February 2013

Options for Improving Transit

Vol. 2

Why Do We Need Transit Improvements?

The Nicollet-Central corridor is one of the busiest transit corridors in the Twin Cities, connecting downtown Minneapolis with mixed-use urban neighborhoods. The Corridor is growing, especially in and near downtown. We need a transit system that supports this growth, makes getting around without a car a better option for more people, and attracts more people, jobs and investment to the corridor.

In Fall 2012, the Project engaged the public and stakeholders through interviews, open houses in September 2012, stakeholder organization meetings and an online survey (making contact with over 2,000 people) to develop the project's purpose, need, and goals.

On October 25, 2012, the Policy Advisory Committee approved the following purpose for improving transit in the Corridor:

The purpose of the Nicollet-Central Transit Alternatives Project is to improve transit connectivity, enhance the attractiveness of transit service, and catalyze development through an investment in transit infrastructure within the Nicollet-Central Corridor.

The goals of the Project are to:

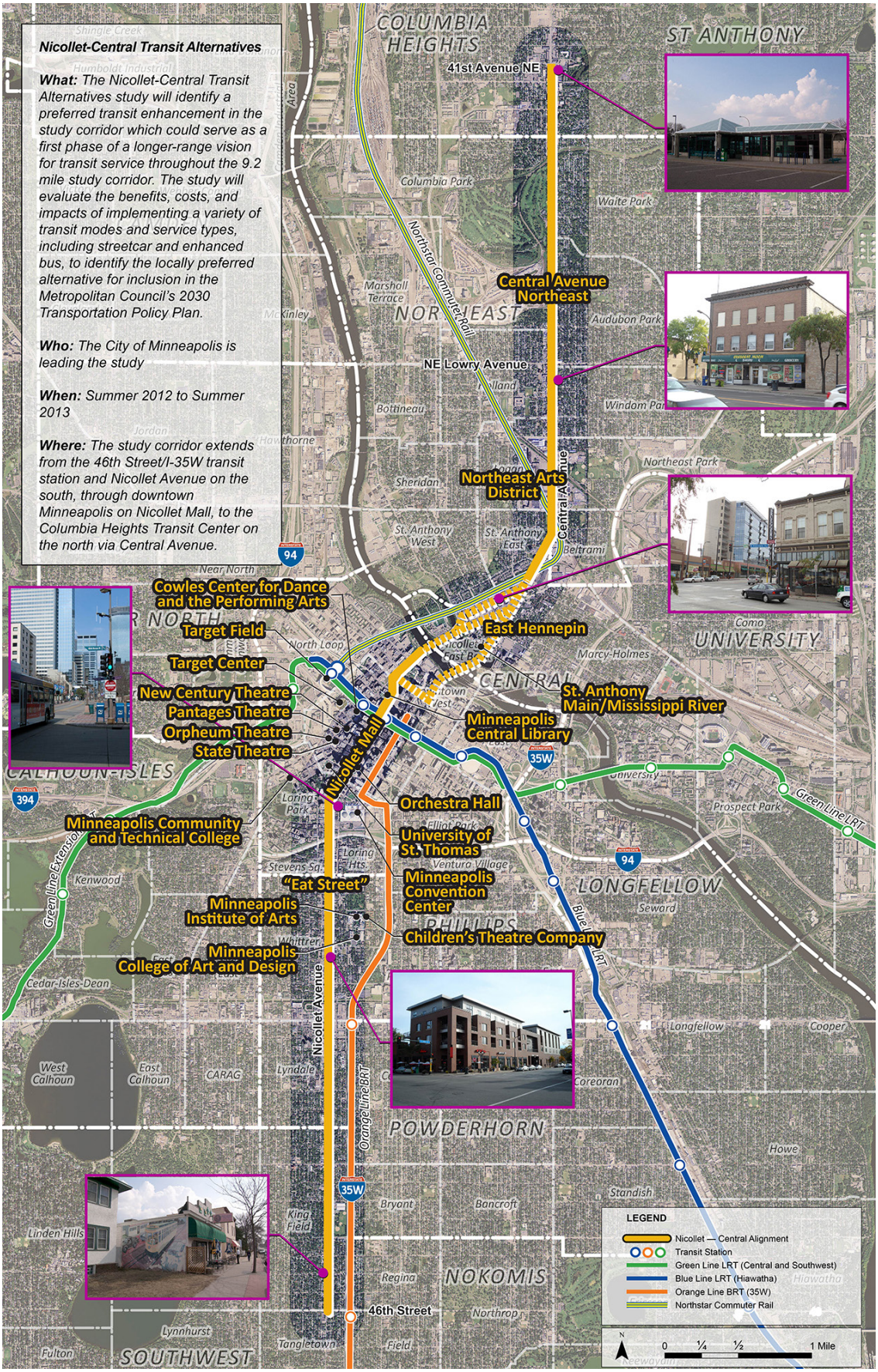
- *Connect people and places*
- *Increase the attractiveness of transit*
- *Catalyze and support economic development*
- *Integrate with the transportation system*
- *Support healthy communities and environmental practices*
- *Develop an implementable project with community support.*

The Project's purpose and goals guide development of the alternatives described in the following pages.

Corridor Facts

- Length: 9.2 miles.
- Primary Bus Routes: 10 and 18.
- Population: 90,000 residents within one-half mile – one of the most densely populated areas in the Twin Cities. Expected to grow by 25,000 in the next 20 years, mostly in and near downtown.
- Jobs: 125,000 jobs within one-half mile, primarily within downtown. Projected to grow by 50,000.
- Destinations: In addition to jobs and housing, the corridor includes 6,000 hotel rooms, the Minneapolis Convention Center, the Minneapolis Institute of Art, the Central Library, Orchestra Hall, Nicollet Mall, and several restaurant/shopping districts outside downtown.
- Nicollet Mall and Downtown: Nicollet Mall is the economic center of downtown and a priority for government and business investments.
- Walking: About 18,000 pedestrians walk on Nicollet Mall each day.
- High Demand for Short Transit Trips: Of the 20,000 bus rides each day on Routes 10 and 18, over half take place entirely between Lowry Avenue and Lake Street – just a couple of miles from downtown.
- Many People Rely on Transit: Twenty-five percent of households within one-half mile have no car, and twenty-four percent of residents live in poverty – figures higher than city and regional averages.
- Development Fit for Transit, Walking and Biking: Transit, walking and biking are compatible with the Corridor's compact, mixed-use development.
- Getting on the Bus is Slow Going: In a high-demand corridor, boarding everyone through the front door of the bus, paying fares on the bus, and stopping every block can be slow. One-quarter to one-third of travel time on routes 10 and 18 is spent boarding and alighting passengers, not to mention additional delays stopping at traffic signals.

The Nicollet-Central Corridor



http://www.minneapolismn.gov/nicollet-central

Initial Screening of Transportation Options

To define the alternatives for detailed evaluation, a high-level screening of a variety of mode and alignment options was conducted to screen out alternatives that do not meet the project's purpose and goals. The criteria used to screen mode and alignment options include:

- Potential right-of-way impacts
- Provides access to community
- Compatible with local and regional plans
- Consistent with existing community character
- Provides appropriate level of transit capacity
- Community and stakeholders sentiment
- Connects activity centers
- Effective alignment that provides for direct access

Mode Options

The mode options evaluated include:

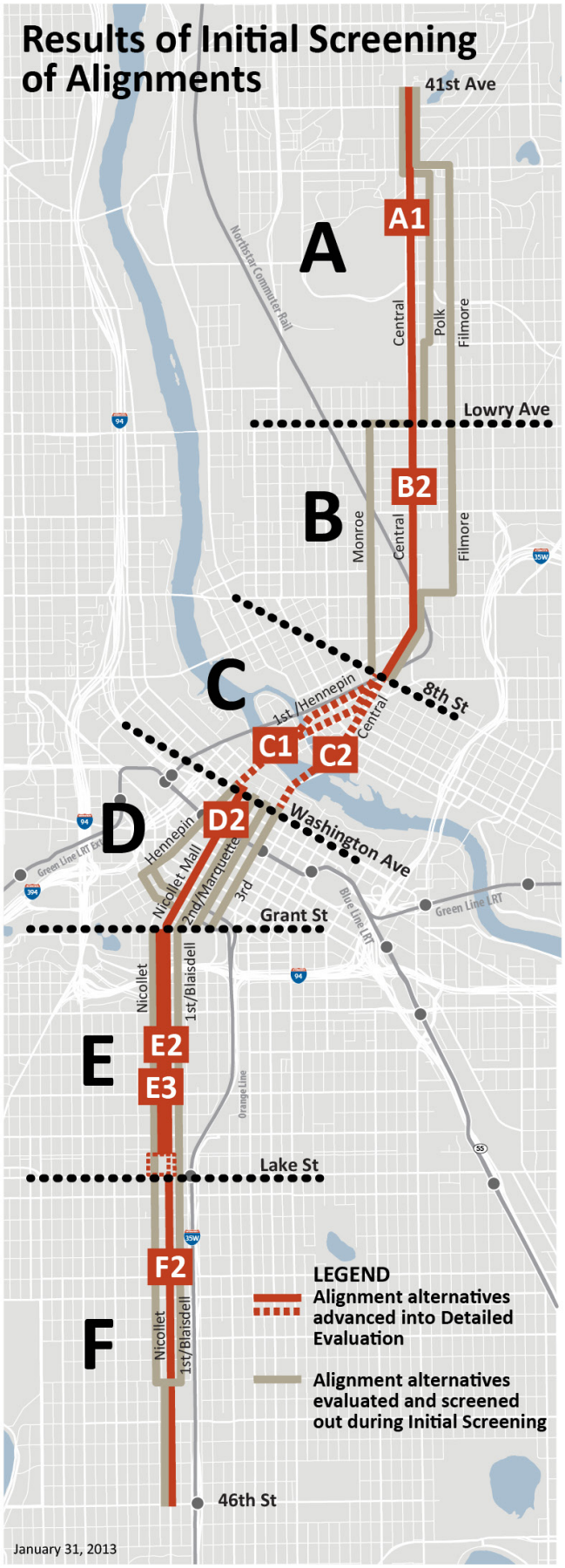
- **Conventional bus ("no-build")***
- **Enhanced bus (in mixed traffic)***
- **Modern streetcar***
- Bus rapid transit (in a dedicated busway)
- Light rail transit
- Heavy rail
- Maglev
- Monorail
- Personal rapid transit
- Commuter rail

**Mode options that were found to best meet the purpose and goals for the project and are recommended for detailed evaluation.*

Alignment Options

A variety of alignment options on and near Nicollet and Central Avenues were screened (see map). The alignment options recommended for detailed evaluation are:

- Generally, Central Avenue NE, Nicollet Mall and Nicollet Avenue S
- Two Mississippi River crossing options (Hennepin/First Avenue and Central/Third Avenue S)
- Two Lake Street connection options (First/Blaisdell Avenue and a reopened Nicollet Avenue S)



Alternatives for Detailed Evaluation

An enhanced bus, modern streetcar and no-build alternative are proposed for the detailed evaluation. Key features of the enhanced bus and modern streetcar alternatives include:

- Frequent service
- Fewer stops than existing local bus
- Complementary bus service
- Fewer signal delays
- Faster boarding
- Larger, more recognizable vehicles
- Better stop amenities
- Use same lanes as cars and trucks

It is anticipated that the modern streetcar alternative would need to be implemented in phases due to funding constraints and experience in other U.S. cities. In addition to the 9-mile corridor, an approximately 3.5-mile starter streetcar line between Lake Street and East Hennepin Avenue will be evaluated and refined as necessary based on evaluation results.

Common Elements of Enhanced Bus and Modern Streetcar

Frequent Service: Enhanced bus and modern streetcar will be as frequent as bus service today, running every 7.5 to 10 minutes.

Fewer Stops than Existing Local Bus: The map on the left shows a concept for enhanced bus and modern streetcar stops. By stopping every other block instead of every block, enhanced bus and modern streetcar will travel faster than bus service today and still get you where you need to go without significantly increasing your walk.

Complementary Bus Service: The enhanced bus and modern streetcar would replace local bus service, but bus service in the corridor north of the Columbia Heights Transit Center and south of 46th Street would continue to serve downtown via a limited stop service. No changes are expected for routes 11, 17 and 25.

Fewer Signal Delays: New traffic signal technology would allow enhanced bus and modern streetcar to move more quickly through intersections along the corridor.

Faster Boarding: Paying for your fare before getting on the bus or modern streetcar and boarding through any door will allow you to get on enhanced bus and modern streetcar service faster than today's bus service.

Everett, WA

Larger, More Easily Recognizable Vehicles: Enhanced bus and modern streetcar vehicles typically carry more passengers compared to a 40-foot conventional bus:

- Conventional bus: 40 to 50
- Enhanced bus (60-foot articulated): 70 to 90
- Modern streetcar (67-foot): 100 to 120

Enhanced bus and modern streetcar vehicles will also include branding so you can tell it apart from regular bus service.

Cleveland

Better Stop Amenities: Enhanced bus and modern streetcar stops typically have more amenities than conventional bus stops, including curb extensions to enable level or near-level boarding and real-time information displays to show when the next vehicle is due to arrive at the stop.

Kansas City

Seattle

Use Same Lanes as Cars and Trucks: Enhanced bus and modern streetcar will operate in existing traffic lanes with cars and trucks in the Nicollet-Central corridor.

Portland

How Do Enhanced Bus and Modern Streetcar Differ?

While they have many common elements, enhanced bus and modern streetcar have key differences, namely:

Infrastructure

- **Modern streetcar runs on tracks in the street**. Installing tracks will entail some roadway reconstruction, typically only where tracks are laid, not the entire street.
- **Modern streetcar uses an electrical power system.** There are overhead wires connected to street lights or special poles approximately every 80 feet and substations every one-half mile that are about 15 feet by 20 feet.

Portland

- Modern streetcar requires a **separate storage and maintenance facility** close to the line. A two- to three-acre site can accommodate 10 to 15 streetcar vehicles.

Seattle Maintenance Facility

Cost to Build

Modern streetcar costs more to build and operate than enhanced bus but less than light rail.

Route Flexibility

Because it has rubber tires, bus can easily get around obstacles, be rerouted and its route extended while modern streetcar is fixed on rails.

Everett, WA (photo: Dan Honan)

Economic Development Benefits

Modern streetcar is generally associated with more economic development outcomes than bus. It is a unique amenity that attracts development and attention.

Seattle (photo: Reconnect America)

How Do Modern Streetcar and Light Rail Differ?

The Twin Cities' first light rail line opened in 2004 and its second line is scheduled to open in 2014. Modern streetcar is new to the region. So how are they different from each other?

Lanes/Tracks

- Modern Streetcar: Same lanes as cars and trucks
- Light Rail: Separate from cars and tracks

Train Length

- Modern Streetcar: Single-car trains; Portland's are about 70 feet long each
- Light Rail: Trains are made up of two to three cars; each car is about 90 feet long

Distance between Stops

- Modern Streetcar: Every two to four blocks
- Light Rail: Every four blocks to one mile

Length/Type of Trips Served

- Modern Streetcar: Short (typically less than 4 miles); serves short trips in downtowns and activity centers
- Light Rail: Long (typically 8 miles or more); serves longer, regional trips

Average Cost to Build (per mile)

- Modern Streetcar: $30 to $60 million
- Light Rail: $80 to $125 million

Construction Impacts

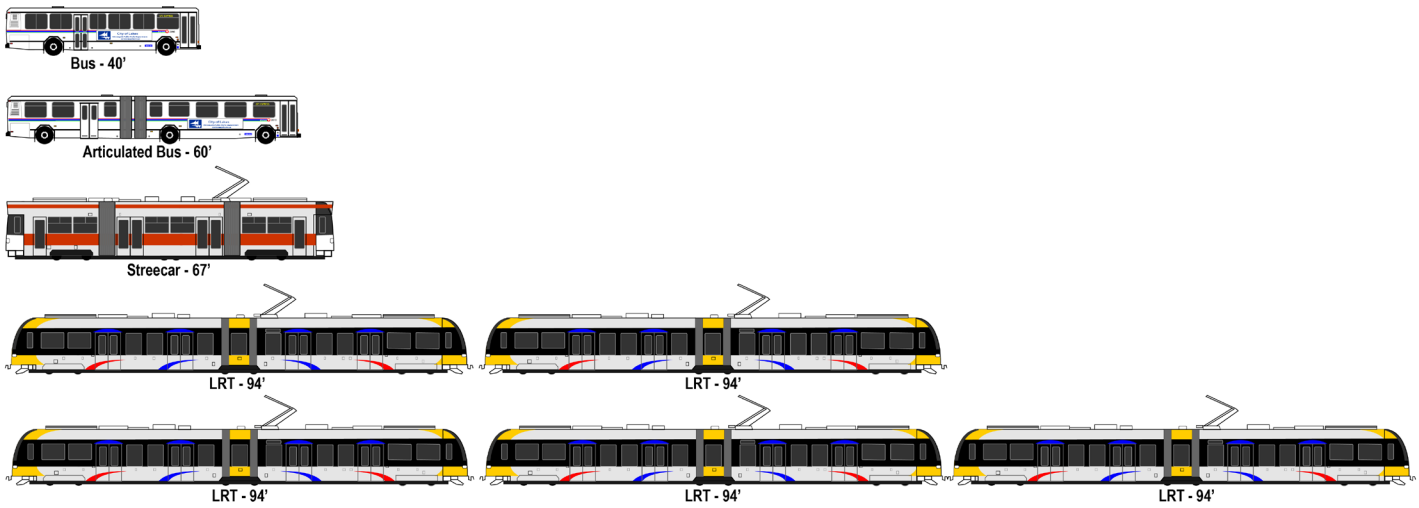
- Modern Streetcar: Less extensive
- Light Rail: More extensive

Sample Systems (Operating/Under Construction)

- Modern Streetcar: Portland, Seattle, Tacoma; Tucson, Salt Lake
- Light Rail: Minneapolis-St. Paul, San Francisco, Portland, Seattle, Charlotte, Salt Lake, Buffalo

Saint Paul Light Rail

Portland Modern Streetcar



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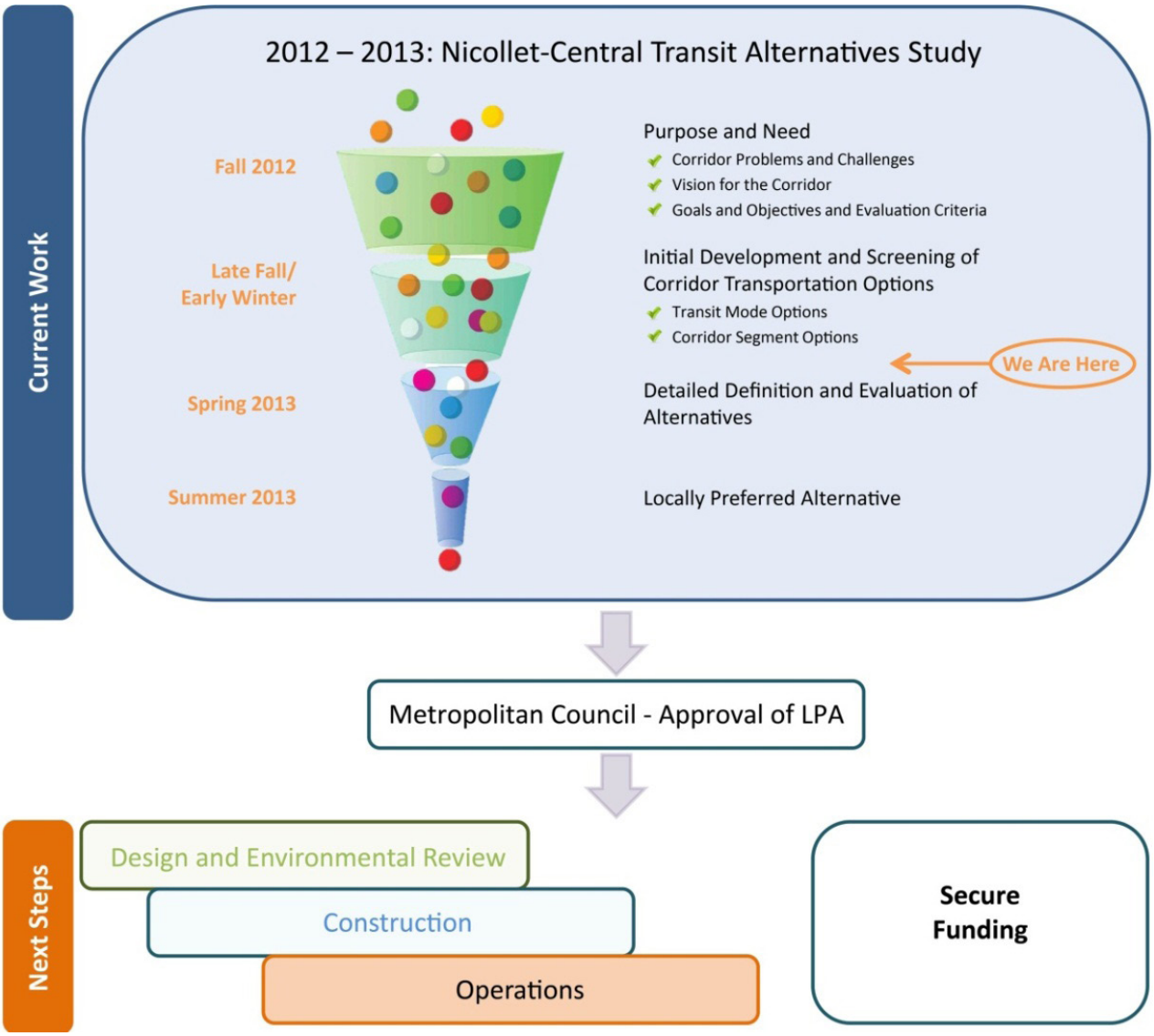
Next Steps

During the next phase of the Study, the Detailed Evaluation of Alternatives, the following information will be prepared for the enhanced bus, modern streetcar and no-build alternatives, and for the conceptual starter streetcar alternative:

- Cost to build
- Number of people who would ride it
- Effects on the environment
- Effects on the traffic flow
- Cost to operate and maintain (annual recurring cost)
- Cost effectiveness (generally cost divided by riders)
- Ability to attract more housing and businesses/jobs to the Corridor
- Public and stakeholder sentiment

This information will assist in determining which alternative best meets the project's purpose and goals and selection of a Locally Preferred Alternative for transit in the corridor. The chart below shows the current study process and timeline, as well as the subsequent work needed to advance the project.



The study is being led by the City of Minneapolis in coordination with the Metropolitan Council and Metro Transit.

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