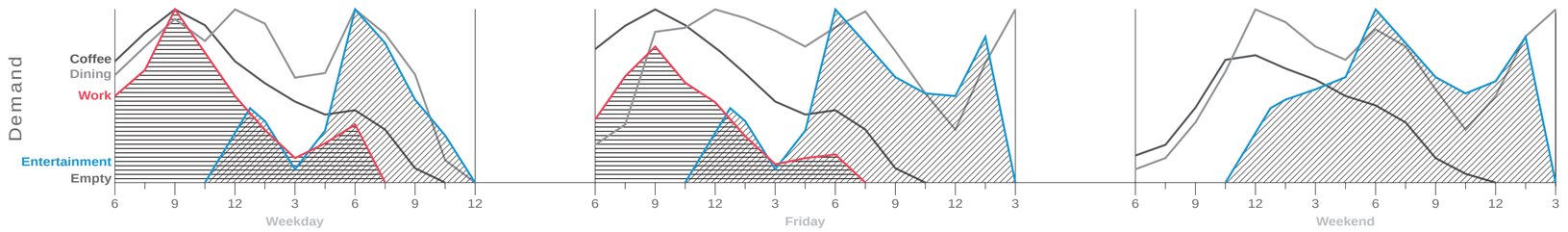
For areas of the state lacking in ridership to defend a dedicated rail line, a sharing system of freight and commuter rail would be put in place. This system would be similar to the current Amtrak system except the train would be the same

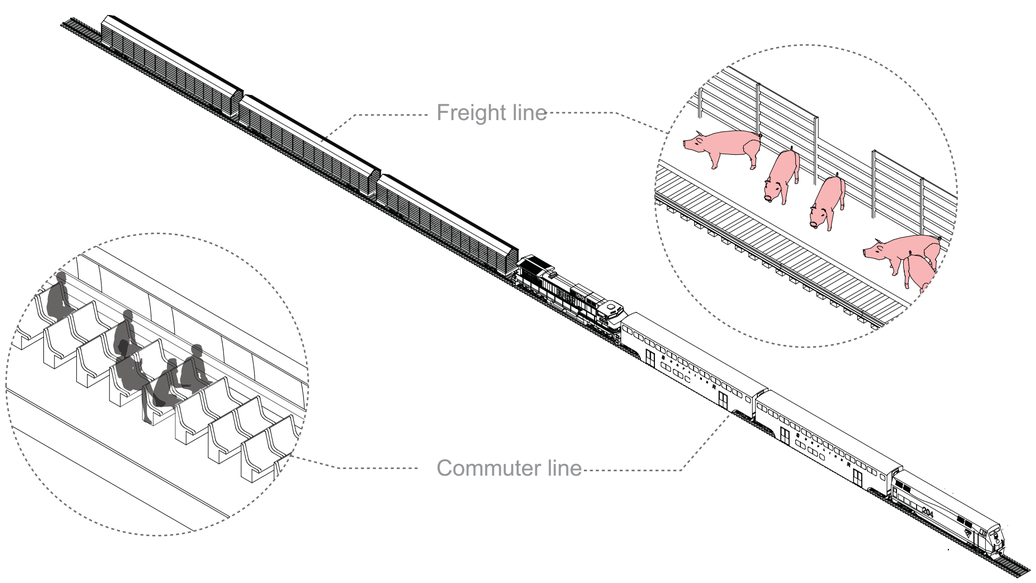
By Day, Professional Transportation

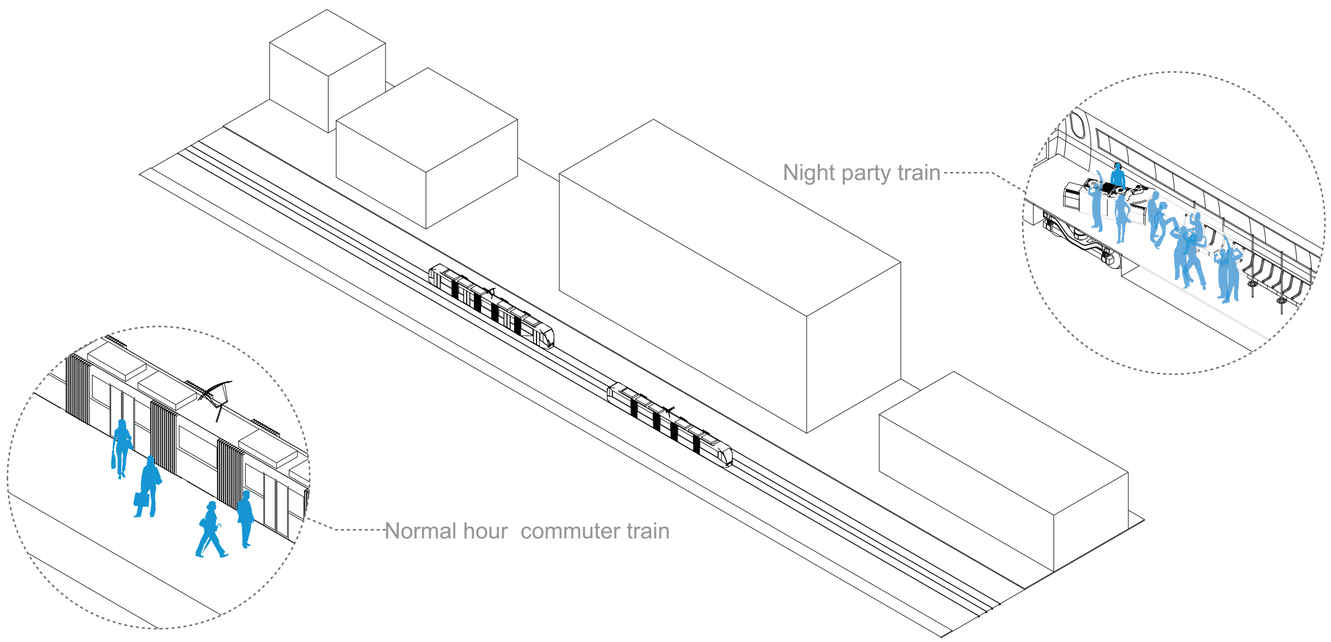
To stimulate ridership at times of day outside of the typical work commute, an intracity light rail system might layer additional program onto to its schedule that would allow it to become a place for pre-gaming on the way to the bar or a traveling football fan zone on game days.



By Night, Party Train







How can trains be more user-friendly?

Coupling a network of information systems with the transportation network would make for a more fluid user experience

1 Clear Signage

Throughout the station, clear, digital signage would guide riders to the correct tracks by illustrating separate routes with separate colors, times, and destination.

Verification

The single ticket could be scanned either when entering the car or when being seated.

2 Information Central

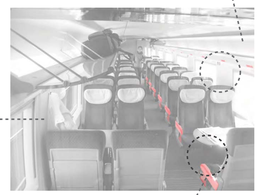
A centrally-located desk would provide users with quick, reliable information. This feature would be especially useful for users who are not familiar with the ticketing system.

Car Population Indicators

Working with the ticketing system, a notification of current and forecasted users for each car could be displayed on the exterior of the train and at the station.

Seat Indicator

Each train would have an indicator for each seat allowing the user to easily see which seats are vacant.



Ticket Scanner

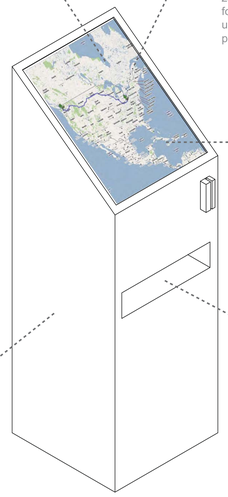
For longer routes, trains would have individual readers for each seat - helping with reservations.

3 Ticketing System

The central computer system would be the logistical backbone of the entire rail network.

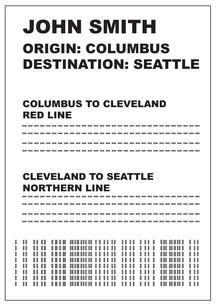
Destination Logistics

The system would request the final destination and configure all the ticketing necessary to get the user there using Google Maps' interface. The options for travel would include private companies for air travel and car rentals.



Zone Pricing

Pricing would be configured by zones - allowing for users to easily understand the pricing scheme.



One Ticket

One ticket would be used between each of the systems within the rail network, as well as with additional forms of travel.

Rerouting Capability

In the cases of delays and cancellations, the computer could notify passengers and present alternative options for reaching their destinations.

Personal Information

Information relevant to each user would be known by the ticketing system and the user could opt-in to a notification system for any relevant information regarding their travel sequence.