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The Indianapolis Metropolitan Planning Organization (MPO) is preparing an update of its regional Long Range Transportation Plan (LRTP) with a planning horizon of 2035. The 2035 update represents a new approach to transportation planning in Central Indiana. For the first time in many years, the Long Range Transportation Plan includes a significant emphasis on regional public transit investment.

The Indy Connect Transit Vision Plan was developed in support of the Indianapolis LRTP. The overall purpose of this Transit Vision Plan is to inform the LRTP of the priorities for public transit investment in the region. The LRTP will prioritize future public transit investments among all modes of transportation.

This Transit Vision Plan is intended to:

- Highlight unique opportunities for public transit investment in Central Indiana, including expansion from the existing IndyGo bus system into a truly regional transit system;
- Incorporate findings from the Summary Report on Transportation Alternatives in Central Indiana published by the Central Indiana Transit Task Force (CITTF) in February 2010, and other recent planning efforts;
- Incorporate public comments from the ongoing Indy Connect Initiative, the public outreach component of the process to develop the LRTP;
- Reflect the recommendations of the 2010 IndyGo Comprehensive Operations Analysis (COA), which is also referred to as the “bus plan”;
- Reflect the ongoing alternatives development process of the Northeast Corridor Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS); and
- Provide a meaningful basis for discussion of public transit system needs as the LRTP update is developed.
An Emphasis on Public Transit Investment

Several factors are contributing to a new emphasis on planning for future public transit investment in Central Indiana. Both regionally and nationally, the need to focus resources and to improve transportation choices is becoming more widely recognized.

At the regional level, there is concern that increasing emissions resulting from roadway congestion, and congestion itself, will hinder the ability of Central Indiana to remain economically competitive. In 2009, 60% of commuting time was spent in congested levels of traffic. This daily aggravation negatively impacts residents’ quality of life and could affect business location and expansion decisions. Offering viable alternatives to commuting by car is considered to be important to attracting and retaining jobs and workers in Central Indiana, especially as it relates to “new economy” jobs and workers that are geographically flexible. Investment in public transit will benefit both those who use it for their work trips and those who must still travel the region’s roadways to access their jobs.

As highlighted in the CITTF Summary Report, downtown Indianapolis remains the primary employment center for the region, but in the past decade this pattern has grown more dispersed. Due at least in part to the increasing congestion levels in and near downtown Indianapolis, urban center employment declined from 24% to 21% of total regional employment between 1998 and 2006. The long range transportation planning process should respond to this trend by seeking to better serve these areas with mobility alternatives, while maintaining the primacy of the regional center and fostering sustainable growth patterns. Through efforts in recent decades, downtown Indianapolis has been successful in becoming a regional and national destination for both amateur and professional sports events; more transportation options for special event visitors during off-peak periods are also needed.

Negative environmental impacts are already being experienced as a result of existing levels of congestion, and are expected to worsen over time. Indianapolis ranks 99th out of the 100 largest U.S. metropolitan areas for its per capita carbon footprint, suggesting that Central Indiana residents have little choice but to drive automobiles to meet most of their daily needs. The nine-county Central Indiana region is also classified as a non-attainment area by the EPA due to high levels of ground-level ozone, largely due to vehicle emissions. Public transit investments are one effective means of counter-acting the environmental impacts of increasing vehicle use and emission levels.

An aging population in Central Indiana suggests a long-term need to provide viable mobility options not only for standard work trips, but also for non-work trips and during non-peak periods. Offering public transit to and between medical facilities, commercial areas and other key destinations will support both the quality of life of the senior population and the increasing needs of the transit-dependent. As noted in the CITTF Summary Report, 7% of all working households in Marion County have no car available, and an additional 10% of households have two working age adults but only one car available.

At the national level, the “Interagency Partnership for Sustainable Communities” was announced on June 16, 2009 by the U.S. Departments of Transportation (DOT), Housing and Urban Development (HUD), and the Environmental Protection Agency (EPA). This newly formed partnership will utilize six “livability principles” as the agencies seek to coordinate federal investments in transportation, environmental protection and housing. The most relevant of these principles to transportation planning efforts in Central Indiana is the first. The Partnership seeks to “develop safe, reliable and economical transportation choices to decrease household transportation costs, reduce our nation’s dependence on foreign oil, improve air quality, reduce greenhouse gas emissions and promote public health.” Federal funding priorities are anticipated to shift to modes of transportation that not only promote mobility, but do so in a manner that leverages transportation investment...

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1 Urban Mobility Report, 2009.
to fulfill broader goals. Public transit is expected to become a vital component of any future federal transportation strategy.

### Livability Principles

1. Provide more transportation choices  
2. Promote equitable, affordable housing  
3. Enhance economic competitiveness  
4. Support existing communities  
5. Coordinate policies and leverage investment  
6. Value communities and neighborhoods

### Planning Process and Plan Elements

The Transit Vision Plan process was undertaken as generally described below:

- Building upon system level planning work conducted in the past by the MPO, CITTF, IndyGo and others, a broad-based and flexible regional transit framework was developed for review and discussion. This Transit Vision Plan includes the following elements:
  - A vision for transit investment in Central Indiana;
  - A series of principles to guide transit planning and investment decisions; and
  - A framework plan which includes potential transit projects through which the vision could be realized, including special consideration of public transit opportunities in downtown Indianapolis.

- Agency and public review of the regional transit framework elements was undertaken in conjunction with the ongoing LRTP update process.

- Each candidate transit project was evaluated and ranked using a cost-benefit measure that included potential trips served, anticipated capital costs, ongoing operations and maintenance costs, in addition to transit coverage and transit-supportive performance measures;

- A representative fiscally-constrained plan scenario was developed using a detailed financial model, that includes a phased list of projects that illustrate how transit can be expanded within expected financial constraints, including a proposed dedicated transit funding source;

- Relevant transit policies and implementation strategies were outlined.
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Based on an understanding of the existing public transit network and the findings of several recent transit planning efforts, a vision statement was developed for purposes of guiding the development of this Transit Vision Plan. The vision statement is supplemented by several Guiding Principles for transit planning. The development of system performance measures and the resulting prioritization of potential projects were informed by the vision and principles.
The Existing Public Transit Network

Historically, the City of Indianapolis was served by a comprehensive system of streetcars, dating back to the late 1800s. At one time, the Indianapolis region boasted the largest interurban railway system in the country, and its rail lines continue to reflect a classical radial system centered on Union Station in the heart of downtown Indianapolis. Buses were first introduced in the 1920s, when some streetcar lines were converted to trolleybuses. Various independent transit companies provided services until the public takeover of the transit system in the 1970s. As was experienced throughout the country, Indianapolis began to focus increased attention and investment on the roadway system, evolving from a railroad crossroads to an interstate highway crossroads.

Public transit in Central Indiana currently consists of the services provided by the Indianapolis Public Transportation Corporation (IPTC), operating as IndyGo. IPTC was created in 1973 and serves the City of Indianapolis and Marion County. As a municipal bus system, IndyGo provided 8.2 million passenger trips in 2009. The current system consists of 29 weekday, 25 Saturday and 15 Sunday fixed routes operated with a fleet of 155 buses. Two weekday express routes and an airport express route are offered, along with the Open Door paratransit service and a Late Night Flex Taxi Voucher Program. The system at one time carried as many as 15 million passengers annually, but both ridership and service declined in the 1980s. Indianapolis is the nation’s 24th largest metropolitan area, and yet IndyGo is not even in the top 100 bus systems nationally\(^1\). This places the City of Indianapolis behind such comparable cities as Columbus, Louisville, Cincinnati and St. Louis\(^2\). The Indianapolis system is primarily funded by property taxes, farebox revenue, and federal and state support.

Downtown Indianapolis serves as the hub of the current public transit system, and will remain so. The radial system of railroads and the arterial street network support the primacy of the downtown. Several other activity centers are located throughout the metropolitan area, but with significantly lower densities and mix of land uses.

The LRTP will need to address several other issues regarding the existing system of public transportation:

- Within the downtown, the lack of proper off-street places for layovers makes transfers from one line to another difficult, effectively limiting good transit use to commuting trips into and out of the downtown.
- Service is infrequent and often indirect, requiring transfers that cannot be timed efficiently and resulting in long wait times for passengers, sometimes at locations without sidewalks, safe crossings, good lighting, shelters or benches.

\(^1\) Metro Magazine, 2010 Bus Fleet Rankings
Central Indiana’s spending on transit is only 25-30% of the amount spent by other metropolitan regions of similar size and stature, which means that there is significant opportunity to improve public transit services to residents if Central Indiana can direct resources to transit commensurate with many of its peer cities.

Recent Transit Planning Efforts

Several recent planning efforts have contributed significantly to the content of this Transit Vision Plan. They are briefly described below:

- The Summary Report on Transportation Alternatives in Central Indiana, prepared by the Central Indiana Transit Task Force (CITTF) and published in February 2010, outlined a vision for public transit in Central Indiana based on an economic cost-benefit analysis. The report addresses five key issues in Central Indiana: mobility, regional core vitality, congestion, the environment, and overall competitiveness. Key recommendations in this study by the private sector include: 1) an extension of the existing roadway network, but at a slower rate than previously anticipated; 2) tolled express lanes on selected segments of I-69 and I-65; 3) a significantly enhanced and expanded bus system; 4) the addition of a light rail line on or near Washington Street; and 5) commuter rail service on existing freight rail lines north to Fishers and south to Greenwood, with higher service frequency between 38th Street and Hanna Avenue (University of Indianapolis).

- The IndyGo Downtown Transit Center Study was completed in June 2010, and identified a preferred strategy for better accommodating access to and transfers between bus routes that currently terminate in the downtown area. Key recommendations include: 1) focusing downtown transit service on two north-south one-way pairs (Capital/Illinois and Pennsylvania/Delaware); 2) routing major east-west buses along Ohio Street; 3) creating a single downtown transit center along South Street to facilitate passenger transfers between routes and provide a place of refuge for bus drivers during layover periods.

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In 2010, IndyGo reviewed its operations and updated its strategic plan in a periodic process known in the transit industry as a Comprehensive Operations Analysis (COA). The bus plan seeks to provide a foundation for expanding the IndyGo transit market and attract new bus riders. The bus plan provides short-term, mid-term and long-term recommendations for bus service expansion. It is derived from the following principles: 1) build a strong core urban network of transit corridors, 2) serve the suburbs with regional transit, and 3) improve the overall transit experience.

An extensive public outreach process, known Indy Connect, is being undertaken as part of the LRTP update planning process. This outreach effort is a collaboration between the Indianapolis MPO, IndyGo and the Central Indiana Regional Transportation Authority (CIRTA). Comments and input from the community-at-large with regard to public transit needs and priorities were carefully considered in the development of the Transit Vision Plan recommendations. Input received to date has resulted in adjustments to the recommendations developed by the CITTF with regard to system coverage and overall priorities. The Indy Connect initiative included over 150 public meetings and received nearly 10,000 comments received via the project website. Indy Connect had numerous followers on both Facebook and Twitter. Public meetings throughout the region are being supplemented by more targeted focus group meetings. Suggestions that have influenced the Transit Vision Plan fall into several broad categories:

- Maintaining a strong focus on the core bus system, with more frequent service and extended hours;
- In the current IndyGo service area, improving cross-town service and north-south mobility;
- Increasing accessibility via public transit to and between employment and other activity centers outside the downtown;
- Extending the service area beyond Marion County, and beyond what has been proposed by the CITTF summary report;
- Establishing a rail connection to Indianapolis International Airport; and
- Providing a more attractive public transit system for all users.

A Vision Statement for Transit in Central Indiana

Mobility and accessibility in Central Indiana will be enhanced through the development of a comprehensive network of public transit. Building on a strong transportation legacy, attractive alternatives to private automobile use will again be offered to all Central Indiana residents. Rather than continuing to lag behind comparable Midwestern cities in providing sustainable mobility options, Central Indiana will become a model of a comprehensive and efficient provision of public transit. The region as a whole will reap the environmental and economic rewards of a thoughtful and proactive strategy to incrementally create a complete public transit network, and round out the region’s transportation system.

Transit Planning Principles

The Principles described below address considerations related to the design and operation of the proposed transit system, for the purposes of leveraging transit investments to achieve related economic and environmental benefits.

System Design Principles

- Create a comprehensive public transit system incrementally, managing risk by expanding the system in phases that build effectively upon one another and by considering the logistics of providing uninterrupted service during upgrades.
- Provide initial service upgrades to and between origin-destination markets in which public transit can be competitive with private automobile use, while maintaining and improving essential services in existing transit-dependent areas.
- Develop the transit system with special consideration for the ease of connections between transit services and travel modes to ensure a user-friendly and efficient system.
- Attract new transit users by offering high quality, user-friendly and convenient service that provides an attractive alternative to private automobile use.
- Balance needs for high capacity limited stop routes and local connecting routes, with an appropriate hierarchy of service types and schedules to meet the needs of different types of transit users.
- Expand the existing IndyGo bus service network to provide more direct, more frequent and faster travel options throughout the region.
- Build on the existing network of underutilized rail rights-of-way and the arterial street network.
- Select transit technologies that most efficiently serve our transportation needs in a cost-effective manner.
- Coordinate efforts to implement traffic signal priority (TSP) technology in Central Indiana as a means to improve emergency response times and traffic safety, in addition to realizing the applicable transit service benefits.
Economic Development Principles

- Leverage public investment in transit by providing improved service to established activity centers and areas with economic development potential, thereby replacing a “vicious” cycle of disinvestment with a “virtuous” cycle of investment in support of broader community goals.
- Provide increased service to the downtown as a uniquely pedestrian-friendly destination, thereby reducing the demand for parking spaces in the downtown and providing for additional development opportunities.
- Expand beyond the historic radial and downtown-centric pattern of the transit system to better serve cross-town travel patterns and activity centers outside downtown.
- Utilize transit as a catalyst to support economic growth, retain existing businesses, attract new businesses, and stimulate redevelopment efforts.

Sustainability Principles

- Encourage the development of a hierarchy of activity centers outside the downtown including transit-supportive land use development over time, thereby reducing automobile dependence in places other than the downtown core.
- Mitigate increasing traffic congestion by enabling a convenient mode shift to transit for many Central Indiana residents.
- Encourage increased use of public transit as a key element in regional efforts to improve air quality and reduce greenhouse gas emissions.
An effective future public transit framework for Central Indiana will be comprised of an interconnected system of transit modes, each of which has unique characteristics and serves a specific purpose within an overall hierarchical system. The potential building blocks of this system are described below. A transit vision plan outlines potential projects throughout the region, provides a more specific discussion of downtown Indianapolis, and describes the potential staging of projects over time. An evaluation of these potential projects is discussed, including the relative transit readiness of subareas within the Central Indiana region. Project priorities identified as a result of the evaluation are presented at the end of this chapter.
**Potential Elements of a Transit System**

An overview of the transit modes which might be represented in a future comprehensive transit system for Central Indiana is described below. Described herein are the basic features and purpose of each mode as it relates to the overall system. The following descriptions are supplemented by the information provided in Tables 1 and 2, which describe general characteristics of various rail and bus transit modes.

**Intercity Rail**

Intercity rail routes would connect Indianapolis to other Midwestern cities and beyond, utilizing dedicated rail rights-of-way to be shared with freight rail. Intercity rail would have limited stops at only a few major stations in the Central Indiana region. These stops are likely to include Union Station in downtown Indianapolis and the Indianapolis International Airport. Service would include both the existing Amtrak service which currently connects Indianapolis to Chicago and Cincinnati, and the high speed rail (HSR) service being planned as part of the Midwest Regional Rail Initiative (MWRRI) which would link Indianapolis to Chicago, Cincinnati and Louisville.

**Rail on Existing Railroads**

Rail service typically operates on existing freight rail lines with low freight volume, offering high capacity regional or interurban service. Stations are typically spaced two to six miles apart, with all routes terminating downtown. Stops generally serve concentrations of residential population and/or employment, with service focusing on peak period commuting to and from downtown in the morning and evening. Peak period service ordinarily operates every 20 to 40 minutes during rush hours, with lower frequency occurring during off-peak hours. Diesel or hybrid (diesel and electric) vehicle technology is used, serving stations with permanent boarding platforms. “Next train” information can be provided for waiting passengers. Depending on the location, ridership estimates and mode(s) of passenger arrival for each station, significant park & ride facilities may be necessary.

**Light Rail on Arterial Streets**

Light rail service operates on a fixed guideway, offering high capacity regional or urban service. Stations are typically spaced between approximately one-half (1/2) to two miles apart, depending upon vehicle type and the existing or anticipated density of development. Light Rail service is often provided in an exclusive right-of-way, such as within the median of a major arterial, but it can be operated in mixed traffic. Peak period service typically operates every 5 to 15 minutes throughout the day, with lower frequency during off-peak hours. Electric or hybrid (diesel and electric) vehicle technology is typically used, arriving and departing from permanent boarding platforms that often include shelters. “Next train” information can be provided for waiting passengers. Depending on the location, ridership estimates and mode(s) of passenger arrival for each station, some park & ride facilities may be necessary. Light rail is often an upgrade from an existing bus route resulting from increased demand in ridership and/or land use densities, as light rail typically serves higher density areas or employment/entertainment destinations.

**Bus Rapid Transit (BRT)**

Bus rapid transit offers upgraded urban arterial bus service with many of the passenger amenities and conveniences of rail. BRT provides faster service by limiting stops to enhanced passenger stations located near major activity centers along an arterial roadway corridor. Stations are typically spaced one-third (1/3) to one mile apart. Service is often provided in a lane which is reserved for BRT during peak periods and allows mixed traffic at other times. Traffic signal priority (TSP) is used to improve service reliability despite sharing the right-of-way with automobiles. Peak period service would mean the enhanced buses would arrive every 10 to 20 minutes throughout the day, with 30 minute frequency occurring during evenings and other off-peak
hours. Coordinated shelter and vehicle design is used to establish a strong visual identity for the BRT service. Low-floor boarding provides the convenience of light rail service. “Next bus” information and semi-enclosed waiting areas with enhanced lighting further improve the experience for passengers. BRT can be used as an upgrade from an existing arterial bus route as ridership demand warrants.

Express Bus Routes
Express bus routes offer regional or urban service with limited stops. This mode typically serves the downtown area from outlying park-and-ride facilities with permanently designated boarding areas that often include shelters. Buses share lanes with vehicular traffic, often utilizing expressways for quicker access to the downtown. Peak period service typically operates every 30 minutes. During other times of the day, limited or no service may be provided, or the routes may be served by all-stop local bus service. Diesel or hybrid “over the road” motorcoaches are typically used, providing enhanced passenger comfort for these longer trips.

Until ridership demand builds to a point where express bus service becomes feasible, service can be provided by implementing a van pool system. Agency-owned vans can be used by groups of commuters who either live in close proximity to one another or who meet at outlying park-and-ride facilities before embarking on their commute together.

Local Bus Routes
Local bus routes are the essential component to increased mobility and access throughout the region. Convenient transfers between local bus routes and fixed guideway transit modes are vital to the success of the overall public transit network. System improvements include an expanded service area, providing better cross-town service, reducing wait times and providing for easier transfers. Buses share curbside lanes with vehicular traffic and are routed along arterial roadways. Service typically operates up to every 10 to 20 minutes throughout the day, with service every 30 to 60 minutes on routes with lower ridership potential. Diesel or hybrid rubber tire vehicle technology is used, serving permanently designated boarding areas that may include shelters. As with existing IndyGo service, buses stop every few blocks. The enhanced service levels of local bus routes can be a precursor to BRT or rail service in arterial corridors.

Community Circulators/Shuttles
Connectivity from terminals or other major transit stations to reach a broader activity center area can be provided with circulators or shuttle buses. Where localized demand warrants the service, a variety of routing and operating models can be considered. Circulators and shuttles can be fixed route, flexible route or demand responsive. Vans or small buses are typically used, operating in mixed traffic on-street. Headways can vary considerably based upon local needs. Cost sharing between the transit agency and local communities or significant demand generators (such as major employers or institutions) may be appropriate. In some cases, the transit agency may lease vehicles to private operators or contract directly with private operators.

Paratransit
Paratransit is a vital service component that provides door-to-door “demand responsive” service for customers who are elderly or disabled. Riders are often required to request a ride in advance, with service provided using ADA-accessible vans or small buses which operate in mixed traffic on-street. Paratransit provides access to employment, health care, shopping or other destinations, including connections or transfers to other ADA-accessible transit modes, such as light rail.

Passenger Amenities
Available passenger amenities will vary by transit mode, ridership volume and the immediate context of the transit station or stop. Amenities that should be considered and provided where warranted include:
### Table 1, General Characteristics of Rail Transit Technologies

<table>
<thead>
<tr>
<th>Typical Characteristics</th>
<th>High Speed Rail</th>
<th>Commuter Rail</th>
<th>Heavier Diesel Light Rail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Guideway</strong></td>
<td>Grade-separated railroad right-of-way</td>
<td>Mixed freight / passenger railroad right-of-way</td>
<td>Railroad right-of-way (mixed/exclusive)</td>
</tr>
<tr>
<td><strong>Power Source</strong></td>
<td>Electric overhead catenary wire</td>
<td>Diesel locomotive</td>
<td>Diesel self-powered vehicle</td>
</tr>
<tr>
<td><strong>Vehicle Type</strong></td>
<td>Articulated 10-car trainset</td>
<td>Locomotive plus 2 to 6 passenger cars</td>
<td>Coupled pair</td>
</tr>
<tr>
<td><strong>Vehicle Length</strong></td>
<td>830 feet</td>
<td>230 to 570 feet</td>
<td>170 feet</td>
</tr>
<tr>
<td><strong>Passenger Capacity</strong></td>
<td>800 seats / No standees</td>
<td>280 to 840 seats / 550 to 1,650 standees</td>
<td>196 seats / 300 standees</td>
</tr>
<tr>
<td><strong>Crew</strong></td>
<td>One driver / 1 to 3 conductors / Transit security</td>
<td>One driver / 1 to 3 conductors / Transit security</td>
<td>One driver / Roving fare inspectors / Transit security</td>
</tr>
<tr>
<td><strong>Service Frequency</strong></td>
<td>Every 30 to 120 minutes</td>
<td>Every 20 to 60 minutes peak / 40 to 120 minutes off-peak</td>
<td>Every 15 to 30 minutes peak / 30 to 60 minutes off-peak</td>
</tr>
<tr>
<td><strong>Hours of Operation</strong></td>
<td>5:00 a.m. to midnight</td>
<td>6:00 to 9:00 a.m. and 4:00 to 7:00 p.m. weekdays / Limited service at other times</td>
<td>5:00 a.m. to midnight</td>
</tr>
<tr>
<td><strong>Station Spacing</strong></td>
<td>Every 20 to 50 miles</td>
<td>Every 2 to 6 miles</td>
<td>Every 1 to 4 miles</td>
</tr>
<tr>
<td><strong>Station Enclosure</strong></td>
<td>Enclosed waiting area</td>
<td>Open platform with shelters / Indoor waiting area</td>
<td>Open platform with shelters / Indoor waiting area</td>
</tr>
<tr>
<td><strong>Station Amenities</strong></td>
<td>Restaurants / Retail</td>
<td>Seating / Lean bars / Newsstand / Vending / Concessions</td>
<td>Seating / Lean bars / Newsstand / Vending / Concessions</td>
</tr>
<tr>
<td><strong>Station Security</strong></td>
<td>Station police</td>
<td>Audio-visual surveillance / Panic buttons / Public address system / Transit police / Open sight lines / Lighting</td>
<td>Audio-visual surveillance / Panic buttons / Public address system / Transit police / Open sight lines / Lighting</td>
</tr>
<tr>
<td>Typical Characteristics</td>
<td>Lighter Diesel Light Rail</td>
<td>Electric Light Rail</td>
<td>Streetcar</td>
</tr>
<tr>
<td>-------------------------</td>
<td>--------------------------</td>
<td>--------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Guideway</td>
<td>Exclusive railroad right-of-way / Street median</td>
<td>Exclusive railroad right-of-way / Street median / Curb lane</td>
<td>Street median / Curb lane</td>
</tr>
<tr>
<td>Power Source</td>
<td>Diesel or diesel-electric hybrid</td>
<td>Electric overhead catenary wire</td>
<td>Electric overhead catenary wire</td>
</tr>
<tr>
<td>Vehicle Type</td>
<td>Low-floor articulated trainset</td>
<td>Low-floor articulated trainset</td>
<td>Low-floor articulated trainset</td>
</tr>
<tr>
<td>Vehicle Length</td>
<td>140 feet</td>
<td>100 feet</td>
<td>66 feet</td>
</tr>
<tr>
<td>Passenger Capacity</td>
<td>135 seats / 90 standees</td>
<td>66 seats / 140 standees</td>
<td>30 seats / 120 standees</td>
</tr>
<tr>
<td>Crew</td>
<td>One driver / Roving fare inspectors / Transit security</td>
<td>One driver / Roving fare inspectors / Transit security</td>
<td>One driver / Roving fare inspectors / Transit security</td>
</tr>
<tr>
<td>Service Frequency</td>
<td>Every 7 to 15 minutes peak / 15 to 30 minutes off-peak</td>
<td>Every 5 to 10 minutes peak / 10 to 20 minutes off-peak</td>
<td>Every 2 to 10 minutes peak / 5 to 20 minutes off-peak</td>
</tr>
<tr>
<td>Hours of Operation</td>
<td>5:00 a.m. to midnight</td>
<td>5:00 a.m. to midnight</td>
<td>5:00 a.m. to midnight</td>
</tr>
<tr>
<td>Station Spacing</td>
<td>Every 1/2 to 3 miles</td>
<td>Every 1/2 to 2 miles</td>
<td>Every 1/4 to 1 mile</td>
</tr>
<tr>
<td>Station Enclosure</td>
<td>Open platform with shelters / Indoor waiting area</td>
<td>Open platform with shelters / Indoor waiting area</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Station Amenities</td>
<td>Seating / Lean bars / Newsstand / Vending / Concessions</td>
<td>Seating / Lean bars / Newsstand / Vending / Concessions</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Station Security</td>
<td>Audio-visual surveillance / Panic buttons / Public address system / Transit police / Open sight lines / Lighting</td>
<td>Audio-visual surveillance / Panic buttons / Public address system / Transit police / Open sight lines / Lighting</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

| Transit Service Level   | High Intensity |

Table 1, General Characteristics of Rail Transit Technologies continued
Table 2, General Characteristics of Bus Transit Technologies

<table>
<thead>
<tr>
<th>Typical Characteristics</th>
<th>Demand Response / Dial-a-Ride</th>
<th>Intercity Bus</th>
<th>Express Bus / Commuter Express</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IndyGo Paratransit Van</strong></td>
<td>IndyGo Paratransit Van</td>
<td>Greyhound or Megabus</td>
<td>MCI D4500CTH or equal</td>
</tr>
<tr>
<td><strong>Guideway</strong></td>
<td>Mixed traffic on-street</td>
<td>Mixed traffic on-street</td>
<td>Mixed traffic on-street</td>
</tr>
<tr>
<td><strong>Power Source</strong></td>
<td>Diesel / Compressed natural gas</td>
<td>Diesel / Compressed natural gas</td>
<td>Diesel / Compressed natural gas</td>
</tr>
<tr>
<td><strong>Vehicle Type</strong></td>
<td>Accessible passenger van</td>
<td>Over-the-road motorcoach</td>
<td>Over-the-road motorcoach</td>
</tr>
<tr>
<td><strong>Vehicle Length</strong></td>
<td>25 feet</td>
<td>40 feet</td>
<td>40 feet</td>
</tr>
<tr>
<td><strong>Passenger Capacity</strong></td>
<td>14 seats / No standees</td>
<td>40 seats / No standees</td>
<td>40 seats / No standees</td>
</tr>
<tr>
<td><strong>Crew</strong></td>
<td>One driver</td>
<td>One driver</td>
<td>One driver</td>
</tr>
<tr>
<td><strong>Service Frequency</strong></td>
<td>Scheduled pick-up</td>
<td>Every 60 to 240 minutes</td>
<td>Every 20 to 60 minutes peak-only / Minimal off-peak service</td>
</tr>
<tr>
<td><strong>Hours of Operation</strong></td>
<td>5:00 a.m. to midnight</td>
<td>6:00 a.m. to 9:00 p.m.</td>
<td>6:00 to 9:00 a.m. and 4:00 to 7:00 p.m. weekdays / Limited service at other times</td>
</tr>
<tr>
<td><strong>Station Spacing</strong></td>
<td>Not applicable (curbside pick-up and drop-off)</td>
<td>City center stops only</td>
<td>Outlying and city center stops only</td>
</tr>
<tr>
<td><strong>Station Enclosure</strong></td>
<td>Not applicable</td>
<td>Enclosed waiting area</td>
<td>Sheltered waiting area / Windbreaks</td>
</tr>
<tr>
<td><strong>Station Amenities</strong></td>
<td>Not applicable</td>
<td>Restaurants / Retail</td>
<td>Seating / Lean bars / Vending</td>
</tr>
<tr>
<td><strong>Station Security</strong></td>
<td>Not applicable</td>
<td>Station police</td>
<td>Open sight lines / Lighting</td>
</tr>
<tr>
<td>Typical Characteristics</td>
<td>IndyGo Bus</td>
<td>Manitoba New Flyer</td>
<td>Los Angeles NABI</td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------</td>
<td>--------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Guideway</td>
<td>Mixed traffic on-street</td>
<td>Mixed traffic / Right-turn, bus-only lane / Exclusive bus lane</td>
<td>Exclusive bus lane / Street median / Exclusive busway</td>
</tr>
<tr>
<td>Power Source</td>
<td>Diesel / Compressed natural gas / Diesel-electric hybrid</td>
<td>Diesel / Compressed natural gas / Diesel-electric hybrid</td>
<td>Diesel / Compressed natural gas / Diesel-electric hybrid</td>
</tr>
<tr>
<td>Vehicle Type</td>
<td>Low-floor city bus</td>
<td>Low-floor articulated bus</td>
<td>Low-floor articulated bus</td>
</tr>
<tr>
<td>Vehicle Length</td>
<td>40 feet</td>
<td>60 feet</td>
<td>60 feet</td>
</tr>
<tr>
<td>Passenger Capacity</td>
<td>38 seats / 39 standees</td>
<td>60 seats / 40 standees</td>
<td>60 seats / 40 standees</td>
</tr>
<tr>
<td>Crew</td>
<td>One driver</td>
<td>One driver</td>
<td>One driver / Roving fare inspectors / Transit security</td>
</tr>
<tr>
<td>Service Frequency</td>
<td>Every 10 to 60 minutes peak / 20 to 60 minutes off-peak</td>
<td>Every 5 to 15 minutes peak / 10 to 30 minutes off-peak</td>
<td>Every 2 to 10 minutes peak / 5 to 20 minutes off-peak</td>
</tr>
<tr>
<td>Hours of Operation</td>
<td>5:00 a.m. to midnight</td>
<td>5:00 a.m. to midnight</td>
<td>5:00 a.m. to midnight</td>
</tr>
<tr>
<td>Station Spacing</td>
<td>Every 1/4 to 1/2 mile</td>
<td>Every 1/3 to 1 mile</td>
<td>Every 1/2 to 2 miles</td>
</tr>
<tr>
<td>Station Enclosure</td>
<td>Sheltered waiting area / Windbreaks</td>
<td>Sheltered waiting area / Infrared heating / Windbreaks</td>
<td>Sheltered waiting area / Infrared heating / Windbreaks</td>
</tr>
<tr>
<td>Station Amenities</td>
<td>Seating / Lean bars</td>
<td>Seating / Lean bars / Newspaper vending</td>
<td>Seating / Lean bars / Newspaper vending / Concessions</td>
</tr>
<tr>
<td>Station Security</td>
<td>Open sight lines / Lighting</td>
<td>Audio-visual surveillance / Panic buttons / Public address system / Open sight lines / Lighting</td>
<td>Audio-visual surveillance / Panic buttons / Public address system / Transit police / Open sight lines / Lighting</td>
</tr>
</tbody>
</table>

**Table 2, General Characteristics of Bus Transit Technologies continued**

**High Intensity**
TRANSIT VISION PLAN

- Ticketing facilities, including staffed booths at high volume stations and vending machines at lower volume stations.
- One or more passenger shelters, to provide protection from inclement weather and where passenger-operated warming heaters may have been installed.
- Passenger seating, with fixed benches under shelters and along platforms.
- Bike racks within close proximity to passenger waiting/boarding areas.
- Additional lighting for all passenger waiting/boarding areas.
- Refuse and recycling containers in and around passenger waiting/boarding areas.
- Passenger washrooms at high volume and staffed stations.
- User information, such as “next bus/train” tracking, automated fare payment, and trip planning information, including on-line tools.

Transit Vision Plan

The sections that follow describe the elements of a future transit system, reflecting the universe of projects that could be included in a fiscally constrained regional transit improvement program. This plan builds on system level transit planning conducted by the MPO, CITTF, IndyGo and others. It was developed for review and discussion during LRTP outreach efforts. This Transit Vision Plan seeks to establish a long range transit system through a phased process, building incrementally and sustainability toward a comprehensive system of public transit for Central Indiana residents.

Candidate Transit Projects

A comprehensive list of candidate transit projects was developed in response to previous studies and recent public input. The list is based on information from the CITTF recommended transportation strategy, IndyGo Downtown Transit Center Feasibility Study, recommendations from the IndyGo bus plan, the Northeast Corridor AA/DEIS alternatives development process, public comments received during the Indy Connect initiative, and other relevant sources. Candidate projects are organized by transit mode.

It is important to note that all proposed bus routing and service level upgrades identified in the IndyGo bus plan are also considered candidate transit projects, but are not described in detail here. Bus plan recommendations will instead be assessed for inclusion in a fiscally constrained program more generally rather than on a route-by-route basis. In instances where a proposed fixed guideway or BRT service would supersede an existing bus route, replacement of that bus route would allow for a reallocation of resources to implement additional elements of the bus plan elsewhere.

Rail Projects on Existing Railroads

Three potential future passenger rail alignments have been identified. They are as follows:

- Northeast Corridor service would extend from Union Station in downtown Indianapolis along the Hoosier Heritage Port Authority (HHPA) railroad (formerly the Nickel Plate Railroad) to as far north as Noblesville. Intermediate stations could include 10th Street, Fairgrounds, 62nd Street/Allisonville Road, Castleton and Fishers. An Alternatives Analysis and Draft Environmental Impact Statement (AA/DEIS) is being prepared to assess the appropriate service level, station locations, vehicle type, and other features of the potential Northeast Corridor transit system.

- South Corridor service would extend from Union Station along the Louisville Indiana Railroad (LIRR) to as far south as Franklin. Intermediate stations could include Raymond Street, the University of Indianapolis (Hanna Avenue), Southport and Greenwood.

- Northwest Corridor service would extend from Union Station along the CSX Railroad to as far north as Zionsville. Intermediate stations could include Speedway, Lafayette Square, and Park 100.

BRT/Light Rail Projects on Arterial Streets

Four potential alignments for light rail service have been identified, which would initially be provided as BRT service. They are as follows:

- East-West Corridor service would extend from Indianapolis International Airport on the west to Cumberland on the east, primarily along the Washington Street corridor.

- North-South Corridor service would extend from 62nd Street/Allisonville Road on the north to the University of Indianapolis on the south, via 62nd Street, College Avenue, Capital/Illinois Streets, and Madison Avenue.

- IUPUI-LoDo Circulator service would provide convenient connections via Union Station to destinations in and around downtown Indianapolis, extending from the IUPUI campus northwest of downtown to the emerging LoDo (Lower Downtown) District to the southwest of downtown. The circulator would be routed along University Boulevard, Michigan/New York Streets, Pennsylvania/Delaware Streets, and South Street.
- **10th Street-Lilly Circulator** service would provide similar connections via Union Station by extending from 10th Street northeast of the downtown to the Lilly campus southeast of downtown. The circulator would be routed along College Avenue, Massachusetts Avenue, Ohio Street, Capitol/Illinois Streets, South Street and McCarty Street.

**BRT Projects on Arterial Streets**

Two potential alignments for permanent BRT service have been identified. They are as follows:

- **38th Street Crosstown** service would extend along 38th Street from Eagle Creek on the west to Lawrence on the east, by way of key stops at Lafayette Square, Meridian Street and the Fairgrounds.

- **Keystone Crosstown** service would extend primarily along Keystone Avenue from Carmel on the north to the University of Indianapolis on the south, by way of key stops at Keystone at the Crossing, Glendale Mall, Fairgrounds and Washington/Rural.

**Express Bus Services**

Express bus routes are proposed as limited stop service, utilizing expressways where possible, to connect park-and-ride facilities in outlying locations to downtown Indianapolis during peak commuting periods. Proposed alignments are as follows:

- Service from **Carmel** utilizing Meridian Street.
- Service from **Keystone at the Crossing** utilizing 86th and Meridian Streets.
- Service from **Lebanon** utilizing I-65.
- Service from **Trader's Point** by way of a potential intermediate stop at **Lafayette Square**, utilizing I-65.
- Service from **Brownsburg** utilizing I-74.
- Service from **Danville** by way of an interim stop at **Avon**, utilizing Rockville Road.
- Service from **Plainfield** utilizing I-70.
- Service from **Franklin** utilizing I-65. This service would be discontinued when South Corridor commuter rail service is introduced.
- Service from **Greenwood** utilizing I-65. This service would be discontinued when South Corridor commuter rail service is introduced.
- Service from **Cumberland** utilizing Washington Street. This service would be provided only until BRT service is introduced in the East-West Corridor.
- Service from **Greenfield** utilizing I-70.
- Service from **Lawrence** utilizing I-465 and I-70.
- Service from **Castleton** utilizing I-465 and I-70. This service would be discontinued when Northeast Corridor commuter rail service commences.
- Service from **Fishers** utilizing I-69, I-465 and I-70. This service would be discontinued when Northeast Corridor commuter rail service commences.
- Service from **Noblesville** utilizing I-69, I-465 and I-70. This service would be discontinued when Northeast Corridor commuter rail service commences.
- Service from **Westfield** utilizing Highway 31 and Meridian Street.

**Community Circulators/Shuttles**

Specific routes and service plans for potential future community circulator or shuttle services, which could provide enhanced access to commuter rail or express bus terminal stations, have not been developed. However, it is anticipated that community circulators or shuttles would be implemented over time in Beech Grove, Carmel, Fishers, Greenwood, Lawrence, Noblesville, Southport, Plainfield and/or Avon.

**Downtown Transit**

A downtown transit strategy was developed for purposes of cost estimates and project evaluation based on the results of several recent planning studies. Information from the IndyGo Downtown Transit Center Feasibility Study, draft recommendations from the IndyGo bus plan, the Northeast Corridor AA/DEIS alternatives development process, public comments received during the Indy Connect initiative, and other relevant sources were used to develop these proposed improvements to downtown transit facilities and circulation patterns.

**Union Station**

Union Station would undergo a significant renovation to effectively serve intercity rail and bus, commuter rail, express bus, BRT and circulator routes, and select local bus routes. Renovation costs are estimated at approximately $100 million, to create a high quality “gateway” facility for Central Indiana that links several transit modes.

**Transit Center**

A Downtown Transit Center is proposed to be located along South Street near Union Station, potentially at the current U.S. Post Office site between Capitol and Illinois...
Streets where joint redevelopment would be a possibility. The Transit Center would need to initially accommodate at least 20 bus bays for bus layovers and to facilitate transfer activity.

**Capitol/Illinois Transit Corridor**
A transit “spine” focused along the one-way pair of Capitol and Illinois Streets would improve the ability to transfer between bus routes in the downtown. This primary transit corridor would be supported by a secondary corridor along Pennsylvania and Delaware Streets, with east-west connections centered on Ohio and South Streets. This would create two “L-shaped” downtown routes which would be easy for transit riders to understand and navigate, and would also facilitate route adjustments during special events that might temporarily impact traffic flow.

**Transit Project Prioritization**
For the purposes of assessing performance characteristics, each project was assigned a typical service level. In some instances, projects were split into geographic segments or assigned different service levels to evaluate phased implementation options. For example, the projects were split by county as appropriate (into “inner” segments in Marion County and “outer” segments in the surrounding counties) to facilitate analysis of different county participation in a future regional funding scenario. Some projects were also split into “initial” and “upgrade” phases to reflect an increasing investment level as corridors develop into stronger transit markets over time.

At this stage in the planning process, candidate projects were assessed for their ability to expand transit coverage and facilitate multi-modal access, without specific regard to financial constraints. In essence, the projects were evaluated for their capacity to achieve the vision statement and guiding principles described on previous pages.

**Performance Measure Methodology**
The following characteristics were defined for each of the candidate transit projects for ranking purposes. Note that these characteristics are generally cumulative in that service levels, operating costs and benefits reflect the build-out scenario for the entire system.

- **Project Service Characteristics**, which include mode (vehicle technology), service frequency (in peak, mid-peak and off-peak periods for weekdays, Saturdays and Sundays), hours of service (by period and by day), and average speed.
- **Project Geography**, which includes terminals, corridor length, major streets or railroads along the alignment, and number of stations.
- **Operating Statistics** (computed), which include round trip running time, vehicles required for peak service, revenue vehicle hours, and revenue vehicle miles.
- **Potential Trips Served**, based upon MPO model data on the number of origin-destination trips with both endpoints in walking distance (within ½ mile) of the project. Potential Trips Served are then adjusted using a factor which reflects differences in service frequency across projects or phases, computed using a simplified logit mode choice formula. The adjustment is applied to weekday service frequency to reflect the greater attractiveness of more frequent service.
- **Capital and Operations & Maintenance (O&M) Costs**, which were estimated utilizing the above inputs.
  - Capital costs in 2010 dollars were estimated using typical unit costs for major items based on similar projects in the U.S. Cost items were grouped into the Standard Cost Categories defined by the Federal Transit Administration. Annualized capital costs were also computed, reflecting the useful life of project components, computed using a 7% discount rate per the FTA New Starts program methodology.
  - O&M cost estimates were based on an analysis of cost driver operating statistics and total operating expenses for a group of peer systems with somewhat comparable operations (all transit systems serving metropolitan areas between 500,000 and 4,500,000 population) for each mode (commuter rail, light rail, buses).

---

1 Number of trips as reflected in 2010 regional travel demand model trip tables, provided by the MPO and based on the 2009 household travel survey. This measure reflects the universe of potential person-trips that could be directly served by the project. When a project serves the downtown area, all trips in the “regional core” within the interstate loop are included. Note that this measure is not a ridership forecast. It does not reflect any considerations of transit service attractiveness, competitiveness with the automobile, network connections, or other factors that could positively or negatively affect potential ridership.
2 A 5-minute peak / 10-minute off-peak service frequency is arbitrarily considered to be a benchmark at which general utility parity with the automobile is achieved. Differences in average first wait time (in minutes) are applied to each project to adjust the probability of using transit, by increasing or decreasing the impedance compared to this benchmark. For example, a 30/60 commuter rail service is considered to have a 19-minute longer average wait time than the benchmark service. This is multiplied by a coefficient of 0.08 to compute the change in utility, which is then run through a classical p=e^(-d/1+e^(-d)) logit equation to compute the difference in probability of using transit as a result of the frequency change. This decreases the probability of using transit from 0.5 at parity to 0.17, resulting in a 1/3 reduction in index value for a 1/6 service frequency. Note that this measure does not consider other factors that may influence mode choice, including relative automobile and transit travel times, travel costs, or reliability considerations.
3 Cost contingencies were applied to each overall project and also allocated to individual project items as appropriate. Professional services were estimated to be 32% of all construction items excluding vehicles based on typical costs observed for fixed guideway transit projects in the U.S. These services include design, project management, construction administration, insurance, legal costs, permits and start-up costs.
4 Standard Cost Categories include: guideway and track elements, stations, stops and terminals, support facilities, sitework and special conditions, systems, right-of-way, vehicles, professional services, and contingency.
5 Cost driver operating statistics include revenue hours, revenue miles and peak vehicles.
and bus) from the 2007 National Transit Database (NTD)<sup>6</sup>. O&M costs are computed separately for each of four expense categories defined by NTD, including Vehicle Operations, Vehicle Maintenance, Non-Vehicle Maintenance, and General Administration<sup>7</sup>.

Project rankings were determined using a benefit-cost index that combines the origin-destination (O-D) Potential Trips Served measure, adjusted to reflect a preference for higher service frequency with incremental costs. Capital costs were annualized to reflect life cycle considerations and combined with annual O&M costs. The prioritization process also included considerations of project “precedence” (inner segments must occur before outer segments, basic service levels must be implemented before upgrades), which further adjusted the rankings to reflect appropriate phasing considerations within each corridor. Table 3, Project Priorities, presents the prioritized list of projects resulting from this analysis.

Table 3: Project Priorities

<table>
<thead>
<tr>
<th>Project</th>
<th>Priority Index</th>
<th>Priority Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>IUPUI-LoDo Circulator-BRT</td>
<td>4,530</td>
<td>1</td>
</tr>
<tr>
<td>Keystone Crosstown - BRT</td>
<td>4,129</td>
<td>2</td>
</tr>
<tr>
<td>10th St-Lilly Circulator - BRT</td>
<td>3,804</td>
<td>3</td>
</tr>
<tr>
<td>North-South Corridor - BRT</td>
<td>3,664</td>
<td>4</td>
</tr>
<tr>
<td>38th St. Crosstown - BRT</td>
<td>2,685</td>
<td>5</td>
</tr>
<tr>
<td>East-West Corridor - BRT</td>
<td>2,506</td>
<td>6</td>
</tr>
<tr>
<td>South Corridor - Rail</td>
<td>1,450</td>
<td>7</td>
</tr>
<tr>
<td>IUPUI-LoDo Circulator - Rail Upgrade</td>
<td>1,159</td>
<td>8</td>
</tr>
<tr>
<td>10th St-Lilly Circulator - Rail Upgrade</td>
<td>828</td>
<td>9</td>
</tr>
<tr>
<td>Northeast Corridor - Rail</td>
<td>706</td>
<td>10</td>
</tr>
<tr>
<td>North-South Corridor - Rail Upgrade</td>
<td>630</td>
<td>11</td>
</tr>
<tr>
<td>East-West Corridor - Rail Upgrade</td>
<td>417</td>
<td>12</td>
</tr>
<tr>
<td>Northwest Corridor - Rail</td>
<td>413</td>
<td>13</td>
</tr>
</tbody>
</table>

Source: HNTB

Transit Supportive Land Use Methodology

For purposes of modeling potential impacts of transit investments, a land use scenario was developed to explore the potential effect of more transit-supportive land uses around selected potential rail stations in Central Indiana. This exercise did not reflect station-specific holding capacity or redevelopment plans, but rather utilized industry standards regarding transit-oriented land uses and densities. Information on typical desired transit-oriented development (TOD) densities were derived from TCRP Report 102: Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects<sup>8</sup> to define a scenario in which a general pattern of redevelopment materializes at key transit nodes identified in the Transit Framework. Development intensities were adjusted downward to reflect conditions more realistic in a Midwestern location.

Intensified development was assumed to occur at each of the major transit stations where connections with other transit services or key bus routes are possible along each of the four highest ranked fixed guideway corridors, including the Northeast Corridor, the North-South Corridor, the East-West Corridor, and the South Corridor. The twenty-two stations thus include:

1. Connor/8th (Noblesville)
2. 116th/HHPA (Fishers)
3. 82nd/HHPA (Castleton)
4. 62nd/HHPA
5. 38th/HHPA (Fairgrounds)
6. 16th/HHPA
7. 10th/HHPA
8. 62nd/Keystone (Glendale Mall)
9. 38th/Meridian
10. 30th/Meridian
11. 16th/Meridian
12. Union Station
13. Raymond/LIRR
14. Hanna/LIRR (University of Indianapolis)
15. Southport/LIRR (Southport)
16. County Line/LIRR (Greenwood)
17. Jefferson/LIRR (Franklin)
18. Washington/Lynnhurst
19. Washington/Rural
20. Washington/Ritter

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6 2007 NTD data are considered to be more reliable than the latest-available 2008 data due largely to the fuel cost spike in 2008.

7 Unit costs were developed for each expense category to produce a four-factor O&M cost allocation model for each peer system. Average unit cost for each group (eliminating outliers) of systems was used to build the model. DMU costs were developed based on a composite of fourteen commuter rail and light rail systems. This avoided some very high unit costs for commuter rail services and should better reflect the kind of frequent, LRT-style service that is envisioned. LRT and streetcar costs were based on a composite of nine peer light rail systems. BRT costs were based on a composite of 154 peer bus systems, plus additional costs for maintenance of stations and other facilities. A composite NTD-based unit cost annual escalation rate was used to convert O&M costs to 2010 dollars, and a 10% contingency was added.

The land use scenario reflects the eventual allocation of about 15 percent of projected population and employment growth through 2035 to these station areas, compared to baseline projections for these areas. These areas would receive approximately 35,000 more households and 24,000 more jobs than under the MPO baseline growth scenario. This scenario is somewhat less aggressive than the land use scenario used in the CITTF study, which shifted about 68,500 households and 92,800 jobs to selected station areas.

Transit Readiness Considerations

Project priorities have been established within general time frames as described above, yet many factors will influence the actual timing of implementation. Aside from the significant financial considerations to be discussed in detail in the following section, the timing of implementation will be substantially determined by the readiness of stakeholder communities. Additional studies needed will include alternatives analyses (AA), environmental impact statements (EIS), community circulator studies, and station area planning studies to more fully define the candidate projects.

Supportive actions that can be undertaken by stakeholder communities to enhance their readiness to implement public transit improvements include (but are not limited to) the following:

- Participation in a regional transportation authority (RTA), which will finance public transit improvements that span across municipal and county boundaries.
- Development of land use plans that address the integration of transit facilities with surrounding land uses, in order to leverage transit investments to support local development or redevelopment objectives.
- Enacting transit-supportive zoning regulations that provide the potential for a transit-oriented development (TOD) pattern to emerge or be strengthened over time.
- Willingness to engage in “value capture” strategies, potentially including tax-increment financing (TIF) or developer impact fees, to financially support the development of local elements of the regional transit system such as stations, park-and-ride facilities, streetscape improvements, and bicycle and pedestrian access.
- Establishing the appropriate regulatory and administrative policies to support the development approval process, and an open and ongoing dialogue with nearby property owners and institutions that may benefit from transit investments.
Chapter 4

Fiscally Constrained Plan Scenario

The projects identified in the unconstrained process described above were outlined based primarily upon improved transit coverage, higher service levels, and stakeholder and public comments in support. In order to consider fiscal constraints and other trade-offs in the planning process, various implementation scenarios were evaluated using a detailed financial model. This section describes a representative transit investment program that could be implemented under one of many possible sets of assumptions related to future funding sources and implementation priorities. As more detailed and updated information on project characteristics and financial resources becomes available, the MPO will evaluate other fiscally constrained plan scenarios.
Financial Projections
The financial model developed by the MPO to simulate future cash flows for the financial analysis of the CITTF transportation strategy was modified and enhanced for use in evaluating fiscally constrained plan scenarios. The spreadsheet-based model projects the revenues and expenditures of a future regional transportation authority (RTA) charged with building and implementing the regional transit program in Central Indiana.

The model was updated to reflect recent changes in assumptions about future program revenues, real growth rates, inflation rates, funding sources, and other variables. In addition, functionality was added to allow the user to interactively adjust the timing of the implementation of each project, including postponing some projects beyond the planning horizon of 2035. The model incorporates both capital and O&M cost estimates, and allows project capital expenditures to be distributed over a user-defined number of years. These capabilities enable sensitivity analysis of the impacts of altering one or more model assumptions, including: tax types and rates, number of participating counties, project timing, operating plans and economic variables.

The RTA is assumed to include the participation of the six counties in which transit projects are proposed as part of the Transit Vision Plan: Boone, Hamilton, Hancock, Hendricks, Johnson and Marion. The model evaluates the viability of potential investment program alternatives for the period between 2010 and 2035, assuming that a new dedicated transit tax is collected beginning on January 1, 2012 and that service upgrades commence operation by January 1, 2013. A scenario is considered to be financially viable when the RTA can maintain a positive cash balance through 2035 and an adequate debt service coverage ratio on any debt incurred until it is paid off.

Expenditure Projections
Project-specific expenditure projections were developed for both capital costs and O&M costs, based on the methodology and assumptions described below. The model treats the growth of different types of costs separately. First, an overall inflation rate (as forecasted by the Congressional Budget Office) has been included in all growth calculations to account for general consumer price increases. A second “real” growth rate (the growth that occurs above and beyond consumer price inflation) is considered for capital and operating costs, as well as each revenue source.

Table 4, Use of Funds, and Figure 1, Use of Funds, summarize the uses of funds in this fiscally constrained plan scenario. The costs of operating the system represent more than 60% of the total expenditures for the transit program. The capital and operating expenditures associated with the premium transit elements (rail and BRT) represent approximately 40% of the total expenditures for the transit program. The methodology for estimating the capital and operating costs of the program is described below.

Table 4, Use of Funds

<table>
<thead>
<tr>
<th>Use of Funds</th>
<th>2010-2035 % of Total (Yr of Expenditure Dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premium Transit Capital</td>
<td>28%</td>
</tr>
<tr>
<td>Premium Transit Operations</td>
<td>13%</td>
</tr>
<tr>
<td>Other Transit Capital</td>
<td>10%</td>
</tr>
<tr>
<td>Other Transit Operations</td>
<td>49%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: HNTB.

Figure 2, Use of Funds

Capital Costs
Capital costs were estimated on a project-by-project basis. Total capital costs for each project include estimates for building guideway and systems, implementing the necessary systems, and acquiring the needed right-of-way. A ten-level capital cost structure was developed that corresponds with FTA Standard Cost Categories (SCC). For example, the cost of railroad track upgrades was computed based on a representative cost per mile derived...
from previous work in Central Indiana or elsewhere. The cost of stations was based on typical station spacing from lines with similar service characteristics elsewhere and line length. Professional services and contingencies are built into these estimates. Additional contingency was also incorporated by minimizing consideration of some savings that could be realized where multiple projects share stations, tracks, and other facilities.

Vehicle costs were estimated on a system-wide basis. This allows the model to take into account the existing IndyGo fleet, as well as shifts between projects over time. This method more accurately reflects how the RTA would manage buses as a fleet, not as individual vehicles assigned to individual routes.

The model also takes into account the need to replace vehicles, and does so by automatically purchasing a replacement vehicle at the end of a vehicle life span. All vehicle purchasing costs are incurred in the year the system requires a purchase. The service life of vehicles differs depending on the type of vehicle. The model assumes the following vehicle life spans:

- Commuter Rail – 25 years
- Light Rail – 25 years
- BRT – 12 years
- Bus – 12 years
- Paratransit – 6 years

Purchasing costs for rail and BRT vehicles were based on a survey of similar systems throughout the United States. New bus and paratransit costs come from the American Public Transportation Association (APTA), which publishes average annual vehicle costs for transit systems across the nation. A contingency of 5% is included in these estimates. The model assumes the following vehicle costs:

- Commuter Rail – $4,750,000
- Light Rail – $3,700,000
- BRT – $850,000
- Bus – $469,928
- Paratransit – $66,645

There are also some system-wide capital costs incurred by the introduction of new modes of transportation. Costs for the renovation of Union Station (totaling up to $100 million) are incurred in the opening year of the first commuter rail project. Freight services through Union Station are assumed to be relocated to an improved Belt Line around downtown Indianapolis after the second commuter rail line opens. Storage and maintenance facilities for each vehicle type are assumed to be built in the first year that each mode comes into service. The size of each facility is assumed to accommodate the maximum fleet size needed through 2035.

The growth of capital costs was calculated from the Civil Works Construction Cost Index System for Roads, Railroads, and Bridges released annually by the US Army Corps of Engineers (USACE). The index includes a cost adjustment for the State of Indiana. Historic inflation rates were applied to the USACE figures from 2003-2009 to produce an estimated real annual growth rate in capital costs of about 1.9%.

**Operation and Maintenance Costs**

The model’s operation and maintenance (O&M) costs were derived from 2002-2007 National Transit Database (NTD) figures, released annually by the Federal Transit Administration. The database provides information on system expenses and operating statistics for bus, light rail, and commuter rail operations. These numbers were used to arrive at unit costs in four major cost categories based on the number of system-wide revenue hours, revenue miles, number of peak vehicles, and number of transit stations. The four cost categories and their cost drivers are as follows:

- **Vehicle Operations** – function of vehicle revenue hours
- **Vehicle Maintenance** – function of vehicle revenue miles
- **Non-Vehicle Maintenance** – function of the number of stations (for rail operations) and the number of peak vehicles (for bus operations)
- **General Administration** – function of the number of peak vehicles

The actual figures for unit costs used in the model were taken from 2007 NTD averages for systems serving metropolitan populations of between 500,000 and 4,500,000 people. Table 5, Average Per-Unit O&M Costs, summarizes the 2007 NTD average unit costs in the four cost categories, adjusted for inflation to 2010 dollars. A review of unit costs derived from the most recent data available at the time of analysis (reporting year 2008)
suggested that some costs were unusually high due to the worldwide fuel cost spike in 2008. It was decided to use 2007 data instead, adjusted for inflation.

Paratransit costs were calculated based on the ratio of paratransit to other operating costs in the current IndyGo system. Paratransit costs grow as other operating costs grow; up to 150% of current paratransit expenses (adjusted for inflation).

The model also assumes that the system must keep a reserve fund of cash on hand equal to two months of its current-year operating costs. Finally, a contingency of 10% is applied to all O&M cost estimates.

O&M cost growth was derived from 2002-2007 National Transit Database figures, released annually by the Federal Transit Administration. The four cost categories were analyzed from the 2002-2007 period, factoring out CPI inflation, to estimate the real growth in O&M costs. Historic inflation was applied to the NTD-reported O&M cost growth in the four cost categories to isolate real cost growth for each cost category and for each service type (bus and rail). The resulting growth rates applied in the model to estimate system operating expenses are as follows:

- **Vehicle Operations** – 0.25% for bus, 1.58% for rail
- **Vehicle Maintenance** – 0.33% for bus, 0% for rail
- **Non-Vehicle Maintenance** – 2.36% for bus, 0% for rail
- **General Administration** – 1.46% for bus, 1.63% for rail

**Long-Term Financing Costs**

The financial model calculates the amount of borrowing needed in each year to maintain a positive cash balance, and the resulting principal and interest payment burden on the transit agency. Long-term debt (e.g. agency revenue bonds) was used with a financing period of 20 years and an interest rate of 4.50% for capital expenditures through 2035. Short-term debt (e.g. commercial paper) was used to cover temporary operating shortfalls after 2035. A debt service coverage ratio (DSCR) of 1.5 was maintained for each year that debt is outstanding, which is generally consistent with the high quality bond ratings maintained by peer agencies.

**Revenue Projections**

Anticipated system-wide revenue and funding sources were calculated based on the methodology and assumptions described below. In addition to fares and other system-generated revenues, funding from local, MPO, state and federal sources is assumed to support the transit program. **Table 6, Funding Sources, and Figure 2**, Funding Sources, summarize the sources of funds in this fiscally constrained plan scenario. The dedicated RTA tax is expected to provide approximately one-half of the total funding for the transit program in this scenario. The methodology for estimating each of the revenue sources is described below.

**Table 6, Funding Sources**

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>2010-2035 % of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: HNTB</td>
<td></td>
</tr>
<tr>
<td>Federal Formula Allocations</td>
<td>9%</td>
</tr>
<tr>
<td>Federal Discretionary Grants</td>
<td>9%</td>
</tr>
<tr>
<td>State PMTF Allocations</td>
<td>5%</td>
</tr>
<tr>
<td>MPO Highway Funds</td>
<td>7%</td>
</tr>
<tr>
<td>Local RTA Tax</td>
<td>51%</td>
</tr>
<tr>
<td>Local IndyGo Property Tax</td>
<td>6%</td>
</tr>
<tr>
<td>Local Value Capture</td>
<td>2%</td>
</tr>
<tr>
<td>System-Generated Revenue</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Table 5, Average Per-Unit O&M Costs (2010 dollars)**

<table>
<thead>
<tr>
<th>Transit Type</th>
<th>Vehicle Operations</th>
<th>Vehicle Maintenance</th>
<th>Non-Vehicle Maintenance</th>
<th>General Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rail on Existing Railroads</td>
<td>$279</td>
<td>$5.16</td>
<td>$304,042</td>
<td>$209,963</td>
</tr>
<tr>
<td>Light Rail</td>
<td>$92</td>
<td>$4.59</td>
<td>$324,261</td>
<td>$168,973</td>
</tr>
<tr>
<td>BRT/Bus</td>
<td>$63</td>
<td>$1.41</td>
<td>$10,988</td>
<td>$57,199</td>
</tr>
</tbody>
</table>

*Source: National Transit Database, HNTB (2007)*
System-Generated Revenues

IndyGo’s average farebox recovery rate from 2000 to 2008 was approximately 19% of total O&M costs. Including other system-generated revenue, such as advertising, IndyGo has recovered approximately 23% from its own activities. This scenario assumes that the fare structure will be refined as services are increased, to a level at which the transit agency can achieve 25% farebox recovery. This includes potential revenues from advertising, station concessions, interest, and other activities.

Local Funding

A combination of the existing IndyGo property tax in Marion County, a new multi-county RTA income or sales tax, and value capture revenues make up the local portion of system funding in this scenario. This is supplemented by a share of the MPO’s discretionary local transportation funding for capital projects.

A dedicated RTA income tax or sales tax is assumed to be collected for transit capital and operating activities from January 1, 2012. This scenario assumes that a tax of either type would correspond with the average cost of up to $15 per month per household (2010 dollars) used in the CITTF study. For the income tax, the rate is computed to be 0.3% using 2010 certified county option income tax distributions from the State of Indiana. For the sales tax, the rate is computed to be 0.8%.

Real growth rates in the income tax base for each county were calculated using 1969-2008 historic personal income data from STATS Indiana, adjusted for inflation. Real growth rates for the sales tax base were computed using historic 1986-2008 retail sales data from STATS Indiana, adjusted for inflation. Population growth was used to adjust the historic tax base growth rates, based on 2040 population projections from STATS Indiana. This produced the estimated annual tax base growth rates applied in the financial model, as summarized in Table 7, Estimated Annual Tax Growth Rates.

Based on the 0.3% income tax and the assumed growth rates, the total expected income tax revenue is $105 million in 2012, increasing to $265 million in 2035.

Estimates for the IndyGo property tax were produced using 2011 budgeted IndyGo property tax revenue of $19 million as a base. Reflecting a combination of economic outlook and property tax circuit breaker provisions, no growth is assumed for this funding source through 2035.

Tax increment finance (TIF) revenues in redevelopment districts around proposed rail stations were assumed to cover up to 80% of project capital costs associated with stations, as well as streetscapes, pedestrian and bicycle access facilities, and other improvements in the areas around stations. Value capture revenues from all sources are assumed to amount to $189 million through 2035.

<table>
<thead>
<tr>
<th>County</th>
<th>Income Tax Growth Rate</th>
<th>Sales Tax Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boone County</td>
<td>2.18%</td>
<td>0.86%</td>
</tr>
<tr>
<td>Hamilton County</td>
<td>2.76%</td>
<td>1.45%</td>
</tr>
<tr>
<td>Hancock County</td>
<td>2.09%</td>
<td>0.77%</td>
</tr>
<tr>
<td>Hendricks County</td>
<td>2.52%</td>
<td>1.20%</td>
</tr>
<tr>
<td>Johnson County</td>
<td>2.15%</td>
<td>0.84%</td>
</tr>
<tr>
<td>Madison County</td>
<td>1.28%</td>
<td>-0.03%</td>
</tr>
<tr>
<td>Marion County</td>
<td>1.86%</td>
<td>0.54%</td>
</tr>
<tr>
<td>Morgan County</td>
<td>1.66%</td>
<td>0.34%</td>
</tr>
<tr>
<td>Shelby County</td>
<td>1.43%</td>
<td>0.11%</td>
</tr>
</tbody>
</table>

Source: STATS Indiana. HNTB.

State Funding

The State of Indiana’s Public Mass Transit Fund (PMTF) distributes a portion of state sales tax revenue to local transit systems, using a formula that considers their relative standings in several categories, including ridership, vehicle-miles of service provided, and locally
derived funding\(^1\). This scenario assumes increased funding for Central Indiana as its system grows relative to its peers. An estimate of potential future revenue is derived by applying the current funding allocation formula to projected future transit system characteristics. Because this approach implies that other systems would remain static and that Central Indiana would capture an increasing share of the total available resources over time (potentially at the expense of other systems), only one-half of the potential service level related increase in state revenue is assumed to accrue to the RTA.

State PMTF funding is assumed to grow at a real rate of 1.1% per year, based on 2000-2007 PMTF funding levels for all transit agencies statewide, adjusted for inflation\(^2\).

When the state calculates PMTF allocations, it relies on operating statistics reported two years previous. As a result, this scenario assumes that 2015 is the first year in which PMTF money reflects increased service levels. The total estimated PMTF funding in 2015 equals $12.8 million, growing to $24.8 million by 2035. By comparison, the current state allocation for IndyGo, last reported for 2008, equaled $11.3 million.

**Federal Funding**

The Federal Section 5307 Urbanized Area Formula Program distributes a portion of federal surface transportation trust fund revenues to transit systems using an allocation formula that considers population counts, population density, fixed guideway route miles, revenue vehicle miles and passenger miles. The distribution is partially based on the amount of service provided relative to other systems in the nation. As the system grows in the region, it stands to receive higher levels of funding based on these formulas. To calculate future federal formula program allocations, this scenario assumes the same distribution formula will be used and that service levels at all other transit systems remain constant.

The model calculates additional federal formula funding based on the increase in vehicle revenue-miles in the system. A value of $0.4216 per vehicle revenue-mile was used, reflecting the 2010 funding formula. Thus, the total 5307 distribution in each year of the model is the sum of the average 2000-2008 IndyGo allocation (adjusted for inflation) and the additional distribution based on the additional revenue miles operated over IndyGo’s 2008 service level. The financial model uses a real growth rate of 0.52% for federal formula funds. This is based on statewide reported 2000-2007 federal transit assistance across the State of Indiana. As with state funding, the additional share of 5307 funding (the allocation above the inflation adjusted 2008 amount) was reduced by one-half to produce a more conservative estimate.

The federal government also contributes to the capital costs of new fixed guideway transit projects through its New Starts program. The model assumes a federal capital cost share of up to 60% on all capital costs associated with each fixed guideway project.

Like state PMTF funds, the federal allocation is based on operating statistics from two years earlier. The financial model estimates a total allocation of $17.8 million in 2015, growing to $47.8 million in 2035. This compares with $19 million in federal funding received by IndyGo as reported in 2008.

**Project List**

Reflecting the financial assumptions described above, the fiscally constrained plan scenario identifies a representative group of projects that could be implemented by 2035. The projects are outlined below, with fixed guideway projects, BRT corridors, and selected express and local bus routes depicted in a system map.

Many factors can change how projects are implemented and phased. This scenario is provided as an illustration and as a guide for future planning activities. The MPO will prepare additional scenarios and incorporate refinements as projects are developed in more detail and specific financial resources are identified.

**Projects by 2035**

Projects that are slated to commence service before the LRTP plan horizon of 2035 are summarized below. These projects are also depicted on the System Map.

- East-West Corridor BRT service, extending from the Indianapolis International Airport to Cumberland via Washington Street and Union Station.
- North-South Corridor BRT service, extending from the intersection of Keystone Avenue and 62nd Street to the University of Indianapolis via Broad Ripple, College Avenue, the Near North Side, Union Station, and Madison Avenue.

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• Northeast Corridor rail service from Union Station north to Noblesville. Prior to rail service, express buses from Castleton, Fishers, and Noblesville would serve this corridor.

• South Corridor rail service from Union Station south to Greenwood and Franklin. Once the South Corridor service commences, express bus service would be discontinued.

• IUPUI-LoDo Circulator BRT service, extending from IUPUI to the Lower Downtown area southeast of Lucas Oil Stadium via Michigan/New York Streets, Pennsylvania/Delaware Streets, and Union Station.

• 10th Street-Lilly Circulator BRT service, extending from the 10th Street rail station on the Northeast Corridor to the Lilly campus via Massachusetts Avenue, the Capitol/Illinois transit spine, and Union Station.

• 38th Street Crosstown BRT service, extending from Eagle Creek on the west to Lawrence on the east via major stops at Lafayette Square, Meridian Street, and the Fairgrounds.

• Keystone Crosstown BRT service, extending from Carmel on the north to the University of Indianapolis on the south via major stops at downtown Carmel, Keystone at the Crossing, Glendale Mall, Fairgrounds, and Washington Street.

• Express bus service to and from downtown Indianapolis via expressways and major arterials, from park-and-ride facilities in the following locations: Carmel, Keystone at the Crossing, Lebanon, Trader’s Point, Danville, Plainfield, Franklin, Greenwood, Cumberland, Greenfield, Lawrence, Castleton, Fishers and Noblesville. Some express bus services would be discontinued once BRT service on the East-West Corridor and the Northeast Corridor commuter rail, commence.

• A phased implementation of the 2010 IndyGo bus plan service recommendations will be pursued, with high priority service expansion and improvements and significant investment in new vehicles occurring first. By 2020, annual O&M costs will double compared to current IndyGo costs (2010 dollars). By 2030, annual O&M costs will triple compared to current IndyGo costs (2010 dollars). By 2035, annual O&M costs will reflect approximately 3.4 times current (2010) costs. All Long-Term IndyGo bus plan recommendations will be operating (or replaced by successor rail or BRT services).

**Projects after 2035**

Projects from the original candidate project list which could not be implemented with the projected available resources could be considered for implementation beyond the current planning horizon of 2035. These projects include the following:

• IUPUI-LoDo Circulator upgrade to Streetcar or LRT, replacing BRT service.

• 10th Street-Lilly Circulator Streetcar upgrade to Streetcar or LRT, replacing BRT service.

• North-South Corridor service upgrade to LRT, replacing BRT service.

• East-West Corridor service upgrade to LRT, replacing BRT service.

• Northwest Corridor commuter rail service from Union Station north to Zionsville.

• Additional increases or adjustments to regional rail and bus services based upon evolving system needs.
Figure 3, System Map (through 2035)
Performance of the Scenario

The potential future transit system included in this fiscally constrained plan scenario incorporates many of the elements of the CITTF strategy developed in 2009 and early 2010, while making further modifications and improvements based on additional information and feedback not available to the CITTF at that time. Community preferences provided by participants of the Indy Connect initiative have been carefully reviewed. Bus service improvements contained in the new IndyGo bus plan have been reflected. Critical refinements were also completed to the financial model prepared for the CITTF study, adding functionality and detail, and reflecting the impacts of the recent recession and anticipated long-term trends. These refinements have resulted in lower, and potentially more conservative, estimates of revenues. Corresponding refinements have been made for the capital and operating expenditure estimates.

Some of the refinements reflected in this fiscally constrained plan scenario include:

- Phasing has been more carefully considered and refined, functioning as a “risk management” strategy by ensuring that each phase effectively leverages previous phases, and that service duplication and interruption are minimized. At the conclusion of each phase, a logical incremental step in overall system development is achieved. In the event that the projected implementation timeline slips, each of the completed phases would result in a sound public transit system serving the region.

- Implementation of the new 2010 IndyGo bus plan recommendations is included, and will be phased in over time. As a result, this scenario includes more frequent and extended key route service, more cross-town service and expanded express bus services. Community circulators in seven communities are also proposed.

- Improved north-south service is included, balancing the need for “local” service on arterial streets with “express” service via the HHPA Railroad Corridor. A longer Northeast Corridor commuter rail alignment, extending to Noblesville, is balanced with improved access to major activity centers by creating a BRT “spine” from downtown north to 62nd Street via the Children’s Museum and Broad Ripple areas. This BRT would provide improved service on one of IndyGo’s best performing bus corridors, and could later upgrade to LRT service based on emerging ridership demand. The rationale for this separation is to provide better access to major activity centers that would not be well served by the railroad, while maintaining competitive travel times for Northeast Corridor commuters with limited stops. Transit-oriented development (TOD) would be focused along the railroad at relatively fewer stations with the greatest brownfield and other redevelopment opportunities.

- In addition to the longer Northeast Corridor commuter rail described above, a longer South Corridor alignment is also accommodated. These commuter rail lines will promote regional access to downtown employment and special events, while supporting brownfield redevelopment and TOD efforts.

- In addition to the new north-south BRT service described above, this scenario introduces several new elements, including: two downtown circulators, two cross-town routes, and a second “pre-LRT” corridor on Washington Street to connect downtown to the Airport. These modes will support a strong downtown core and improve access to livable neighborhoods surrounding the core.

- Expanded express bus services and seven community circulators have also been included to enhance connections between outlying areas and the regional core.

This fiscally constrained plan scenario can be realized with both a similar overall system cost and similar household costs for Central Indiana residents:

- The CITTF study projected total capital costs of $3.2 billion (2010 dollars), whereas this scenario anticipates total capital costs of $2.5 billion.

- The CITTF study projected total annual O&M costs in 2035 of $218.5 million (2010 dollars). This scenario anticipates an even more effective program being provided at a lower cost, anticipated to be $187.2 million (2010 dollars) in annual O&M costs in 2035.

- While the CITTF study anticipated an average cost of between $10 and $15 per household per month, this Transit Vision Plan reflects an average cost of $15 per household per month (both in 2010 dollars). This estimate takes into consideration a refined assumption that only six counties will participate, whereas the CITTF study anticipated up to nine participating counties.

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3 The CITTF Summary Report showed total transit program costs of $2.4 billion (2009 dollars). This figure is adjusted to improve comparability of assumptions in the studies and is expressed in 2010 dollars.
Implementation of the Transit Vision Plan will entail more than completing capital projects and making service changes. It will require supporting policies, an effective management structure, and refinements to respond to changing conditions over time. The plan provides a future vision to guide current investment based on an understanding of conditions and needs at the time it is prepared. As conditions and needs change, the plan will be updated. This Transit Vision Plan is not the end. Rather, it is the beginning of a continuous planning process.
The vision reflected in this Transit Vision Plan is intended to guide project development and service changes in the context of funding constraints and priority of need. It provides a general roadmap for system investment and project implementation. These changes will need to be accompanied by a range of supporting policies to optimize the return on investment and to fully achieve the vision.

The first policy action in support of the plan will be formal adoption of the framework as a component of the Long Range Transportation Plan by the Policy Committee of the Indianapolis Regional Transportation Council. This group is comprised of elected officials and representatives from major transportation agencies and units of government throughout the Metropolitan Planning Area.

Other supporting policies will be more locally focused. Chapter 3 presents a range of supporting actions that constitute “readiness” with respect to RTA participation, land use, zoning, value capture, and other actions to both support and benefit from regional transit investments.

Policy adjustments will be needed to support desirable land use patterns, concentrate growth in infill locations accessible by transit, support economic development and job growth, enhance mobility for the transit-dependent, support ridesharing initiatives, and provide an environment conducive to transit.

The Long Range Transportation Plan provides the essential regional vision. Additional studies will be needed to identify the best opportunities and supporting policies at a project and corridor level.

Supporting Policy

Regional Authority

The Central Indiana Regional Transportation Authority (CIRTA) has conducted a study to provide a high-level description of how CIRTA or a successor organization could deliver regional transit services. The study explored a range of issues related to agency mission, membership, and governance. The study resulted in recommendations to sponsors in the Indiana General Assembly of a “CIRTA Restructuring Act” that would create a regional organization focused on the implementation and operation of transit.

Key recommended elements of the legislation include:

1. Enable funding source – Establish the tax type and rate of a permanent, dedicated transit funding source.
2. Restructure board to align contributions, benefits, and representation – Define the size, structure, appointment responsibilities, and terms of the agency governing board.
3. Merge IndyGo with CIRTA – Integrate the Indianapolis Public Transportation Corporation (dba IndyGo) with the regional agency.
4. Define timeline and process for initial opt-in – The agency is envisioned to be composed of at least two contiguous counties, including Marion, that choose to participate financially.

On-going Refinement

As with any long range transportation plan, it will be important to revisit the elements of this Transit Vision Plan periodically to update base conditions, adjust assumptions, confirm priorities and redefine cost data. Federal regulations require that this be done formally at least every five years.

Periodic refinements will be particularly important due to the extensive scope of the planned changes and the close association with community development plans and policies. Conditions will change over time. Likewise, there will be many lessons to learn from early implementation of changes.

The Indianapolis MPO has a series of processes and policies in place to refine and update components of the plan as it is implemented. Individual projects are included in a Transportation Improvement Program (TIP), which provides a near term listing of status, costs and time frames for implementation. The TIP is updated frequently and is routinely amended on a quarterly basis. As with the Long Range Transportation Plan, TIP changes must be approved by the Policy Committee of the Indianapolis Regional Transportation Council.

Measuring Progress

Implementation of the recommended Framework Plan would move Central Indiana’s transit service level up to 33rd place nationally in 2035, from a 2008 rank of 89th, measured in annual O&M expenditures. Measured in annual revenue hours, Central Indiana’s rank would rise from 77th in 2008 to 42nd in 2035. These improvements would represent a significant step forward for transportation alternatives for Central Indiana residents.

In addition, implementation of the this Framework Plan would result in a doubling of system-wide service level by 2020, and a tripling by 2030. By the year 2035, annual service level for the system would have increased by approximately 3.4 times, as measured by O&M expenditures.
Project specific studies, such as the AA/EIS for the Northeast Corridor, are required prior to implementation. In fact, design and environmental studies are conducted for all projects included in the plan before they are implemented. The MPO, as well as local agencies, also conduct planning studies on special topics and regional initiatives. These studies inform the Long Range Transportation Plan process and the Transportation Improvement Program on an ongoing basis.

It is important to recognize that this plan is not a fixed image of what transit will be, but rather is a snapshot of the future based on current conditions and expectations. As these change, so should the plan. It should and will be continuously refined as time goes on.
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CENTRAL INDIANA'S TRANSPORTATION INITIATIVE