COTA

CENTRAL OHIO TRANSIT AUTHORITY

2012-2035
Long-Range Transit Plan

PREPARED BY: CENTRAL OHIO TRANSIT AUTHORITY

April 2012

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CENTRAL OHIO TRANSIT AUTHORITY

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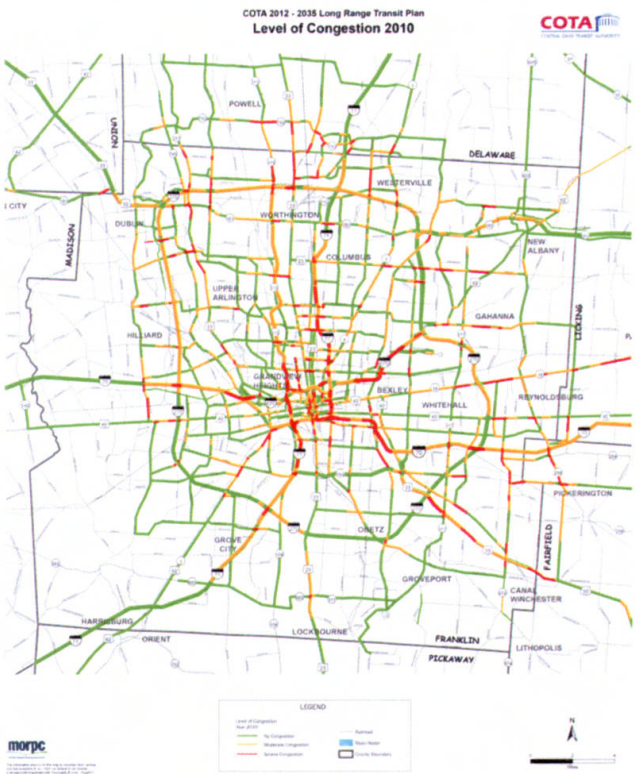
EXECUTIVE SUMMARY

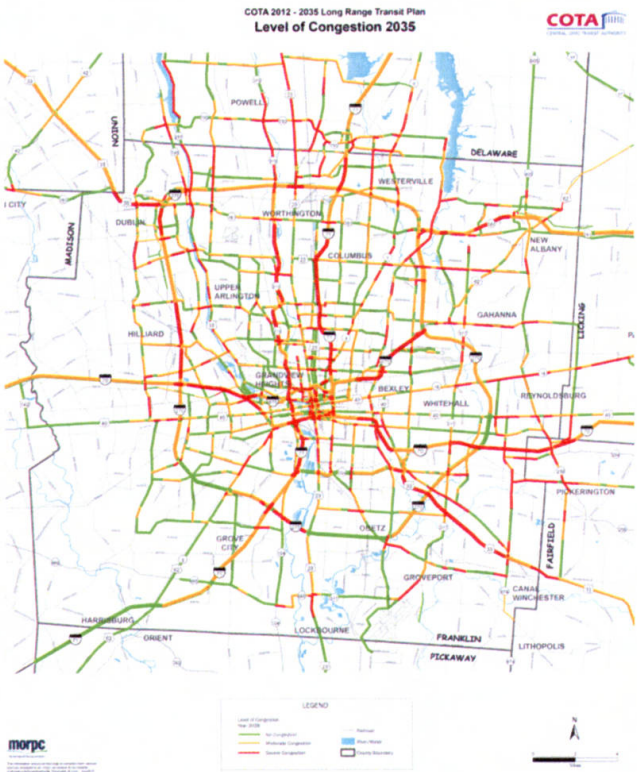
Central Ohio has historically enjoyed vibrant growth. The region continues to add jobs, attract economic development, and welcome new residents. Dynamic economic activity and the benefits associated with growth have favored Columbus and central Ohio.

However, as the region continues to grow and prosper, new opportunities and challenges are emerging that require planning, innovation and, eventually, substantial investment in our transportation infrastructure. Without investment in transit, we risk jeopardizing the economic vitality and quality of life we have come to expect in central Ohio.

The potential impact of continued growth on our transportation system is reflected in two maps below, which depict average traffic conditions on major freeways in 2010 and 2035. Freeway segments in green (no congestion), yellow (moderate congestion), and red (high congestion) portray how increased traffic is projected to put additional stress on central Ohio's roads and highways.

Figure 1 Current and Projected Traffic Conditions on Freeways





Meeting the long-term transportation needs of the community must be a regional effort and requires the active participation of numerous entities including: the Central Ohio Transit Authority (COTA), the Ohio Department of Transportation (ODOT), the Mid-Ohio Regional Planning Commission (MORPC), local governments, businesses employers and residents.

In late 2011 and early 2012, COTA sought community input and involvement by hosting a series of public planning meetings throughout the community. COTA customers, area residents and local leaders were asked to provide ideas and recommendations about how to strengthen transit service in the region as well as comment on current plans developed in the 2006 Long-Range Transit Plan.

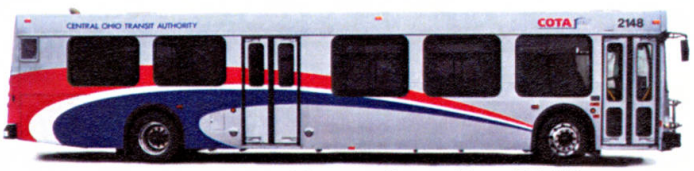
A number of immediate transit needs emerged from these meetings, including:

- More frequent and convenient service for a broader portion of the community than has been available in the past;
- An emphasis on convenient access to jobs, including second- and third-shift employment opportunities;
- Improved mobility services and transportation for individuals with disabilities;
- Improved neighborhood-to-neighborhood and suburb-to-suburb connections;
- Additional park and rides/transit centers in outlying areas, served by faster and more direct service; and
- More timely and easier access to line and schedule information via the use of current technologies including the internet, variable electronic message displays, smart phones, and tablet PCs.

The Long-Range Transit Plan (LRTP) was developed to meet these existing needs and identify and prioritize future transit initiatives and investments.

LRTP COMPONENTS

Fixed-Route Bus Service



Fixed-route bus with new branding (2011)

Fixed-route bus service is the backbone of the COTA system. It includes express, local, crosstown and neighborhood circulator bus lines. In response to the needs expressed by the community, the LRTP

The Bus on Shoulder program is a program between COTA and the Ohio Department of Transportation (ODOT). As of 2012, I-70 is the only freeway where buses are allowed to use the shoulder when speeds drop below 35 mph. However, COTA is in discussion with ODOT to implement the service on I-670.

Mobility Services

As the mobility leader in the central Ohio region, COTA will continue to focus on expanding mobility options to the general public, especially diverse markets such as the elderly, disabled, and low-income individuals who need transportation to work, job training, and childcare. Directly, and in collaboration with others, COTA is committed to continuing to provide a full range of mobility options throughout this 23-year planning cycle.

To reflect historical trends and the anticipated growth in the region's elderly and disabled population, service will increase a total of 46 percent by 2016 over 2006 service levels, with a 14 percent increase between 2012 and 2016;

COTA's non-ADA service will be expanded to provide more service for persons with special transit needs in the community;

Mainstream will emerge as a "one-stop" resource for trip planning so that customers experience faster turnaround and more convenient transportation to and from their destinations;

Mainstream will cultivate more community partnerships to maximize available funding and resources that can strengthen the efficiency of mobility services; and

An ongoing service evaluation system will continue to review existing operations, and new service delivery methods implemented to improve both service and effectiveness.

Intelligent Transportation Systems

Intelligent Transportation Systems (ITS) are high-tech applications used to improve COTA's services to the public as well as improve internal operations.

Make bus travel easier for all passengers, including those with hearing and vision disabilities;

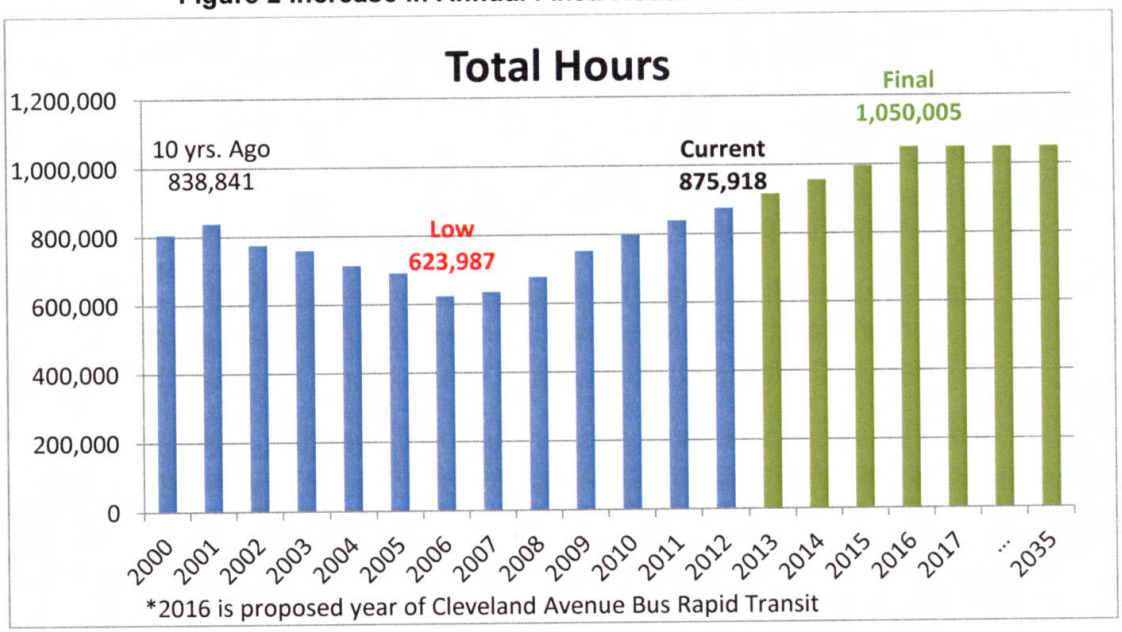
Avoid traffic congestion and improve on-time performance;

calls for an aggressive, system-wide expansion of COTA's fixed-route bus service.

- On select existing lines, service frequencies will be increased to add capacity and improve convenience to meet existing and future demand;
- New or extended lines will be added to expand coverage to areas experiencing population and/or job growth and to provide direct transit service between suburban communities and activity centers; and
- Hours of operation will be expanded on select lines to provide weekend and midday service.

Service will continue to expand until 2016, after which service levels will remain the same. Since the implementation of the previous 2006 LRTP, service has been continuously expanding. Between 2006 and 2011, service has growth over 35%, with a projected 68% growth by 2016. Between 2012 and 2016, service is projected to growth by 20%.

Figure 2 Increase in Annual Fixed-Route Bus Service Hours



COTA has pursued or plans to pursue initiatives to improve fixed-route bus service beyond expanding traditional fixed-route bus service. This includes strategic investments, such as park and rides and a Bus on Shoulder program, which allows buses to use freeway shoulders when speeds drop below 35 mph.

By 2016, ten new or improved park and rides will be available for riders as well as a new transit center and park and ride replacing the Northern Lights Park and Ride.

Provide timely and comprehensive transit information such as real-time "next bus" arrival information on variable message signs located at park and rides, transit centers and selected shelters;

Make complete schedules and a host of itinerary-planning features available through COTA's web site and web-equipped devices such as smart phones, and tablet PC's ; and

Provide real-time transit performance and customer data via automated reports and dashboards for COTA management decision making.

The LRTP calls for implementing a variety of ITS technologies, including:

- Automatic vehicle location;
- Onboard automated stop announcements;
- Traveler information systems;
- Automatic passenger counters;
- Fleet maintenance technologies;
- Safety and security; and
- Transit signal priority.

Strategic Transit Investments

Providing transportation capacity in the region will require investing in resources that make transit more convenient, reliable, and responsive. Strategic transit investments include alternative transit modes and other investments such as:

Fixed-guideway options;

- Bus Rapid Transit (BRT), light rail, commuter rail, etc.

Non-fixed-guideway options;

- BRT light, a type of BRT service with fewer service amenities than full BRT.

Advanced purchase of property for future park and rides and transit stations; and

Other capital investments that directly support transit use.

One major initiative is the Northeast Corridor Alternatives Analysis Study. This is a study examining how to improve transit service in the Cleveland Avenue corridor, specifically the implementation of Bus Rapid Transit (BRT) in mixed traffic. See section 4.5.3.4 for more details.

Customer Services, Amenities and Public Outreach

COTA realizes that quality customer service and attractive, informative, and recognizable amenities are necessary to provide first-class service to customers. Quality customer services remove barriers to riding and understanding COTA's transit system by providing methods to purchase passes and interact with customer service agents over the phone or in person. Amenities include bus stop signage, shelters, park and rides, kiosks, and other passenger amenities. Additionally, public outreach efforts provide a platform in local communities to interact with COTA, encouraging face-to-face interaction with COTA staff.

Continue to keep brand of logo and buses modern;

Continue COTA Pass Sales;

Continue to provide quality customer service;

Continue All-for-One Programs;

Continue OSU, CCAD and Columbus City Schools programs;

Maintain and improve website and online presence;

- Google Trip Planner
- Online real-time customer service
- Mobile experience
- Social media
- Real-time data
- Continue public outreach efforts

Other Service Improvements

In addition to the major components described above, other important enhancements to COTA's operations will be an integral part of shaping future transit services.

Conversion of diesel fleet to a compressed natural gas (CNG) fleet

Bus on Shoulder improvements

Improve passenger amenities and accessibility to bus stops

Continue the Bus Stop Service Improvement Project (BSSIP)

FUNDING THE LRTP

A number of key assumptions have been made to fund the components of the LRTP.

All service expansion and projects must be within COTA's projected financial capacity.

Funding level assumptions are as follows:

- 0.25 percent permanent sales tax remains
- 0.25 percent temporary sales tax levy is renewed every 10 years
- Sales tax revenue grows with inflation
- Regularly-scheduled fare increases every three years to keep pace with inflation and rising costs of providing service
- Federal and state assistance programs continue at 2012 levels

COTA will continue to pursue discretionary grant opportunities for projects that lie outside of COTA's financial projections.

Financial projections are based upon current and projected economic conditions and other external factors.

UPWARD MOBILITY

Central Ohio deserves a viable, responsive, and modern transit system. COTA has produced an LRTP which:

Provides for the immediate and future transit needs and desires of our customers and the community;

Supports future growth in population, employment, and economic development forecast by regional planners;

Utilizes the latest technology to enhance the transit experience;

Provides for increased access, convenience, and reliability for persons with disabilities and other special needs populations; and

Plans for strategic transit investments.

Economic growth and prosperity are not guaranteed. In fact, the forces that impact a community's ability to sustain growth are increasingly fickle and unpredictable. Competition for economic development and new jobs is fierce and communities that offer a broad array of quality of life amenities will prosper. Communities that lack vision and fail to plan risk losing economic vitality and the people who seek it.

The LRTP provides the community with a performance- and service delivery-based approach to meet immediate transit needs while proactively mapping out strategies to provide workable and sustainable transit initiatives for the future.

1.0 INTRODUCTION

The Long-Range Transit Plan (LRTP) is a comprehensive strategy for significantly enhancing the public transit system in the central Ohio region over the next 23 years. Utilizing a variety of methods to ensure public participation, the LRTP has been developed to respond to the growing transportation needs of the central Ohio region by providing an expanded, reliable, and safe transit system. In every major metropolitan area, investments in the transportation infrastructure, including public transit, is vital for ensuring economic vitality and improved quality of life.

COTA is the primary provider of public transit services in central Ohio. In 1970, the Columbus and Southern Ohio Electric Company, the parent corporation of the Columbus Transit Company (CTC), announced its decision to dispose of the bus company. In order to preserve transit in the central Ohio region, a group of citizens formed the Advisory Committee on Transit. One of the Committee's first actions was to lobby the State legislature to permit the formation of regional transit authorities. Once enacted, the next step was the creation of the Central Ohio Transit Authority (COTA), as an entity.

The agreement creating COTA was authorized by the Franklin County Commissioners and the City Councils of Bexley, Columbus, Gahanna, Grandview Heights, Grove City, Hilliard, Reynoldsburg, Upper Arlington, Westerville, Whitehall, and Worthington. A thirteen member Board of Trustees was created for COTA. The Board of Trustees was composed of eleven trustees appointed by the mayors of the eleven member cities, and two trustees selected by the Franklin County Commissioners.

On June 29, 1973, an agreement for COTA to purchase the privately owned bus company from CTC and the Columbus and Southern Ohio Electric Company was signed. The acquisition was effective, and COTA began providing transit service on January 1, 1974. Ridership in the last year of CTC ownership (1973) was 12,975,000 rides total for the entire year.

Since COTA began operating in 1974, the system has grown into an integral part of the transportation network of central Ohio. During this time, not only has the City of Columbus continued to grow and prosper, but so has its adjoining suburban communities. At the time of the creation of COTA, Dublin was not an incorporated city. While in 1970 a rural village with a population of 681 people, today the City of Dublin stretches into three counties (Franklin, Delaware, and Union), and boasts over 41,000 residents. Having grown to the second largest city in Franklin County behind Columbus, COTA and Dublin recognized the importance of the growing northwest travel corridor and its impact on the region's transportation system. In 2008, the agreement creating the Central Ohio Transit Authority was modified to include the City of

Dublin as a COTA member city. The Board of Trustees currently consists of thirteen members; seven appointed by the City of Columbus, two appointed by the Franklin County Commissioners, and four city appointed slots rotated among the other member cities.

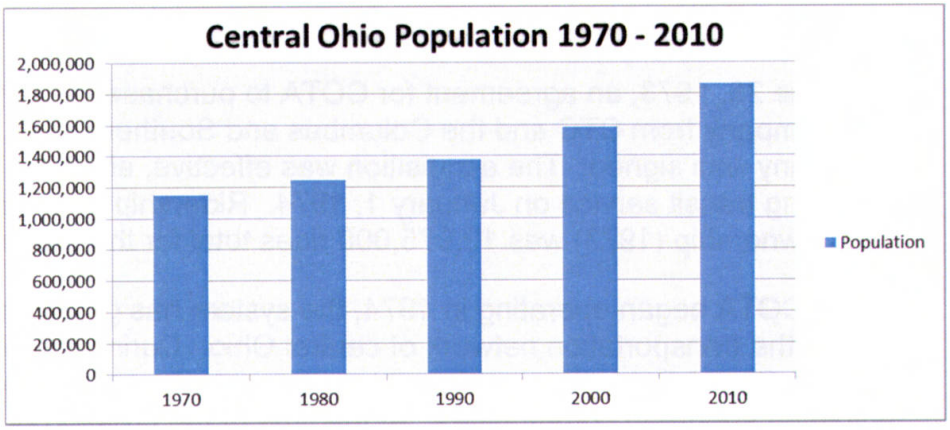
COTA's existing level of transit service is funded through a 0.5 percent local sales tax, of which 0.25 percent is temporary, federal and state assistance and fare box receipts. The majority of the funding (66% as of 2010) is generated from the local sales tax. In 1999, central Ohio voters passed a ballot initiative, which established for the first time a permanent, local funding source for COTA. Figure 1-4, illustrates COTA's current service and sales tax boundaries.

1.1 A Growing Community

Over the past several decades the central Ohio area has experienced significant population and employment growth, and growth is projected to continue over the next 23 years. Extensive analysis regarding the region's growth, development, and related impact on the transportation system has been conducted by the region's metropolitan planning organization, the Mid-Ohio Regional Planning Commission (MORPC).

Figure 1-2 illustrates the population growth that occurred in the seven county central Ohio area between 1970 and 2010. During this time, population increased 62 percent from 1,149,432 to 1,862,341[1] residents.

Figure 1-1 Central Ohio Population Growth



As central Ohio's population and employment grew over the past few decades, much of that growth occurred farther into outlying communities, characterized by lower-density commercial, retail, and housing development. As a result, greater pressures have been placed upon all modes of the region's transportation system to move people to and from employment

[1] Source: US Census Bureau

centers and suburban residential areas. While central Ohio has enjoyed great prosperity during this period, statistical data – and residents alike – have indicated that the transportation system cannot operate on a "business as usual" basis.

While traffic congestion and air quality problems have not risen to the levels seen in larger cities such as New York, Chicago, or Los Angeles, congestion is worsening in central Ohio. The Texas Transportation Institute's 2011 Urban Mobility Report revealed that roadway congestion in 2010 cost Columbus area residents $289 million, or $344 per person per year. By comparison, congestion in 2000 cost residents $163 million, or $326 per person per year, a 77 percent increase in the total cost of roadway congestion between 2000 and 2010.

1.2 Future Growth

Future population, employment, and traffic congestion levels are projected to increase over the next 23 years in central Ohio. MORPC has projected that by 2035 the central Ohio area can expect to see a:

- 28 percent increase in population;
- 27 percent increase in employment; and
- 33 percent increase in highway traffic congestion.

As the region continues to grow, significant increases in traffic congestion are projected on the regional freeway system and the regional arterial road network. Regional development patterns have included strong and sustained residential and commercial growth on the fringes of the urbanized area, combined with infill development that is expected to significantly increase the urban density of the entire region. These patterns will require a variety of transportation approaches to respond to the different types of development occurring in the region. Transportation solutions should include not only increases in highway capacity, but also expanded public transit service and alternative mode options.

The LRTP public involvement process served as a foundation for helping to shape the blueprint for future transit services. COTA held numerous focus groups, public meetings and meetings with stakeholders in order to gain a more comprehensive understanding of transportation needs and how COTA could better serve the community. Based on input from these meetings, the participants were interested in improvements in the following areas:

- More frequent and convenient service for a broader portion of the community than has been available in the past;

- An emphasis on convenient access to jobs, including second- and third-shift employment opportunities;

- Improved mobility services and transportation for individuals with disabilities;
- Improved neighborhood-to-neighborhood and suburb-to-suburb connections;
- Additional park and rides/transit centers in outlying areas, served by faster and more direct service;
- More timely and easier access to route and schedule information via the use of current technologies including the internet, variable electronic message displays, smart phones, and tablet PCs;
- Consideration of fixed-guideway options such as light rail, high-occupancy vehicle (HOV) lanes, etc.; and
- Development of transit alternatives to rising gas prices.

As a result, the LRTP includes various new transit services for the region, including improved suburb-to-suburb connections, improved frequencies and extended hours of operation, better access to jobs (including second- and third-shift employment opportunities), additional park and rides/transit centers, and improved traveler information systems, all integrated with the latest technologies available to deliver high-quality transit services.

The following sections in the LRTP provide details about the long-range service plan and its various components, including fixed-route bus service, mobility services, intelligent transportation systems (ITS), and strategic transit investments.

1.3 Fixed-Route Bus Service

Fixed-route bus service is the backbone of the COTA system, and includes local, express, crosstown, and neighborhood circulator bus lines. The LRTP calls for an aggressive, system-wide expansion of COTA's fixed-route bus service. The plan calls for a 20 percent increase in service hours[2] by 2016. Figure 1-2 displays the post and projected growth of service in service hours.

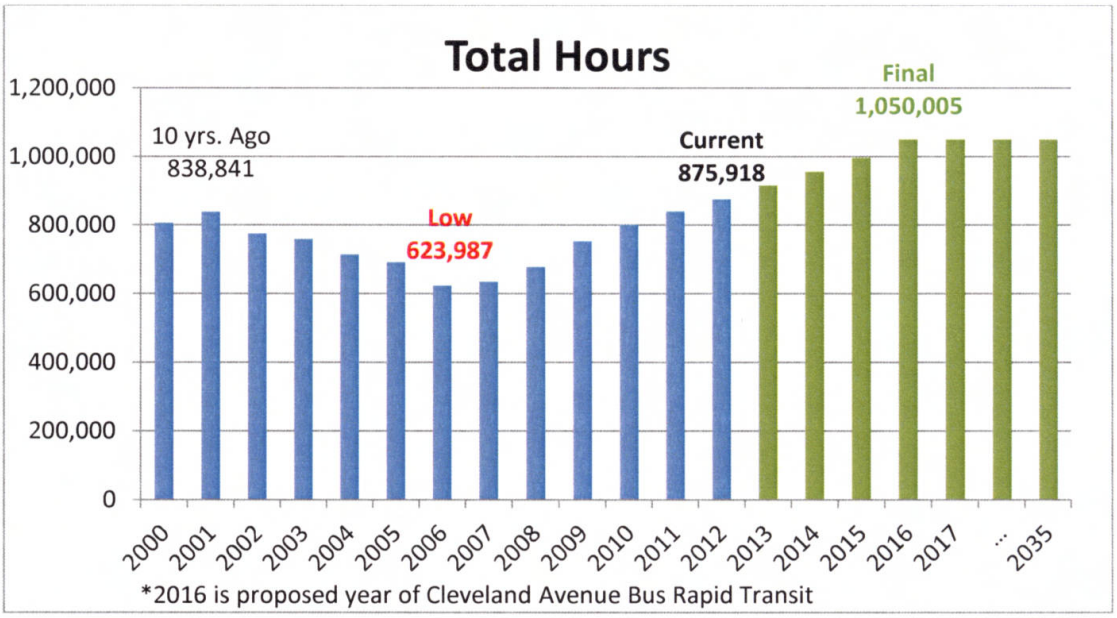
Service frequencies will be improved to add capacity and enhance convenience by reducing wait times between buses to meet existing and future demand. New or extended lines will provide extended coverage to growth areas around the region and will provide direct transit service between suburban communities and activity centers. Extended hours of operation will

[2] Service hours represent how much time all of COTA's buses spend "in service" on the street; two buses operating for five hours each equate to ten service hours.

provide improved access to jobs. Alternative methods of providing transit service will improve transit modes, such as reducing travel times.

One example of an alternative service delivery method includes partnering with ODOT to implement a project to operate express buses on freeway shoulders. The freeway shoulder pilot program on I-70 east began in late 2006, with a goal to expand shoulder use by buses throughout the region's freeway system within the 2035 timeframe. Buses traveling on I-70 east are able to merge onto the freeway shoulder to avoid congestion delays.

Figure 1-2 Increase in Annual Fixed-Route Bus Service Hours



1.4 Mobility Services

COTA's Mainstream service is a demand-response mobility option for persons with disabilities that prevent use of regular fixed-route services. The LRTP provides a substantial increase in Mainstream service. Disability services will become increasingly important as the average age of central Ohio residents increases. Mobility improvements described in the LRTP include:

Mainstream Vehicle

- To reflect historical trends and the anticipated growth in the region's elderly and disabled population, service will increase a total of 46 percent by 2016 over 2006 service levels, with a 14 percent increase between 2012 and 2016;

- An expansion of COTA's non-ADA service to provide more service for persons with special transit needs in the community;
- A "one-stop" resource for trip planning so that customers will experience faster turnaround and more convenient transportation to and from their destinations;
- More community partnerships to maximize available funding and resources that can strengthen the efficiency of mobility services; and
- An ongoing service evaluation system to review existing operations, and new service delivery methods implemented to improve both service and effectiveness.

1.5 Intelligent Transportation Systems

ITS are high-tech applications designed to make bus travel easier and more convenient, reduce traffic congestion, provide timely and comprehensive transit information, improve on-time performance and facilitate integration of COTA's operations into a regional transportation network. The LRTP details implementation of a variety of ITS technologies, including:

- Passenger information systems that provide real-time bus arrival/departure information (Figure 1-3);
- Signal priority systems that adjust traffic signal timing to expedite bus service; and
- Make complete schedules and a host of itinerary-planning features available through COTA's web site and web-equipped devices such as smart phones, and tablet PCs.

Figure 1-3 Real-Time Bus Information Display

1.6 Strategic Transit Investments

Strategic Transit Investments are capital initiatives that seek to minimize expenses and maximize transit service effectiveness for future expansion to the transit network. This approach minimizes COTA's expenses by

developing partnerships with local municipalities, private sector developers, and funding partners that recognize demand for transit services increase as employment and population increase. Identifying initiatives that promote higher density and transit-oriented development (TOD) will leverage the greatest return on investments and enhance the quality of life for central Ohio residents. The concept of strategic investments is based around providing convenient, reliable and responsive transit options to customers. These investments could include:

- Strategic property acquisition for potential fixed-guideway service; transit centers and park and ride facilities; and
- Alternative transit modes, such as Bus Rapid Transit (BRT) and investigating potential fixed-guideway service options.

Near East Transit Center

Easton Transit Center

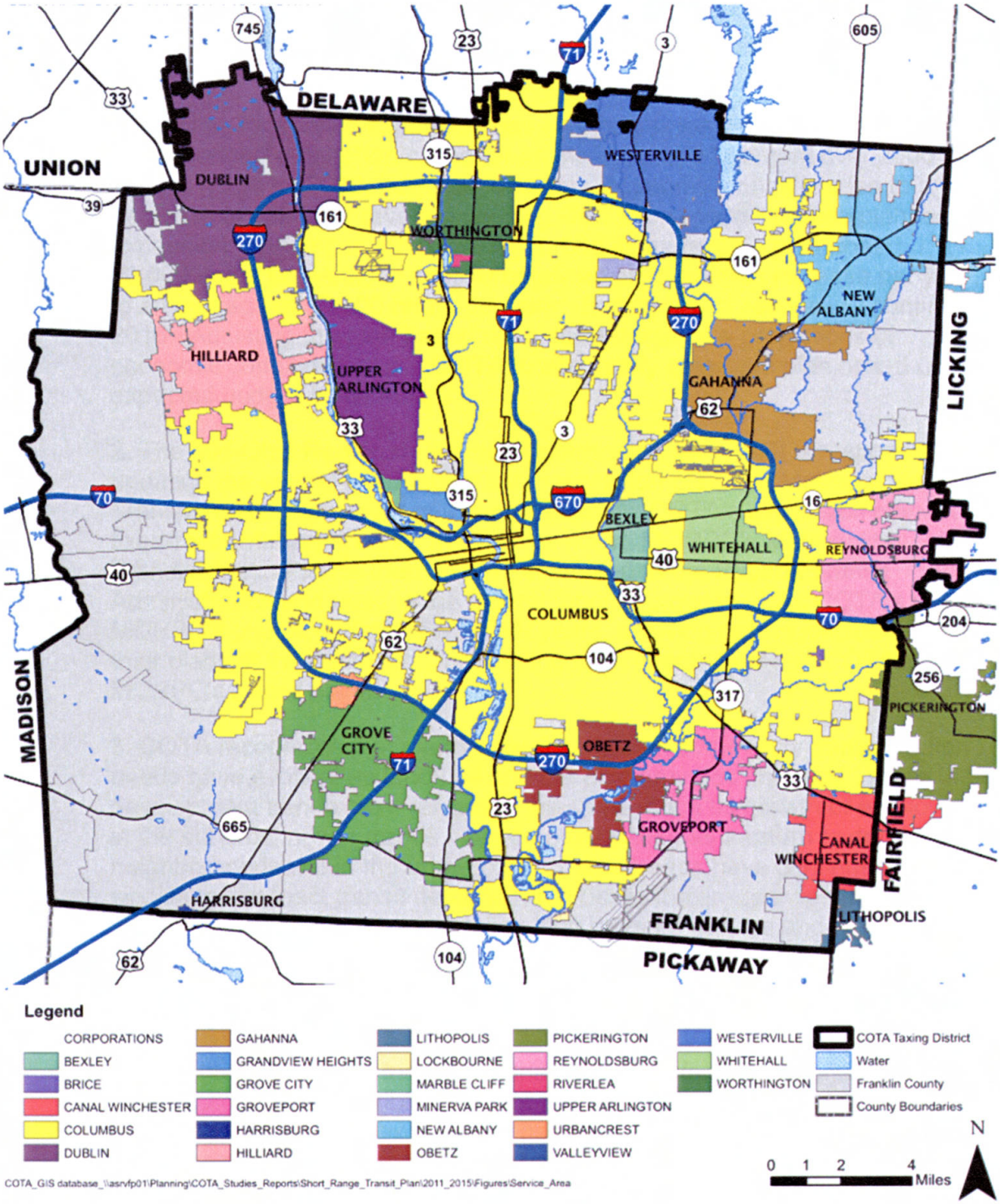
1.7 Financing the LRTP

As part of the update of the 2012-2035 LRTP, overall revenue and cost estimates from 2012 to 2035 have been prepared and are considered to be reasonable for planning purposes. Contingency factors have been applied to recognize the uncertainties associated with projecting costs and revenues over a 23-year period. It is important to note that revenue and expense projections were based on the latest economic data available at the time, and that uncertainties exist in the economy that can alter the current level of projections in a positive or negative manner. Periodic adjustments and updating of the plan will be required to respond to changing conditions and new information.

The funding sources in the LRTP include COTA's current 0.25 percent permanent sales tax, the additional ten (10) year renewable 0.25 percent sales tax passed by voters in 2006, and the assumption that the renewable tax is continued every ten years. COTA's taxing area is identified in Figure 1-4. COTA collects sales tax in all of Franklin County and in parts of Delaware, Licking, Union and Fairfield Counties.

COTA deferred collection of additional 2006 tax revenue until January 1, 2008. This decision to defer collection of additional revenue was made in order to affect no net change in the sales tax in Franklin County. COTA's temporary additional 0.25 percent sales tax replaced Franklin County's temporary 0.25 percent sales tax, which expired in December 31, 2007, preserving the 2008 sales tax at 6.75 percent.

Figure 1-4 COTA Taxing District/Service Area



2.0 NEED FOR PLAN UPDATE

COTA has identified four primary drivers initiating an update to the 2006 Long-Range Transit Plan (LRTP).

1. Funding for service expansion has changed since the last plan. The 2006 Long-Range Transit Plan called for an increase of 96 percent over 2006 service hours by 2030; however, unstable, economic conditions led to a decrease in sales tax revenue causing COTA to severely reduce planned expansion. Starting in 2010, COTA curbed its expansion plan from 60,000 hours per year, or approximately an eight percent increase per year, to an average of 40,000 hours per year. Expansion of service will continue to 2016. Adjusting the plan based upon current and new projections of economic conditions allows COTA to accurately present a plan based upon expected budget constraints.

2. The Mid-Ohio Regional Planning Commission (MORPC) is responsible for updating the central Ohio region's transportation plan, the Metropolitan Transportation Plan. Part of this plan includes COTA's expansion plans for fixed-route bus service and mobility services. MORPC's Metropolitan Transportation Plan is then, in turn, submitted to the Federal Transit Administration and used in the federal funding process. Like COTA's plan, MORPC's plan is updated every four years, allowing both agencies to update their plans at the same time, preventing disconnects between COTA's and MORPC's transit plans.

3. COTA recognizes that over the past six years, community transportation needs have evolved as land use and the economy has changed. While larger development trends have remained the same, such as growth of employment in the suburbs, newer trends have emerged, such as a return to denser neighborhoods within the urban core. These trends have continued to significantly impact transit demand. In order to maximize investment in the fixed-route bus system by improving high demand service and service to critical locations, such as hospitals, COTA went to the public to determine what service characteristics to prioritize, such as expanded coverage, span or frequency.

4. In September, 2009, funding for the current surface transportation act, Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), expired and has been funded through temporary funding extensions. Without the passing of a new surface transportation act, funding for transit projects will remain unstable; the practice of continuing funding through temporary extensions has reduced the overall available funding for projects and has made federal level agencies hesitant to approve new federally funded projects. The political atmosphere and trend in reduction in funding of SAFETEA-LU through temporary extensions indicate

the next passage of a surface transportation bill, likely to occur after the 2012 election, will be far less funding than current levels.

Throughout the 2012-2035 LRTP update process, COTA listened to the community's transportation needs and ideas. COTA also analyzed important economic and demographic projection data, and how future employment, population, and other economic growth will impact central Ohio's transportation network.

Building upon the 2006 LRTP public involvement process, COTA conducted two rounds of public meetings, collected comments through COTA's website and held stakeholder meetings. The first round of public meetings was held during September 2011. Six meetings were held in five different locations throughout the region. This process included presenting the reasoning for the plan update, challenges faced by COTA and transit in the region, proposed service changes and new projects and initiatives.

The second round of public meetings were held from February to March 2012, and included participating in MORPC's Metropolitan Transportation Plan Open House as well as meeting with various stakeholders.

Through long-range plan study efforts, several immediate and long-term challenges facing public transit in our community were identified. Included among these challenges are:

- Transporting people to jobs, including second- and third-shift employment opportunities, and to jobs in outlying suburban communities;
- Providing more crosstown circulation, or suburb-to-suburb service that does not require traveling into the downtown area in order to reach a trip destination;
- Offering affordable alternatives to rising gas prices, including more express service;
- Providing relief to currently overcrowded buses;
- Providing increased mobility services options and trip capacity for a growing disabled community; and
- Investing more in public transit infrastructure, including more shelters, park and rides, and other transit friendly amenities.

2.1 Transporting People to Jobs

Like many metropolitan areas across the country, job growth in the Columbus area has spread farther away from the downtown central business district (CBD). While the CBD remains a vital asset to central Ohio's economic

future, several areas outside the CBD have experienced tremendous population and employment growth over the last several years.

Between 2000 and 2010, the central Ohio region in COTA's service area added over 31,000 jobs, an increase of 4.75 percent. According to MORPC, between 2010 and 2035 the region will add over 209,000 jobs, an increase of 30 percent. Newer developed areas such as Easton, Tuttle, Polaris, and Rickenbacker saw an explosion in commercial, retail, and residential development earlier in the decade and continue to grow steadily with growth expected to continue until 2035 (see Table 2-1). However, while employment growth continues to occur in suburban areas, MORPC expects Downtown employment to add approximately 26,000 jobs by 2035, more than any other area.

Conversely, the majority of population growth is expected to occur within the suburbs. Figure 2-2 displays strong projected growth within suburban areas outside of the I-270 outer-belt. Downtown and older urban neighborhoods are also expected to grow significantly, continuing a national trend of primarily young professionals returning to the urban cores of cities across the country.

Table 2-1 Population, Households, Employment for Years 2010 and 2035 in Developing Employment Nodes

NODE	POPULATION		Households		Employment	
Total	**2010**	**2035**	**2010**	**2035**	**2010**	**2035**
Easton	24,057	28,723	9,564	11,492	26,141	38,459
Tuttle	23,417	29,107	10,614	13,446	35,783	43,963
Polaris	28,906	33,811	11,944	13,664	24,682	32,664
Rickenbacker	3,803	5,829	1,249	2,062	10,050	17,284
Downtown	7,639	13,128	4,813	7,734	83,245	109,282
Casino	34,158	38,974	13,479	15,689	16,316	22,146
Change	**2010**	**2035**	**2010**	**2035**	**2010**	**2035**
Easton		4,666		1,928		12,318
Tuttle		5,690		2,832		8,180
Polaris		4,905		1,720		7,982
Rickenbacker		2,026		813		7,234
Downtown		5,489		2,921		26,037
Casino		4,816		2,210		5,830
% Change	**2010**	**2035**	**2010**	**2035**	**2010**	**2035**
Easton		19%		20%		47%
Tuttle		24%		27%		23%
Polaris		17%		14%		32%
Rickenbacker		53%		65%		72%
Downtown		72%		61%		31%
Casino		14%		16%		36%

Historically COTA's route structure has operated in what is traditionally known as a modified radial "hub and spoke" system with some crosstown lines. This type of system requires the majority of riders to travel Downtown in order to make connections to destinations in outlying areas. The desire for COTA to provide more crosstown circulation, or suburb-to-suburb service that does not require traveling into the downtown was identified as an important unmet need.

Improvements to outlying area transit services should not come at the expense of COTA's existing downtown service levels. In fact, downtown Columbus remains the largest job center in central Ohio with approximately 83,000 jobs.[3]

Development efforts in Downtown include the Arena District and Mayor Coleman's Downtown Strategic Plan, which called for 10,000 new housing units by the year 2012. Based upon 2010 Census data, MORPC estimates the current population of Downtown at approximately 7,600.

Home to the Columbus Convention Center and more than 30,000 students who attend Columbus State Community College, Franklin University, Columbus College of Art & Design, and Capital University Law School, downtown Columbus continues to be a major destination center for central Ohio area residents and visitors.

Public transit's role in enhancing the quality of life in the central Ohio area will be important as the region continues to grow, providing transportation alternatives to and from employment centers, reducing congestion and improving air quality.

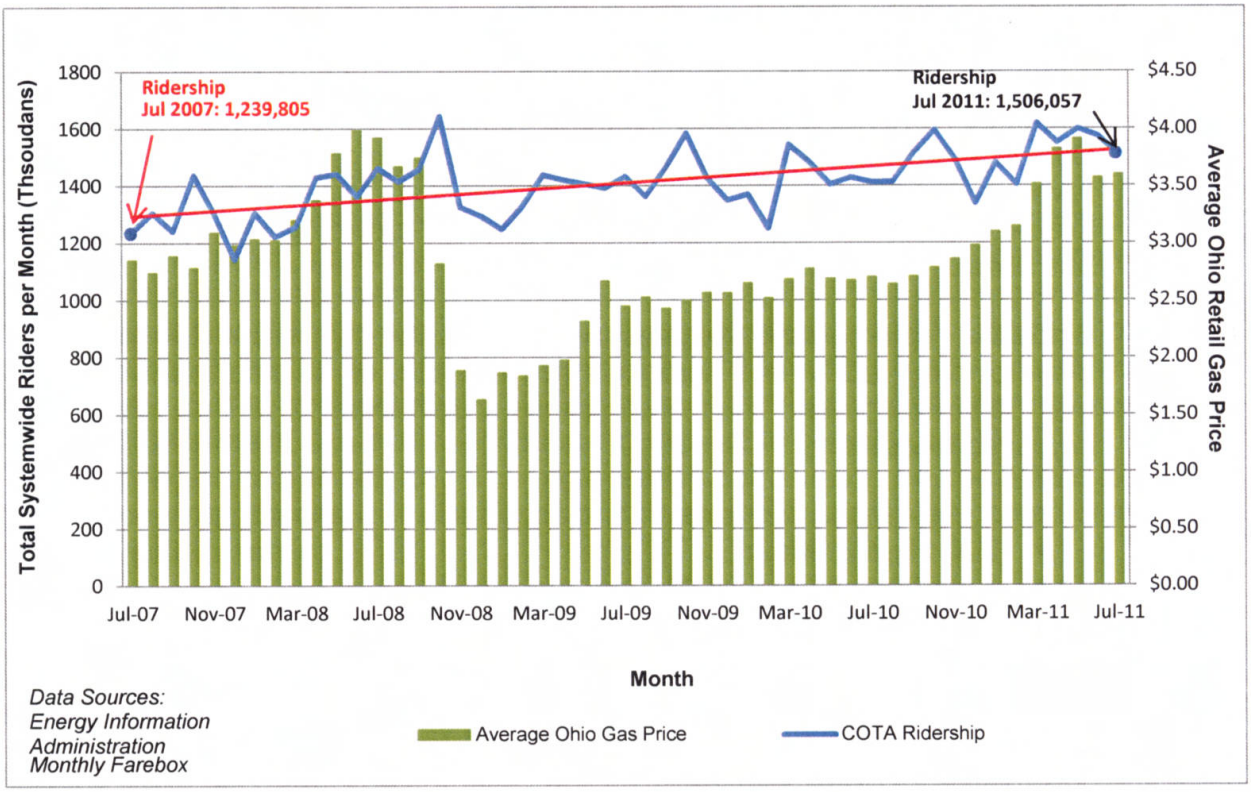
2.2 Providing Alternatives to Volatile Gas Prices

Since 2004, rapid increases in gasoline prices across the country have raised awareness of public transit benefits. Additionally, public transit is taking a prominent role in the dialogue about reducing the nation's energy consumption. Many transit agencies were seeing nearly double-digit percentage increases in ridership, particularly on express lines which offer greater benefits for commuters facing longer trip distances.[4]

Gas Prices Volatile

[3] MORPC 2010 Land Use by Grid data, www.morpc.org
[4] "Drivers Switch to Public Transit", *USA Today* April 25, 2006

Figure 2-1 COTA Monthly Ridership and Average Ohio Gas Prices



However, since the recent economic decline, many agencies across the country are being forced to cut service, resulting in lower than expected ridership increases or even decreases. COTA's ridership has not experienced the same decrease due to the additional sales tax passed by voters in 2006 and volatile gas prices. Figure 2-1 above shows how gas prices and expanding service have caused steady growth in ridership.

Following the immediate surge in gas prices as a result of Hurricane Katrina in 2005, COTA experienced a nearly 10 percent increase in ridership. Since then ridership has been increasing steadily as service is expanded and gas prices increase. As seen in the figure above, gas prices have an influence over ridership. However, even with a sharp decline in fuel prices in 2008, COTA's ridership did not experience a decline of the same magnitude, likely due to the attraction of improved, expanded service and new customers continuing to ride after experiencing the benefits of using public transit. COTA's customer service center received a tremendous increase in phone calls requesting bus service to low-density suburban areas that presently have limited or no service.

2.3 Relief for Overcrowded Buses

A major priority for the service expansion presented in the 2006 LRTP was relief of overcrowded buses, due to COTA being unable to keep pace with the population and job growth that has and continues to occur in central Ohio. Cuts in federal and state grant assistance, previous declines in local sales tax revenue and rising health insurance and fuel costs forced COTA to reduce fixed-route service. This reduction caused over-crowding on many of COTA's bus lines.

Since the implementation of the service expansion plan in 2007, to relieve overcrowding, COTA has increased the frequency on 18 different bus lines over 50 times in total. The following lines are an example of lines with improved frequency:

- 1 Cleveland/Livingston
- 2 N. High/E. Main
- 3 Northwest Blvd./W. Mound
- 4 Indianola/Parsons
- 8 Hamilton/Frebis
- 9 Leonard/Brentnell
- 10 W. Broad/E. Broad
- 11 Oak-Bryden/St. Clair
- 15 Grove City
- 16 E. Long/S. High
- 18 Kenny
- 30 Smoky Row
- 58 Dublin
- 81 Hudson/Ohio
- 82 Grandview/OSU (Previously part of the #84 Arlington/Grandview/OSU/Lennox)
- 92 James/Stelzer
- 95 Morse/Henderson
- 96 5th Ave.

Although frequencies were improved to relieve overcrowding, many of COTA's major lines are still experiencing overcrowding due to an unforeseen growth in ridership. Since COTA's expansion plan had to be reduced due to a decline in sales tax, service improvements must be prioritized, and relieving overcrowding is a top priority. As such, as COTA continues to expand service, other planned changes may not be implemented in favor of relieving overcrowding.

However, COTA is also investigating alternative ways to relieve overcrowding beyond improving frequency. A study of alternative options is currently underway. Called the Northeast Corridor Alternatives Analysis, it is a study

examining the feasibility of implementing a bus rapid transit (BRT) service along Cleveland Avenue. This type of service is characterized by limited stop, high frequency bus service with quicker travel times over traditional local bus service. See Section 4.5 for more information.

2.4 Growing Special-Needs Community

In 1990, the federal Americans with Disabilities Act (ADA) was enacted. The Act required transit systems nationwide to provide access for persons with disabilities and to establish a transportation system that is complementary to its fixed-route services. ADA mobility service is provided for riders whose disability or health condition prevents them from using fixed-route services for some or all of their travel. COTA's current mobility service program, named Mainstream, has and will continue to expand to complement COTA's fixed-route bus service. The organization continues to be committed to serving persons with disabilities and seniors with accessible, courteous and reliable service.

From 2005 through 2010, COTA's ADA mobility service ridership grew by 24.3% percent, or an average of 4.8% annually. Between the year 2000 and the year 2030, however, the number of senior citizens in the United States is expected to double. By that time, the proportion of the population 65 years of age and older will be much greater than today. As a result, as part of the LRTP, COTA will continue to expand and create an innovative mobility program that continues to meet mobility service demands.

2.5 Future Growth Projections

COTA, with the assistance of MORPC, has studied projections for future population and employment growth in the central Ohio area, and their corresponding impacts on traffic congestion and overall quality of life. In particular, MORPC projects by 2035 the central Ohio area can expect to see a:

- 28 percent increase in population;
- 27 percent increase in employment; and
- 33 percent increase in highway traffic congestion.

Based on MORPC 2035 projections found in Table 2-2, Franklin County alone will grow in population to 1,392,102, representing a 16 percent increase from 2010.

Table 2-2 Area Population Growth Projections

Population	2010	2035	% Increase
Delaware	182,208	326,595	79%
Fairfield	153,985	228,509	48%
Franklin	1,196,672	1,392,102	16%
Licking	170,994	214,458	25%
Madison	44,445	47,747	7%
Pickaway	56,600	61,532	9%
Union	57,437	105,571	84%
TOTAL	**1,862,341**	**2,376,514**	**28%**

MORPC estimates that most of the population and job growth will occur outside the I-270 outer-belt with the largest concentration of jobs remaining in the CBD and a substantial amount of new housing stock developing in the downtown area. Figure 2-2, on the following page, shows the distribution of population growth through the year 2035. Each grid square represents one quarter of a square mile. The darker red the grid square the higher the population growth within that quarter mile square, while a grey square represents a decrease. Figure 2-3, on page 2-10, shows the distribution of job growth through the year 2035. The darker green the grid square the higher the employment growth within that quarter mile square.

Figure 2-5 graphically illustrates the impact future growth will have on the central Ohio area transportation network. The graphic depicts congestion in three colors: green – indicating very light to no congestion; yellow – indicating areas of moderate congestion; and red – indicating heavy congestion is occurring, causing stop and go traffic and significant delays in traffic flow movement.

Figure 2-4 reflects current peak-period highway conditions, while Figure 2-5 displays projected congestion levels by 2035. As Figure 2-5 indicates, heavy congestion levels will increase significantly over the next 23 years, indicating a need for future investment in transportation alternatives. As such, this document serves as a blueprint for how public transit can effectively serve as a key component in meeting the transportation needs of the region.

Figure 2-2 Distribution of Population Growth through 2035

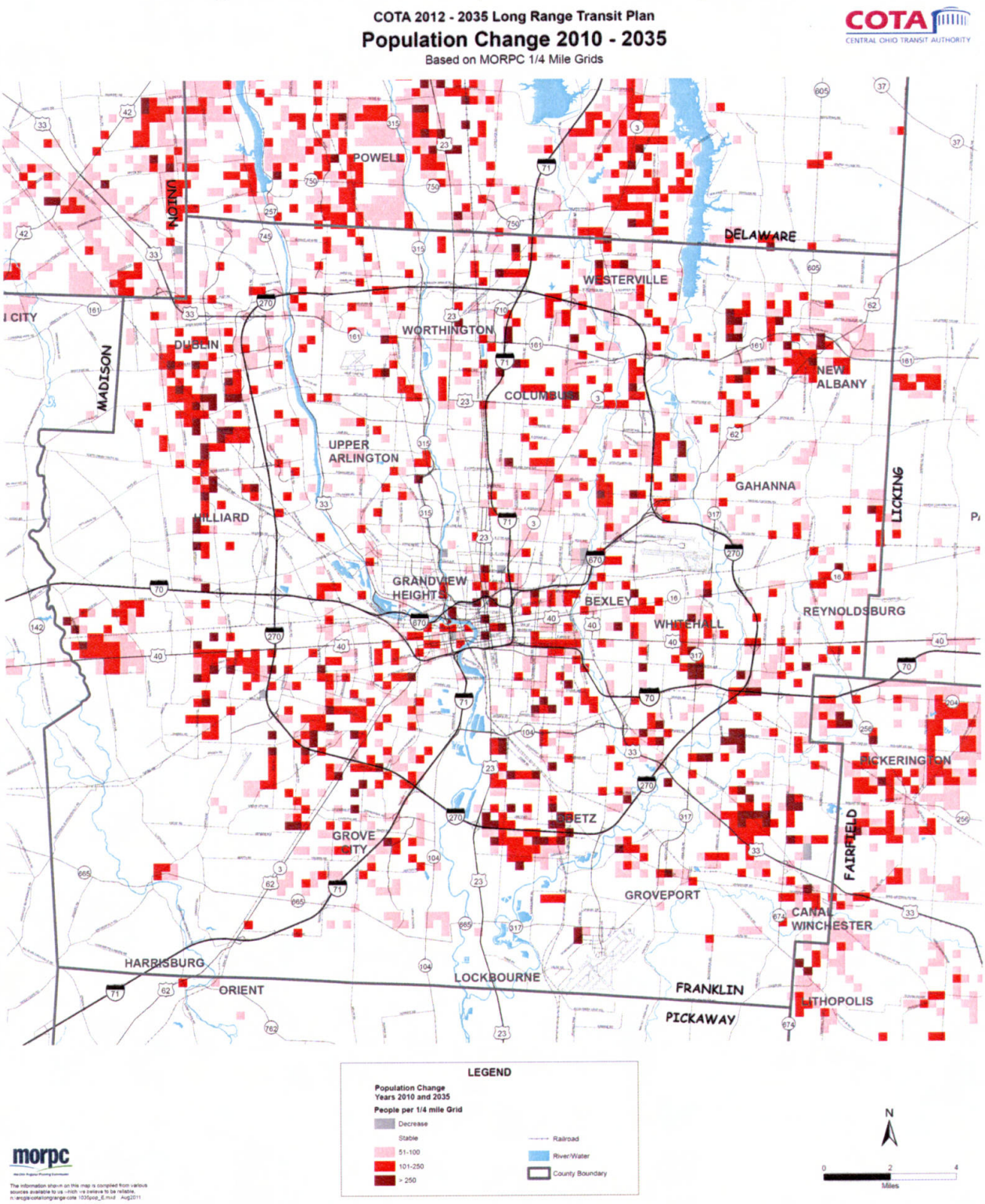


Figure 2-3 Distribution of Job Growth through 2035

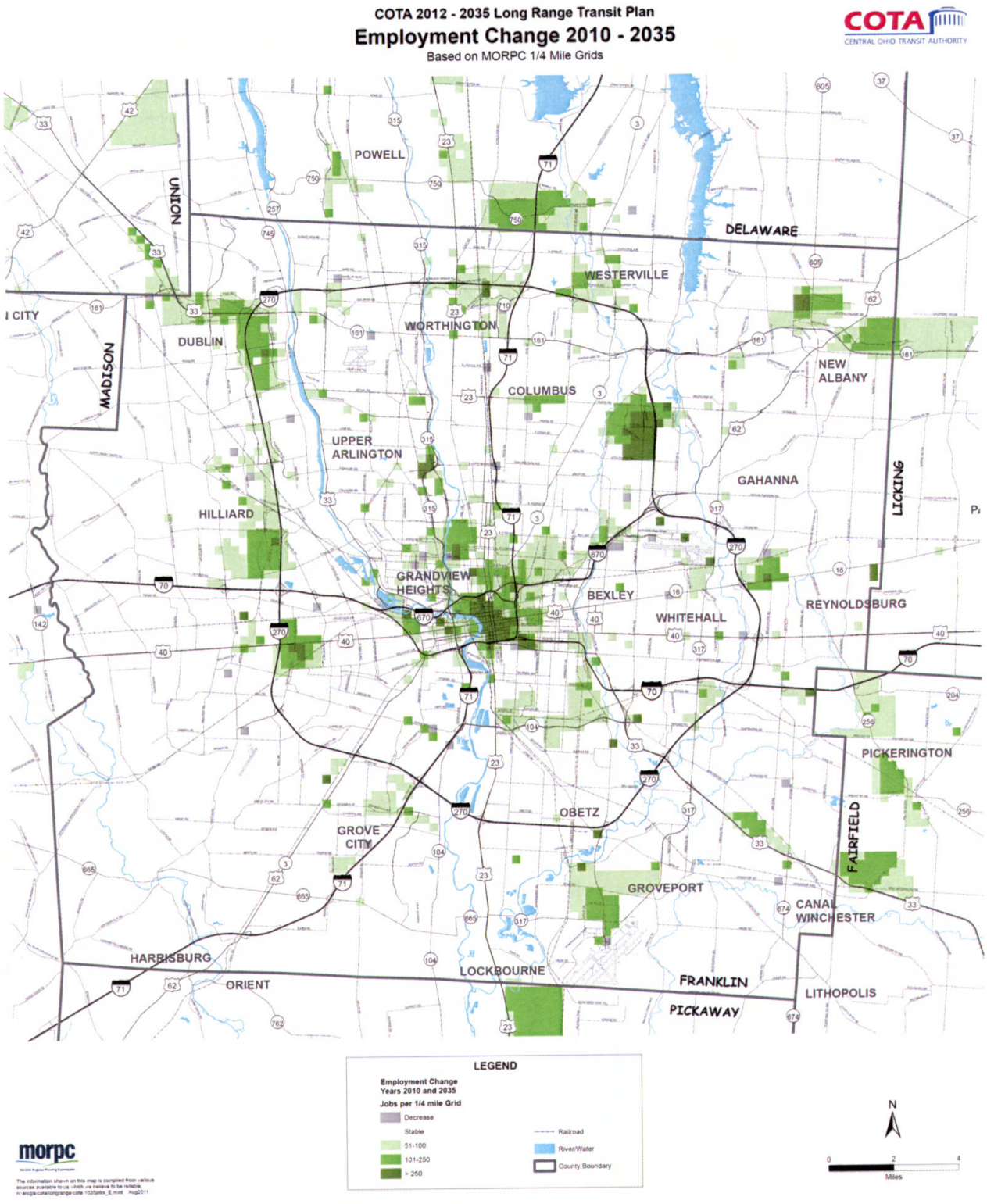


Figure 2-4 Current Congestion Levels

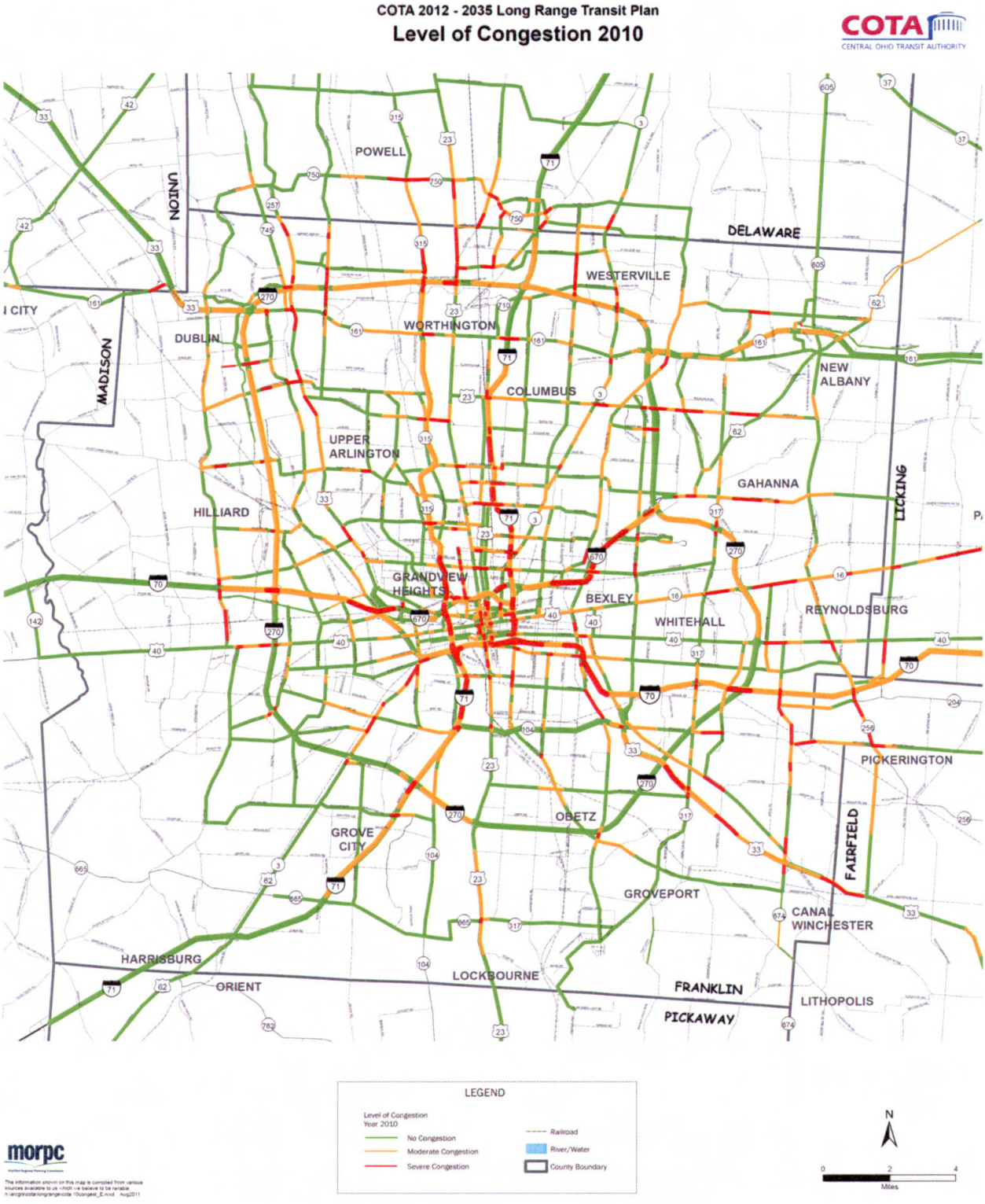
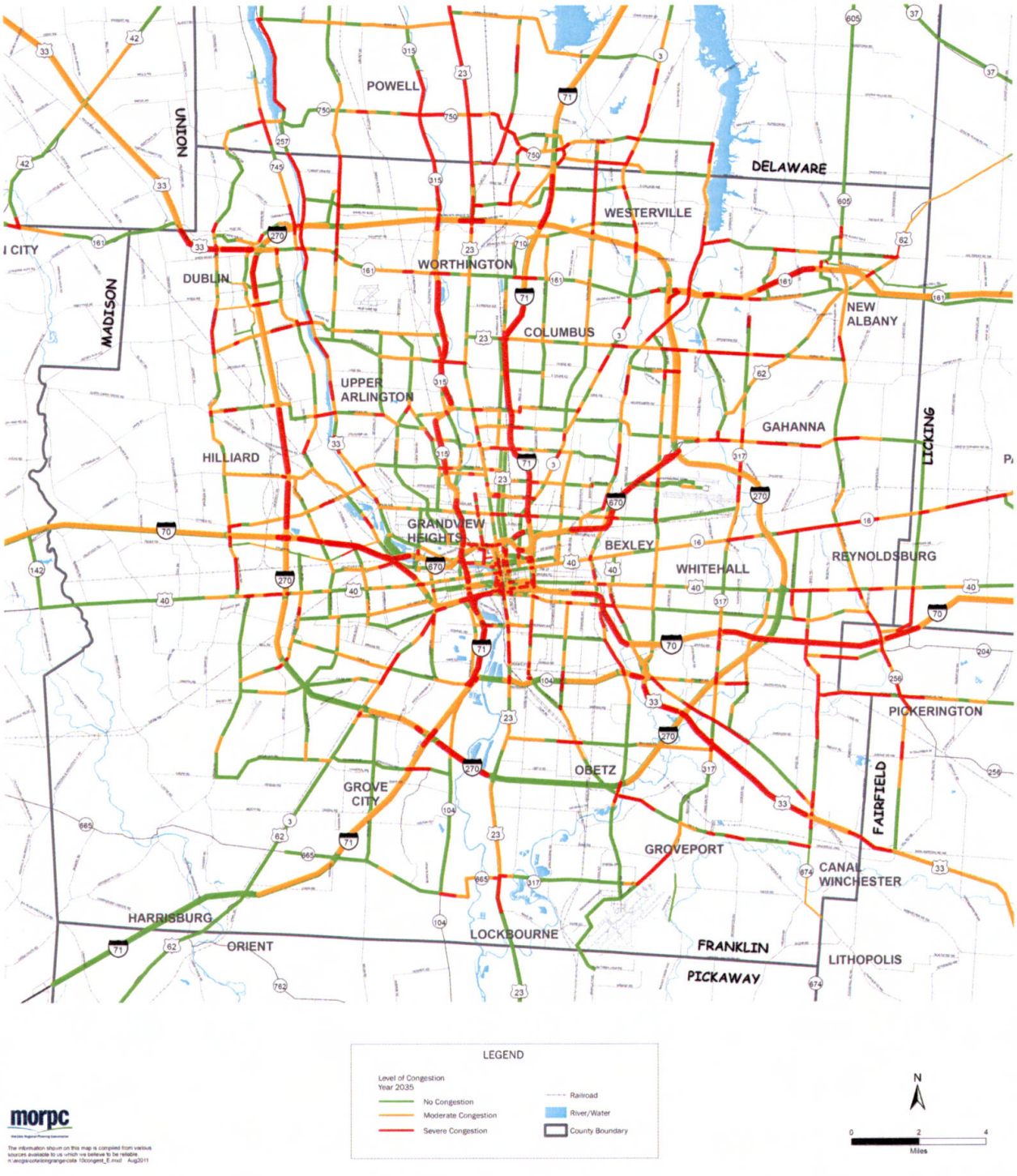


Figure 2-5 Future Congestions Levels

COTA 2012 - 2035 Long Range Transit Plan

Level of Congestion 2035



3.0 APPROACH/PUBLIC INVOLVEMENT

Public input regarding transit services and facilities in central Ohio for the next 23 years was essential throughout the long-range planning process. The 2006 Long-Range Transit Plan (LRTP) was shaped by what COTA heard from the general public, business and community leaders, bus riders, and focus groups. The public involvement process was focused on obtaining input from riders and the general public on the types of new and improved services desired in the future.

The 2012 Long-Range Transit Plan is an update to the 2006 LRTP. COTA took proposed updates to the general public, collecting input about the proposed plans, new services and how to improve current service. COTA revised proposed plans using the public input collected.

3.1 Goals of the Plan

As the national economy began a downward trend in 2001, over the next several years, public transit systems across the country, including COTA, experienced dwindling local, state, and federal assistance. COTA's yearly budgets were negatively impacted by rapidly increasing healthcare insurance, fuel, and utility costs. Over the six-year period from 2001 to 2006, COTA was forced to reduce fixed-route service hours by approximately 25 percent. In January 2006, in an effort to maintain a balanced and fiscally responsible budget, COTA was forced to raise fixed-route and mobility service bus fares by an average of 12 percent. During these difficult times, COTA recognized that as the region was growing, unmet transportation needs were also increasing throughout the community.

To progress towards meeting the transportation needs of the community, in 2006 COTA proposed an additional 0.25 percent sales tax levy to supplement COTA's permanent 0.25 percent sales tax. The additional support was pledged to be used to increase fixed-route bus service and mobility services. The tax levy passed in the fall of 2006 and COTA began collecting the additional support in January 2008. As COTA began to expand service in 2008 the economy experienced a recession and the original service plan was reduced. Chapter 4 has additional information on the current service plans.

Before developing the 2006 LRTP, COTA developed a set of goals that were utilized by all participants in the LRTP public involvement. These goals helped shape the 2006 LRTP and were essential in formulating ideas for improving the transit system. The goals helped participants focus on the community's future transit needs. The first four goals, found below, were presented in the previous LRTP with the fifth goal being added to the current 2012 LRTP. With increasing concern at all levels of government and in the public about the environment, public health and living sustainably, COTA determined it was necessary to include an environmentally focused goal.

- Provide safe, reliable, convenient, affordable and user-friendly transportation;
- Provide transportation alternatives to residents with special needs;
- Manage public resources effectively and efficiently;
- Expand support for public transportation and encourage transit supportive land use; and
- Promote environmentally sustainable initiatives.

To achieve these goals, objectives were developed to help bring focus to the public involvement process. The LRTP public involvement objectives were to:

- Solicit input and advice from the public, stakeholders, and jurisdictions on the proposed components of the 2012 LRTP;
- Provide information to the participants about the opportunities and constraints associated with the LRTP; and
- Instill in participants a sense of ownership in the LRTP.

3.2 Public Meetings

The plan update was developed in two phases, and public participation was a key component in each phase:

- **Phase I: Plan review and update** – Review and update current plan (December 2011 - January 2012)
- **Phase II: Final Plan Development** – Using feedback from the public and other participants, produce a final draft and release to the public for approval (February - March 2012)

Six public meetings were conducted for the first phase planning process and six in the second phase to help identify needs and to respond to draft plan recommendations. See Appendix B. for summarized comments.

Meetings were held in strategic locations around the metropolitan area. The first round of meetings were held Downtown at COTA's offices, COTA's Easton Transit Center, Columbus Public Library Livingston Branch, Columbus Public Library Hilltop Branch and Bethel Presbyterian Church. The second round meetings were held Downtown at COTA's offices, Calvary Baptist Church, and the Martin Luther King (MLK) Branch, Parsons Branch and Franklinton Branch of the Columbus Metropolitan Library. Each meeting included a presentation by COTA staff, followed by an opportunity for input

from attendees. Meeting times and locations varied in order to accommodate as many people as possible. Sign language interpretation and accessible information for individuals with disabilities were available upon request. Additionally, COTA's website was updated with progress reports and presentations related to each phase of the plan.

3.3 Stakeholder Meetings

An important part of COTA's outreach effort included meeting with organizations that are regularly involved in our region's transportation initiatives. Through the Mid-Ohio Regional Planning Commission (MORPC), COTA presented to the Transportation Advisory Committee (TAC) and Citizens Advisory Committee (CAC), two bodies representing the central Ohio region.

The TAC is comprised of representatives from state, local and federal transportation agencies, the state Environmental Protection Agency, public utility suppliers, counties, the taxicab industry, railroads, and trucks and charter bus/van operators. The committee provides technical assistance and recommendations to the Transportation Policy Committee, a body that makes final decisions on transportation plans, policies and projects for the region. The TAC also advises the staff in the conduct of technical activity.

The CAC provides broad representation from the community including, but not limited to, low-income and minority households, and those traditionally underserved by transportation including people with disabilities and seniors. The CAC provides opportunities for citizens and special interest groups to participate in current transportation planning efforts such as the Metropolitan Transportation Plan, the Transportation Improvement Program, and transportation/air quality planning efforts and other appropriate projects and issues. The CAC provides recommendations to the Transportation Policy Committee.

3.4 What We Heard

COTA staff engaged participants at each meeting to ask questions, provide input, and help plan for future challenges to the region's transportation system. Interaction was also encouraged by inviting attendees to review various maps and other exhibits which included current and projected population, employment, and traffic growth scenarios, and potential transit line alignment maps.

During the 2006 LRTP public involvement process the results of a prioritizing voting exercise indicated that of priorities previously mentioned, all have nearly equal and high importance in regards to helping shape future transit service.

Participants at the various meetings offered many suggestions for service improvement changes. In general, the following comments were received as to what COTA's long-range plan should address:

- More frequent and convenient service for a broader portion of the community than has been available in the past;
- An emphasis on convenient access to jobs, including second- and third-shift employment opportunities;
- Improved mobility services and transportation for individuals with disabilities;
- Improved neighborhood-to-neighborhood and suburb-to-suburb connections;
- Additional park and rides/transit centers in outlying areas, served by faster and more direct service;
- More timely and easier access to route and schedule information via the use of current technologies including the internet, variable electronic message displays, smart phones, and tablet PCs;
- Consideration of fixed-guideway options such as light rail, high-occupancy vehicle (HOV) lanes, etc.; and
- Development of transit alternatives to rising gas prices.

Please refer to Appendix B for additional comments received during the public involvement process.

3.5 Other Public Outreach Efforts

In addition to public meetings and stakeholder meetings, COTA met with its Mobility Advisory Board and presented information regarding the 2012 LRTP update. A handout and power point presentation were presented to the board and comments and questions from the board were addressed. The COTA Mobility Advisory Board was established to advise the organization on possible transportation solutions and to provide partnerships for matching federal Job Access and Reverse Commute (JARC) and New Freedom grants, with a goal to better meet the mobility needs of central Ohio residents.

Additionally, COTA provided handouts to the Mid-Ohio Regional Planning Commission to distribute during their public involvement meetings for the 2012 Metropolitan Transportation Plan.

4.0 LONG-RANGE SERVICE PLAN

4.1 Overview

This section of the LRTP details the major components and implementation strategy for expanding transit services in the central Ohio area. With a focus toward improving the region's economic vitality and quality of life, the LRTP addresses transportation needs identified by the community in several ways, including:

- More frequent and convenient service for a broader portion of the community than has been available in the past;
- An emphasis on convenient access to jobs, including second- and third-shift employment opportunities;
- Improved mobility services and transportation for individuals with disabilities;
- Improved neighborhood-to-neighborhood and suburb-to-suburb connections;
- Additional park and rides/transit centers in outlying areas, served by faster and more direct service; and
- More timely and easier access to line and schedule information via the use of current technologies including the internet, variable electronic message displays, smart phones, and tablet PCs.

Facing rapid population growth, increasing congestion and limited prospects for new major freeways, the central Ohio area will need a strong transit system to ensure its continued economic vitality. The LRTP is designed to meet various regional transportation needs, and to promote mobility and access to employment, shopping, medical, education, entertainment venues, and other important destinations around the region. COTA is committed and constantly monitors the performance of our bus system ensuring all transit services are as efficient and effective as possible, while remaining affordable to both customers and local taxpayers.

4.1.1 Consideration of Transit Network Alternatives

During Phase I of the LRTP public involvement process, COTA encouraged participants to share comments about the current transit system, that was based on the proposed service expansion plan in the 2006 LRTP and the future system through 2035. During Phase II, COTA presented a draft of the 2012 Long-Range Transit Plan based on public involvement in Phase I and continued to solicit comments about the current and future transit system.

During the 2006 LRTP public involvement process, COTA investigated various types of fixed-route transit networks. Some comments received during both the 2006 and 2012 LRTP public involvement processes as well as through COTA's standard customer service process, requested additional investment in crosstown services and improved service to more suburban employment centers. Some comments received during the 2006 LRTP public involvement process related to bus service included converting all lines to operate in a multi-modal modified radial system. These comments suggest a demand for a different type of transit network than is presently provided.

As such, different types of fixed-route transit networks were considered to determine if an alternative type of network would provide a greater benefit than the current network. In the transit industry, there are four basic network structures, with many systems combining facets of more than one. COTA's existing system operates in what is traditionally known as a modified "hub and spoke", or radial system with some crosstown service. This type of bus system requires the majority of riders to travel downtown in order to make connections to destinations in outlying areas. In the previous 2006 LRTP, COTA considered modifying the transit network to one of four types. The four types of transit networks which were considered:

- Grid
- Territorial
- Radial, or "hub and spoke"
- Modified radial

A grid bus system is made up of lines that run east-west and north-south, forming a grid that covers a county or regional area. A grid system, however, requires transfers to complete most trips, all of which can rarely be scheduled for a "timed-transfer connection" between lines. This system works best when a grid street network is in place, and frequent service is provided on all lines in the system, reducing the out-of-bus wait time for transferring passengers.

Grid networks are most effective in moderate- to high-density areas with high annual per capita ridership. Because the success of a grid network is highly dependent upon the frequency of service provided, it is often too expensive to operate in moderate- to low-density areas. Most often, frequencies on grid system lines are 15 minutes or less. COTA's analysis determined that overall, the central Ohio area lacks the high density required (e.g., New York, Philadelphia, etc.) and an adequate street network to support an efficient grid transit system. Additionally, a financial analysis confirmed that operation of a grid system would simply be cost prohibitive for COTA.

Territorial networks are used in connection with timed-transfers, where buses from one or more fixed-route lines and or demand-response vehicles

converge at the same point at the same time so passengers can hop from one bus to another without a long wait. These transfers often occur at major activity centers, and satellite communities are then served by lines designed to cover that particular territory.

Radial networks are typical in many cities with a concentrated downtown area. Lines fan out from the downtown area and provide a more direct, transfer-free ride into the CBD. While this type of network serves a downtown area well, it is not attractive to passengers wanting to make a suburb-to suburb trip. With recent and projected central Ohio growth occurring in outlying areas, this network option was considered inadequate to meet the transportation needs of the community.

Modified radial networks still have lines fanning out from the CBD, but also include crosstown or circumferential lines. While this network is more beneficial for suburb-to-suburb movements than a purely radial system, crosstown service does not generally demand frequent service, making transfers between radial and crosstown service less convenient. This type of service does serve the CBD area well, and does provide cross-corridor movement.

The modified radial network best matches the demographics of the central Ohio area. The Columbus CBD remains the area's largest employment center with 83,000 jobs, and efforts to further improve downtown as a focal point for employment, arts, entertainment, and living continue. Continued growth into farther outlying areas, however, has created a need for more neighborhood-friendly and suburb-to-suburb service. A significant portion of new service included in the plan fulfills both Downtown and suburban travel demand. Many extended or new crosstown lines travel through two or more suburban areas, most often eliminating the need to travel into the downtown area to reach a final destination.

Representative of a territorial network, more park and ride/transit center locations are included in the LRTP, which will serve as transfer points between local, crosstown, express, and/or circulator lines. By combining the use of the modified radial and territorial networks, the resulting service plan is designed to serve the transportation needs of the Downtown area as well as the less densely populated suburban areas.

In addition to traditional bus system alternatives, COTA is conducting an Alternatives Analysis on the Northeast Corridor, an area encompassing Cleveland Avenue, Morse Road to Easton Town Center and further north to the City of Westerville. The analysis will examine various alternative transportation modes within the Northeast Corridor, including Bus Rapid Transit (BRT) and fixed-guideway modes, with a focus on improving mobility

and the quality of services available to residents within the corridor. The four primary objectives of the study include:

1. Strengthening the link between transit planning and community planning;

2. Stimulating increased participation in the planning process by community organizations, businesses and residents;

3. Increasing access to employment, education and healthcare facilities, and other community destinations; and

4. Leveraging resources available through other federal, State and local programs.

If a build alternative is chosen at the completion of the analysis, it will allow COTA to apply for federal funding to construct the locally preferred alternative, or the alternative best preferred by the community. Expanded information is found in Section 4.5.3.4.

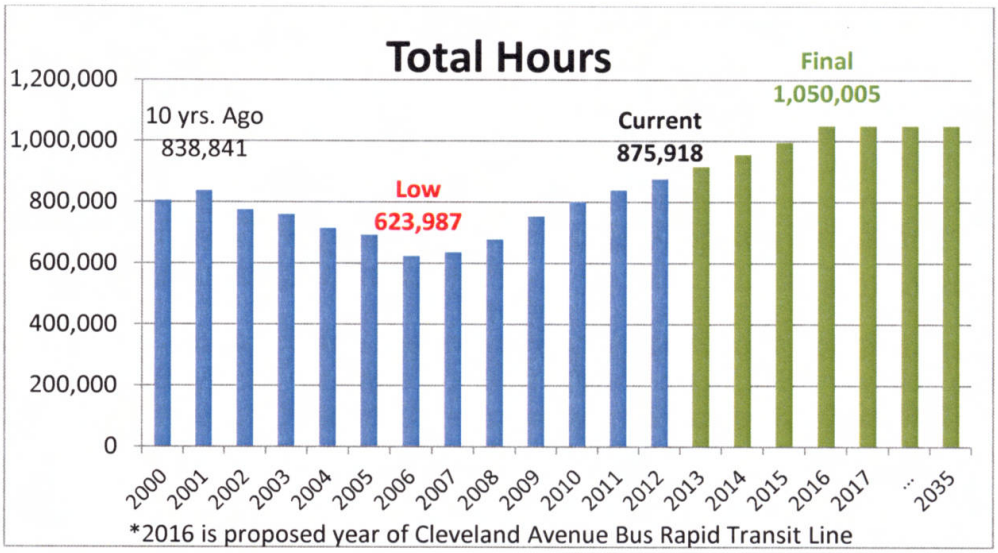
4.1.2 Expansion Strategy

The fixed-route bus system will remain the foundation of future transit services within central Ohio. COTA's proposed service expansion will continue until 2016, see Figure 4-1. Beyond 2016, service levels will remain constant. This assumption is based on the renewal of the ¼ percent temporary sales and use tax that expires in 2016 and the ¼ percent permanent sales and use tax along with federal funding.

Figure 4-1 displays service growth in terms of "service hours", which is a measurement of the total amount of time every bus spends providing transit service throughout the entire year. For instance if one bus runs for 10 hours a day for 365 days a year then the number of hours spent providing service would equal 3,650 service hours.

In contrast to severe service reductions, which have plagued transit authorities across the country over the past several years due to rising costs and lower revenues, COTA's fixed-route bus expansion plan calls for a 20 percent increase in service hours from 2012 to 2016, with an overall increase of 68 percent between 2006 and 2016. In terms of hours of operation, the bus expansion plan includes increasing fixed-route bus service hours from approximately 625,000 in 2006 to 1,050,005 in 2016.

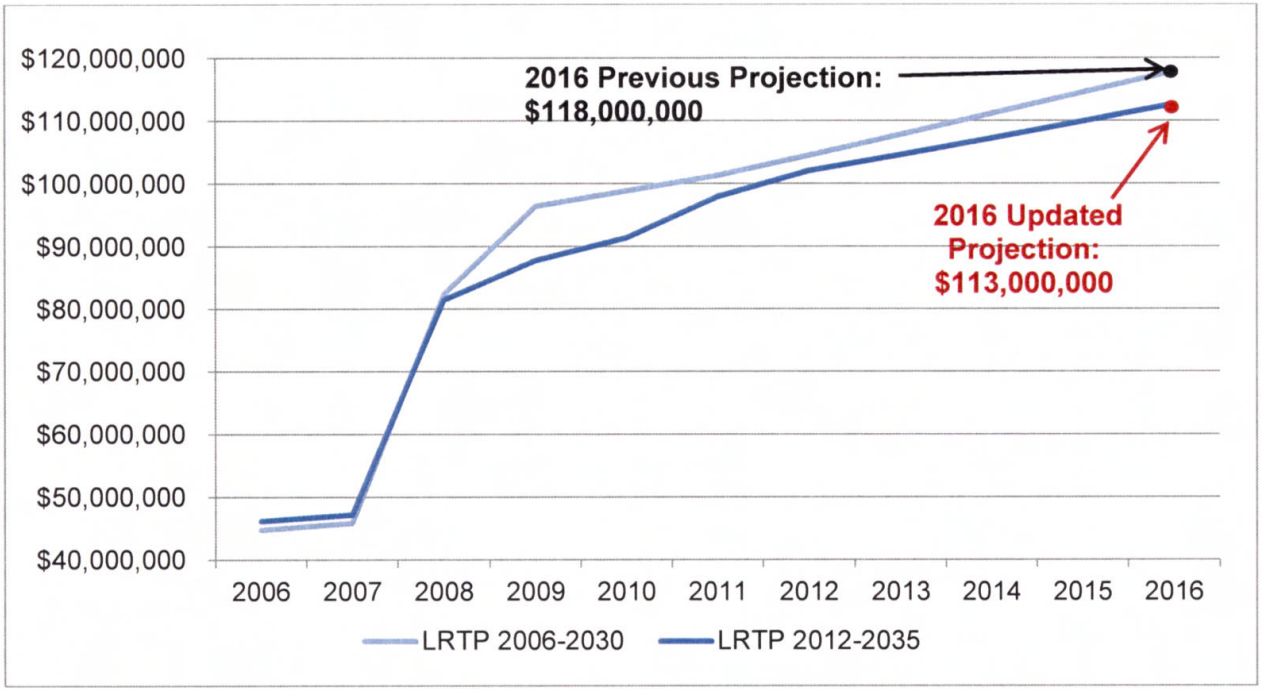
Figure 4-1 LRTP Increase in Annual Fixed-Route Bus Service Hours



As previously mentioned, the expansion plan presented in the 2006 LRTP was reduced due to the current economic conditions. Rising costs of providing service combined with less than expected sales tax revenues forced COTA to curb the original expansion plan. Figure 4-2 shows the growing gap between the 2006 LRTP projections and the real and projected tax revenue in the 2012 LRTP. The roughly $5 million gap between the sales tax projection in the 2006 LRTP and the 2012 LRTP illustrate the need to reduce service expansion plans from the previous LRTP.

Similarly, in conjunction with fixed-route service expansion, COTA will also expand mobility services for persons with disabilities who are unable to use the regular fixed-route bus. In addition to innovative new services described later in this section, Project Mainstream will increase by 46 percent over 2006 levels by 2016.

Figure 4-2 COTA Sales Tax Revenue Projections Comparison: 2006 LRTP compared to 2012 LRTP



4.1.3 Components of the Plan

From comments through the public involvement process, COTA realizes that a strong transit system must provide direct benefits to our customers. This long-range plan consists of six major components, collectively serving to offer greater travel options when using transit, improving air quality and the environment, promoting economic development, and expanding job accessibility. The major components of the LRTP discussed in greater detail in this section are:

- Fixed-route bus service;
- Mobility Services;
- ITS;
- Strategic Transit Investments;
- Customer Services; and
- Other Service Improvements.

4.2 Fixed-Route Bus Service

The backbone of COTA's public transit system is fixed-route bus service. Service is provided on a repetitive, fixed-schedule basis along a specific alignment, with vehicles stopping to pick up passengers at, and deliver passengers to, specific locations. COTA provides this service in a number of ways:

- *Local lines*, which operate along set routes and follow set schedules. Local lines travel into and out of the Downtown area, operate primarily on arterial streets, involve frequent stops and consequently lower travel speeds;

- *Express lines*, which operate generally in the peak period travel times, pick up passengers in outlying suburban areas and then travel with either limited stops or non-stop to a single high-density area such as Downtown. COTA also provides reverse-commute express service which provides connections from central-city areas to jobs in outlying areas;

- *Crosstown* lines, which are non-radial bus lines that do not enter the CBD (e.g., direct service between Northern Lights Shopping Center and Kingsdale Shopping Center); and

- *LINK* lines, which provide service within neighborhoods and activity centers and typically operate on short alignments. LINK lines also provide connections to local, express, or crosstown service utilizing low-floor, smaller, more neighborhood-friendly buses.

Fixed-route bus with new branding (2011)

COTA's public outreach effort found that fixed-route services are in need of improvements. Prior to 2007, COTA was forced to reduce service during a period in which development continued to expand in outlying areas, resulting in large low-density areas not being served or underserved by public transit. In addition, the frequency of service on many lines was stretched resulting in longer scheduled wait times between buses. Beginning in 2007, COTA began to expand service, funded by the additional 0.25 percent sales tax approved by voters in 2006.

In brief, COTA heard how the quality of life in the central Ohio region had lessened as the role of public transit in our region's transportation system had diminished. As part of addressing these concerns, COTA's plans for future fixed-route service focuses on four key areas of improvement:

- Improved service frequency;
- Expanded service coverage area;
- Expanded hours of operation; and
- Decreased travel times.

4.2.1 Service Frequency

Service frequency refers to how often a bus passes any given stop along a line. Many urban transit providers have policies or goals on service frequency

in order to maintain understandable and predictable schedules. Service frequency also varies by type of line. For example, on local lines, a goal is to provide peak-period service with a frequency of 20 minutes or less, and an off-peak frequency of no more than 30 minutes. Service frequency, however, is adjusted to meet the specific needs of each line in a particular area of the community. Unfortunately, as part of COTA's service reductions, frequency of service on many lines were stretched further apart, negatively affecting customer convenience when using fixed-route service.

The LRTP includes a significant improvement to service frequencies. Table 4-1 summarizes current and proposed service frequencies for COTA's fixed-route system.

Table 4-1 2006 Frequencies and Proposed Frequencies for COTA's Fixed-Route System

	2006			2035 GOAL		2012 (January)		
Line Type	Line Number	Peak	Midday	Peak	Midday	Line Number	Peak	Midday
Local	1, 2, 10	10	15	8	15	1, 2, 10	10	10
	4, 6, 7, 8, 16	20	30	15	30	**3**, 4, 6, 7, 8, **12**, 16	20	30
	3, 5, 9, 11	30	45	20	30	5, 9, 11, 15, **18, 21**	30	35
	18, 19**	60	60			19	60	-
Crosstown	89, 92, 95	30	35	30	40	80**, **81**, **82***	30	30
	83	35	40	30	40	83, 89, 92, 95	35	35
	81, 96	45	45	30	45	96	45	45
	84, 87	60	60	45	45	84*, 87	60	60
Express	29, 33, 38, 39, 40, 42, 43, 48, 49, 51, 53, 57, 59, 60, 62, 65, 67, 68	1 trip		2 trips		40, 48, 65, 68	1 trip	
	27, 30, 35, 41, 44, 54, 56, 69[t]	2 trips		3-4 trips		**26**, 27, **29**, **33**, 35, **38**, **39**, **43**, 44, **49**, **53**, 54, **55**, 56, **57**, **59**, **60**, **66**, **67**	2 trips	
	34, 45, 46, 61, 64	3 trips		6 trips		**30**, **32**, 34, **41**, 45, 46, 64	3 trips	
	36, 37, 58	4 trips				37, **61**	4 trips	
	31	5 trips				31, **36**, **58**	5 trips	
	47	6 trips				47	7 trips	

Red indicates improvement
Bold indicates new line

*84 was split into 3 lines, 80, 82 and 84 in May 2011
** Limited service
[t] Renamed the 13 US 33/Watermark

Using the table above for example, a local line that currently operates every 30 minutes in the peak period travel time and every 45 minutes in midday travel time may be improved to operate every 20 minutes in the peak and 30 minutes in the midday respectively. Similarly, the number of trips currently operating in the AM and PM peak periods on many express lines will be increased in the morning and evening.

The phasing in of improved service frequency has continued since the implementation of the LRTP in 2007. Based on vehicle availability, off-peak frequency (e.g., midday, evening, weekends, etc.) schedule improvements and limited peak period improvements were initially phased in.

Because of higher travel demands, peak period travel times require most of COTA's buses to be deployed on the street at the same time, whereas off-peak travel periods, due to lower demand, require fewer vehicles to be in operation at the same time. Improving peak period frequencies for most lines requires additional new buses to be added to the fleet, while off-peak improvements can be instituted by using existing vehicles stored in the garage during off-peak hours. In response to expanding service, such as improving frequency by adding additional trips, COTA has expanded and will continue to expand the fleet of buses necessary for system-wide improved service frequencies.

4.2.2 Expanded Coverage Area

During the LRTP public involvement process, COTA heard that more suburb-to-suburb and neighborhood-to-neighborhood connections need to be made between outlying communities without the need to travel downtown first, or without the need to make multiple transfers between buses in order to reach a final destination. Access to jobs in areas presently underserved or without public transit service should be an important component of improved transit services. Accomplishing this goal is challenging in low-density development areas; COTA, however, must offer greater choices and convenience throughout the community, particularly to outlying areas that have undergone significant population and employment growth in recent years.

In order to meet expanded coverage needs, significant improvements will continue to be made to local, express, and crosstown services.

To complement this expansion, new park and rides and/or transit centers will be established around the central Ohio area. Depending on the specific needs of the community, transit centers may house day care centers, healthcare facilities, and other service providers, or may be as simple as a park and ride facility with a passenger waiting area. Also included in this plan are new crosstown lines and supplemented service on existing crosstown lines in order to enhance inter-suburban movement. Examples of proposed new and expanded coverage include:

- Extend local service to Hollywood Casino, a major new employment and entertainment destination on the city's west side;

- Extend crosstown service in the following areas:
  - Along State Route 161 between Cleveland Avenue and US23/High Street;
  - Between the Westerville Park and Ride, Polaris, and the Crosswoods Park and Ride;
  - Between Canal Winchester and East Broad Street/Hamilton Road;
  - Between Kingsdale Shopping Center and Hilliard Cemetery Park and Ride; and
  - From Northern Lights Park and Ride to Easton Town Center.

- Add express service between downtown and the following areas:
  - Great Southern Park and Ride;
  - Hayden Run and Cosgray Road; and
  - New Albany Road and State Route 605

- Identify and construct park and ride facilities and provide express service between downtown and the following areas:
  - Polaris Parkway and Gemini Place, near Polaris Fashion Place and Towne Center;
  - East Broad Street and McNaughten Avenue, serving the Reynoldsburg area near I-270;
  - Avery Road and Perimeter Loop in Dublin;
  - Sunbury Road and State Route 161 in the Westerville area;
  - I-70/SR-256;
  - Sawmill Rd. near I-270;
  - US-23 and Rathmell; and
  - I-71/SR-665.

Table 4-2, provides a summary of fixed-route improvements by line type included in the LRTP.

Table 4-2 Number of New and/or Expanded Lines by Service Type

Bus Line Type	2016	Line Numbers
Local	2	1,6
Express	8	28,29,40x,43x,50x,55a,59x,67
Crosstown	7	83, 84,85,89,93,94,97
Selected Alternative for Northeast Corridor	1	Contingent upon approval and funding
Total	**18**	

As indicated by the table, all of fixed-route service expansion, including new and extended lines, is scheduled to be phased in by 2016. In the previous plan, COTA proposed 21 new LINK lines throughout the region; however due to the reduction in service expansion the lines were removed. The basis for this decision is that LINK service is historically less productive than other service.

Maps illustrating the LRTP's proposed expanded coverage are shown starting on page 4-13 to 4-16. Figures 4-3 through 4-5 reflect expanded regional coverage via proposed crosstown, express, and local lines respectively, while Figure 4-6 illustrates the expanded network, collectively. Figure 4-7 demonstrates potential accessibility to the expanded bus system coverage utilizing a half-mile buffer around the proposed bus service.

Additionally, Appendix C provides descriptions of the plan's fixed-route service expansion. These tables describe service enhancements within four quadrant areas of central Ohio: northwest, northeast, southeast, and southwest, as well as an unfunded "wish list". The "wish list" is a list of improvements that could be implemented if operating revenues increase.

4.2.2.1 Transit Centers and Park and Ride Facilities

COTA currently has 29 park and ride facilities and three transit centers located throughout Franklin County. These facilities promote COTA's mission to deliver superior transportation services that are convenient and user-friendly to central Ohio residents and visitors. The LRTP proposes creating eight new park and rides and one new transit center. Figure 4-8 shows the existing and planned locations of these facilities.

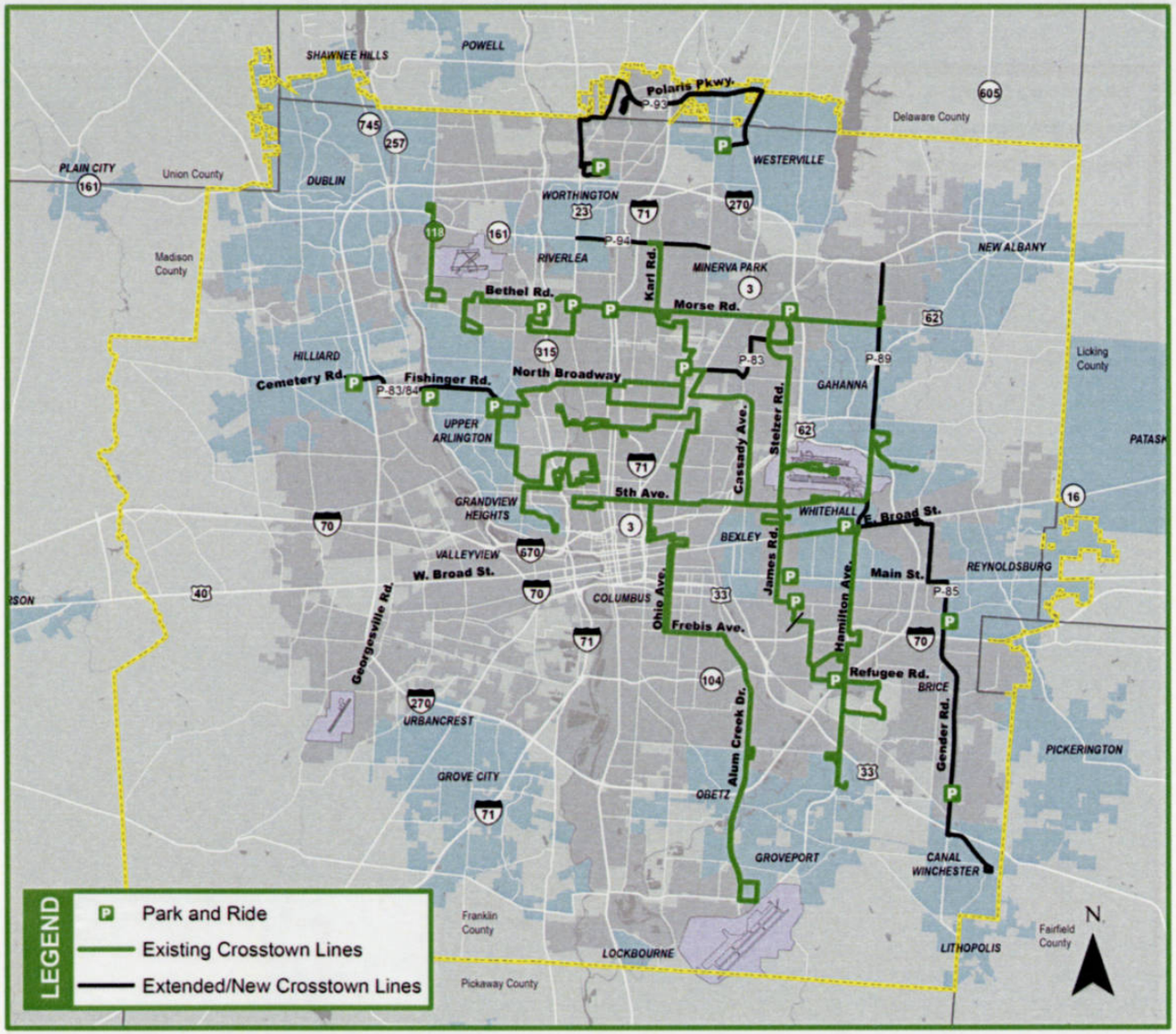
Park and ride facilities allow commuters from throughout the area to conveniently access COTA's bus lines. Each park and ride provides free parking. Residents can drive to the park and ride, park their cars, and board a bus that will take them to various destinations. As an alternative to the single occupancy vehicle, commuters can enjoy gas and parking cost savings while relaxing during their commute.

Easton Transit Center

Reynoldsburg Park and Ride

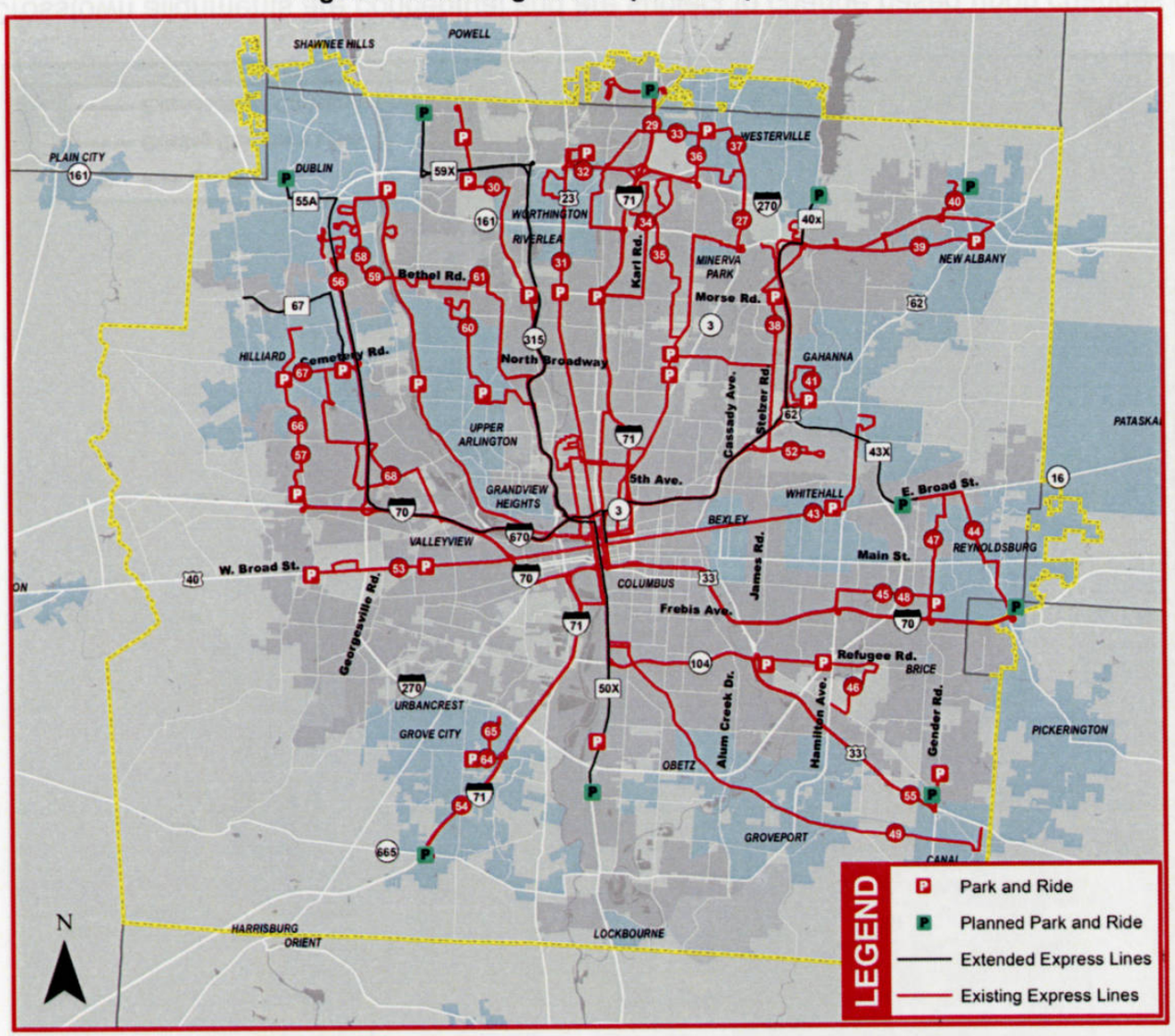
Transit centers serve a mix of uses and services immediately adjacent to a bus stop. COTA has three such facilities: Easton, Linden, and Near East. Each facility provides a centralized location to board the bus along with amenities such as childcare, healthcare, or banking services. Seniors and people with disabilities have easier mobility in this type of development because services and businesses are closer together and focused around transit. Bicycle parking is also provided at transit centers. Leasing space to transit friendly businesses provides a long-term revenue stream sufficient to cover the cost of operating the facilities.

Figure 4-3 Existing and Proposed Crosstown Lines



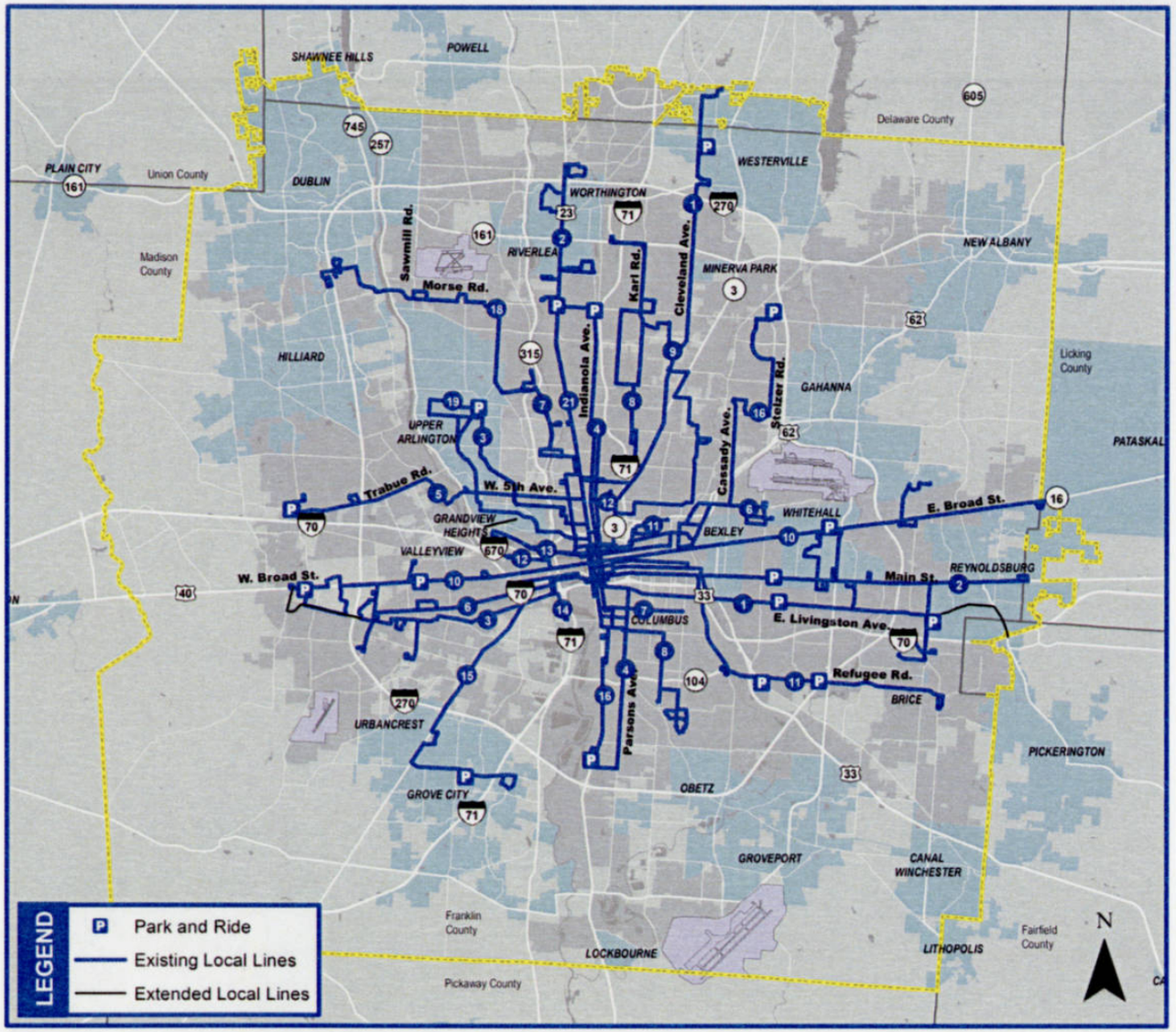
Proposed Crosstown alignments are conceptual and are subject to change based upon changes in land use, public-private partnerships, etc.

Figure 4-4 Existing and Proposed Express Lines



Proposed Express alignments are conceptual and are subject to change based upon changes in land use, public-private partnerships, etc.

Figure 4-5 Existing and Proposed Local Lines



Proposed Local alignments are conceptual and are subject to change based upon changes in land use, public-private partnerships, etc.

Figure 4-6 Proposed and Existing Weekday Network (May 2012)

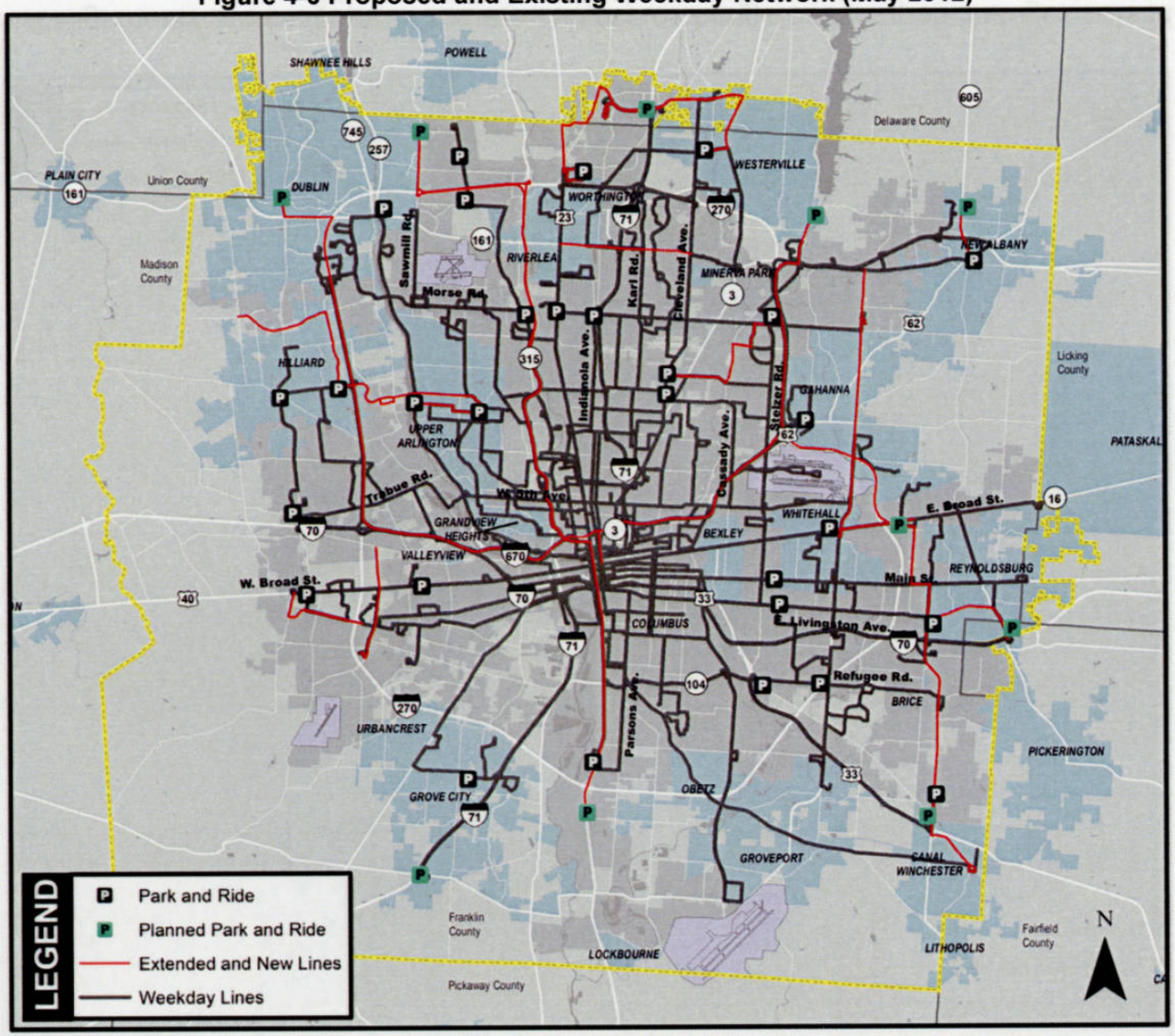


Figure 4-7 LRTP Bus System with 0.50 Mile and 0.25 Mile Walking Distance Buffer – All Lines

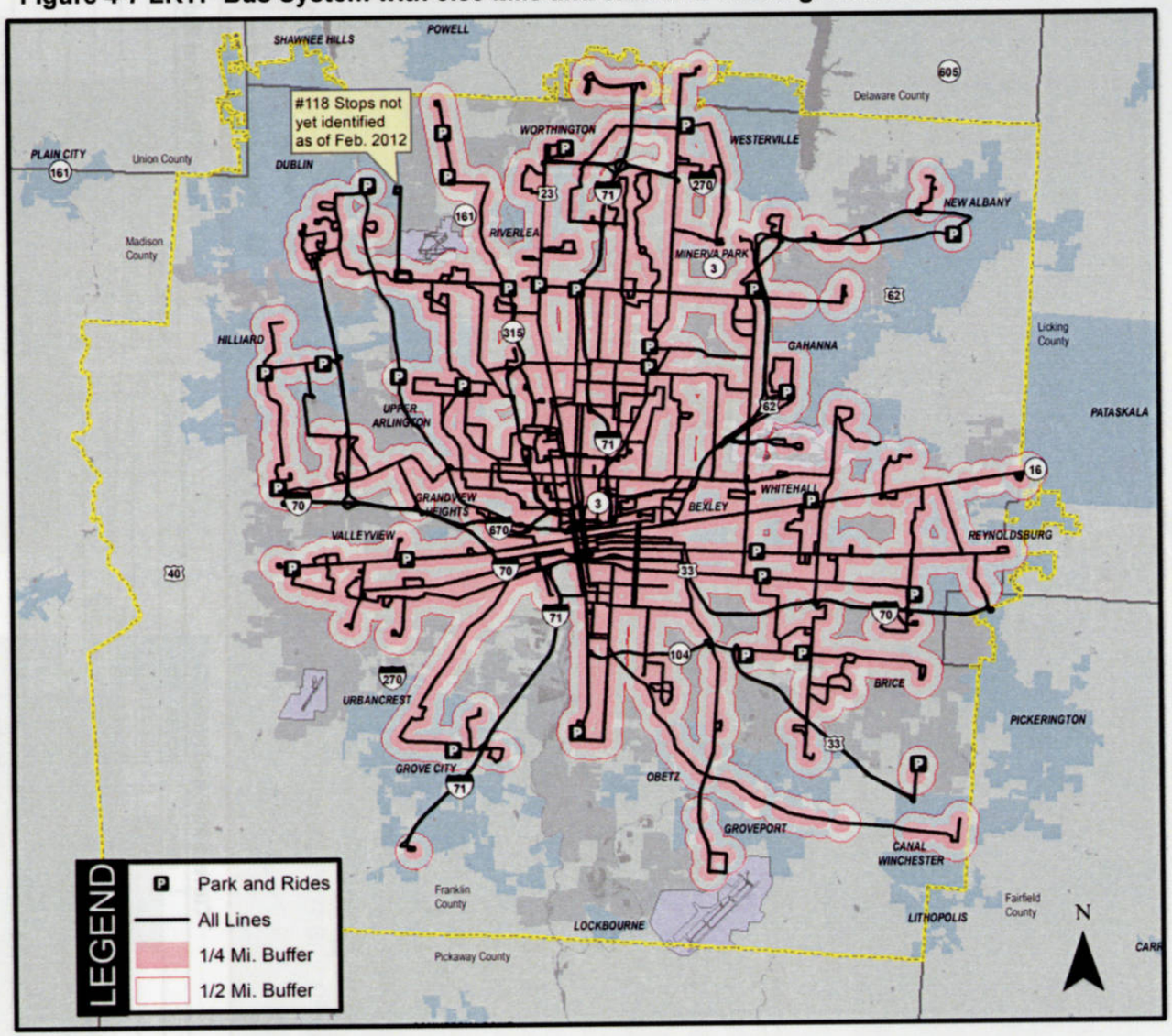
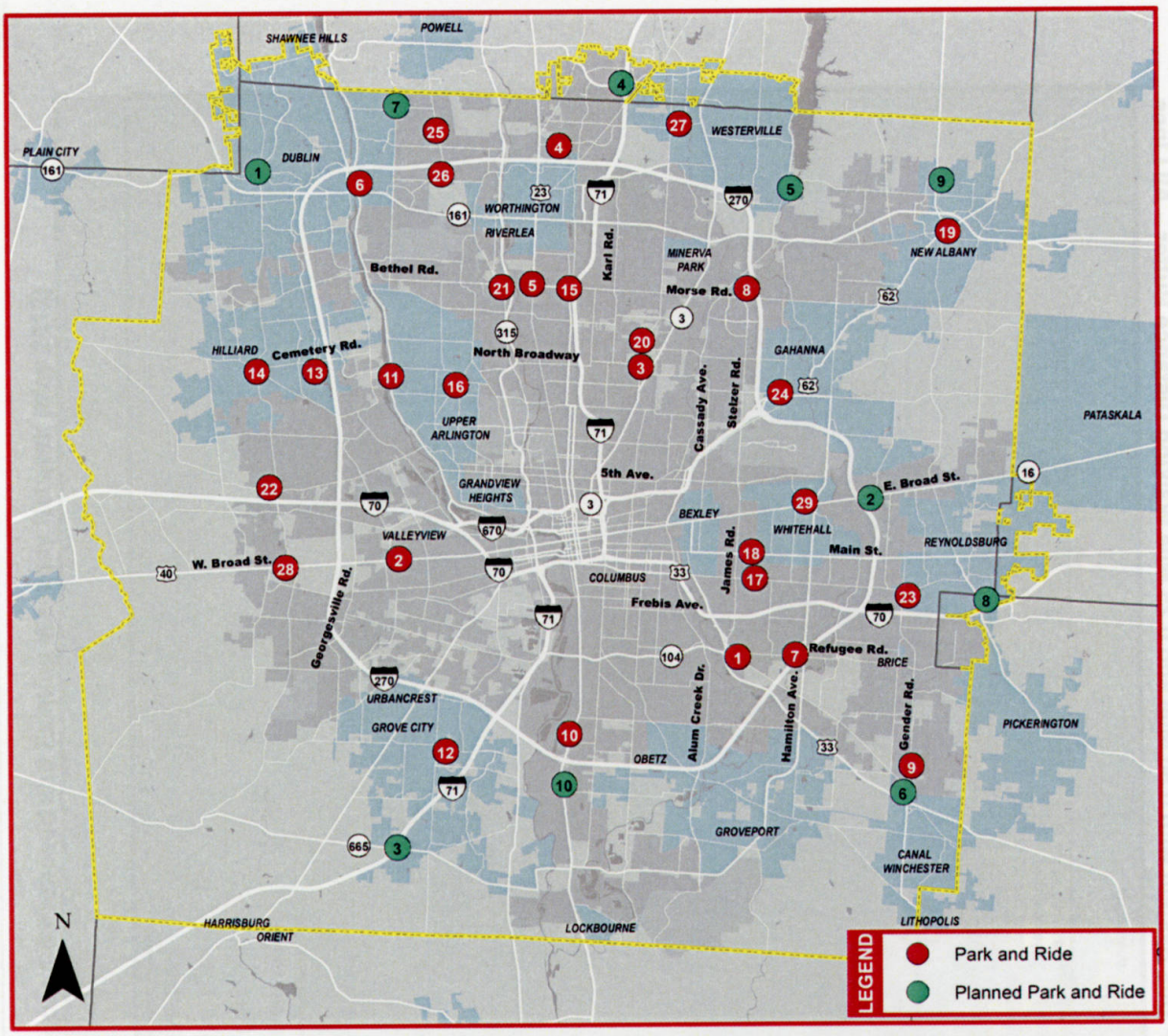


Figure 4-8 Existing and Proposed Park and Rides and Transit Centers



Current Park and Rides

NAME	Number
Berwick Plaza	1
Broad & Southampton	2
Cleveland & Mecca Loop	3
Crosswoods	4
Delawanda	5
Dublin Dale Dr	6
Eastland Mall	7
Easton Transit	8
Gender Rd	9
Great Southern	10
Griggs Dam	11
Grove City	12
Hilliard Cemetery Rd	13
Hilliard United Methodist Church	14
Indianola & Morse	15

NAME	Number
Kingsdale	16
Livingston & Barnett	17
Main & Weyant Loop	18
New Albany	19
Northern Lights	20
Olentangy & Bethel	21
Renner Rd	22
Reynoldsburg	23
Royal Plaza (Gahanna)	24
St Andrew	25
St Peters	26
Westerville	27
Westwoods	28
Whitehall	29

Planned Park and Rides

NAME	Number
Dublin (Avery Rd and US-33)	1
E Broad St & I-270	2
I-71 & SR-665	3
Polaris Area	4
Sunbury Rd North of SR-161	5
Canal Winchester (Gender Rd and US-33)	6
Sawmill and Summit View	7
SR 256/I-70	8
New Albany	9
US23 & Rathmell	10

The Easton Transit Center serves as a park and ride and transit center. Opened in 2002, it houses a childcare center in addition to a park and ride. This facility allows commuters to park their car, drop their children off at the childcare center, and then board the bus.

Easton Transit Center

COTA's other transit centers emphasize transit-oriented development (TOD) that creates a pedestrian-friendly environment in support of COTA's bus service. The Linden Transit Center opened in 1999 through a partnership between COTA, the Columbus Urban Growth Corporation, and the Greater Linden Development Corporation. The center includes a bus boarding area, childcare center, healthcare clinic, and a community space for job fairs. It was the first building completed as part of the "Four Corners" revitalization project at Cleveland and 11th avenues in Columbus. The intersection now includes a Columbus Police substation, Columbus Metropolitan Housing Authority headquarters, retail establishments, and a cafe.

The Linden Transit Center shows how COTA's presence in a neighborhood can raise property values and serve as a catalyst for further development that offers a mix of uses and is pedestrian-friendly. The Linden area has experienced almost $10 million in new and renovated buildings since the Linden Transit Center was built[5]. New single-family townhouses near the Linden Transit Center have sold for over $100,000 in the formerly neglected area[6].


Before Linden Transit Center

Linden Transit Center

[5] Volinski, Joel. "Developing Bus Transfer Facilities for Maximum Transit Agency and Community Benefit." National Center for Transit Research. Dec. 2004.
[6] Franklin County Auditor. www.co.franklin.oh.us/auditor/

Good Jobs First, a non-profit, non-partisan resource center that promotes smart growth for working families, named the Linden Transit Center as one of the top 25 TOD projects in the nation[7]. Projects such as the Linden Transit Center provide increased access to transit, quality jobs, and community services.

Near East Transit Center

Similar to the Linden Transit Center, the Near East Transit Center was a result of partnerships between several entities: the Building Responsibility Equity and Dignity organization (BREAD), Children's Hospital, City of Columbus, Columbus Compact Corporation, Federal Transit Administration (FTA), Main Street Business Association, MORPC, Near East Area Commission, ODOT, U.S. Department of Housing and Urban Development, and U.S. Department of Transportation. The facility includes a medical clinic and retail spaces in addition to a comfortable passenger waiting area.

4.2.2.2 Transit-Oriented Development

COTA is committed to actively working with communities to create transit-oriented development (TOD) similar to that seen at the Linden and Near East Transit Centers. Depending on the specific project, the partnership opportunities essential to success could expand across both the public and private sector. There are several municipalities within COTA's service area that support TOD, and some have addressed TOD as part of their master plans.

Examples of municipalities that support TOD include the City of Columbus, which has a zoning designation for Traditional Neighborhood Development that encourages neighborhoods that are compact, transit-oriented, pedestrian-friendly, mixed-use and sustainable. Columbus also has an Urban Commercial Overlay zoning district that encourages pedestrian-friendly development along commercial corridors. Another example is the Indianola Avenue Corridor Plan that recommends developing properties along Morse Road with a mix of retail, office, and high-density residential uses in anticipation of major transit investments in the corridor. COTA plans to seek partnerships that use these zoning tools in Columbus and similar ones in the surrounding suburbs to create higher-density development around new transit

[7] Grady, Sarah and Greg LeRoy. "Making the Connection: Transit-Oriented Development and Jobs." Good Jobs First. Mar. 2006.

centers. COTA also supports efforts to enhance neighborhoods around the park and rides throughout central Ohio.

COTA will provide new park and rides and transit centers to best serve the needs of residents, including seniors, people with disabilities, and the bicycling community. In addition to building new facilities, current park and rides may be renovated or expanded. Specific decisions will depend on an analysis of factors of an area's community and transportation needs.

4.2.3 Expanded Hours of Operation

Through an extensive public involvement program in 2006, COTA received feedback that non-traditional work shifts are not being served adequately by existing public transit service. In particular, for many individuals, second- and third-shift employment opportunities are scarce because there is a lack of reliable transportation during these time periods to help people get to and from work. Later weekend evening service was also identified as an important component that must be included in any proposed service improvement plan.

Since the implementation of the 2006 LRTP, COTA has expanded the hours of operation on most of the local service to run until midnight on the weekdays and Saturday, and until 9 p.m. on Sunday. This change has been implemented on the following lines:

- 1 Cleveland/Livingston
- 2 E. Main/N. High
- 3 W. Mound/Northwest Blvd. (Weekday and Saturday only)
- 4 Indianola/Parsons
- 5 W. 5th Ave.
- 6 Sullivant/Mt. Vernon
- 7 Neil/Whittier
- 8 Hamilton Ave./Frebis
- 9 Leonard/Brentnell
- 10 E. Broad/ W. Broad
- 11 Oak/Bryden/Saint Clair
- 16 Long/S. High
- 18 Kenny

Additionally the following lines have had an increase in span either on weekday, Saturday or Sunday service.

Weekday:

- 92 James/Stelzer - Extend service until 10 p.m.
- 95 Morse/Henderson - Extend service until 10:30 p.m.

Saturday:

- 12 McKinley/Fields - Extend service until 9:30 p.m.
- 18 Kenny - Extend service until Midnight

Sunday:

- 12 McKinley/Fields- Begin service earlier at 10:30 a.m. Extend service until 6:00 p.m.

Table 4-3 provides an overview of the proposed goal for increases in hours of operation:

Table 4-3 Proposed Increase in Hours of Operation

Day of week	Line type	Current	2035 Goal
Weekday	Local	5:15a-12:30a	4:15a-1:45a
	Crosstown	6:00a-8/10:00p	6:00a-8/10:00p
	Express	2 hours/peak	2 hours/peak
	LINK	3.5 hours/peak	3.5 hours/peak
Saturday	Local	6:00a-12:30a	4:45a-12:45a
	Crosstown	7:00a-10:00p	4:45a-12:45a
	LINK	N/A	N/A
Sunday	Local	7:00a-9:45p	7:00a-9:45p
	Crosstown	8:00a-8:00p	8:00a-8:00p
	LINK	N/A	N/A

This plan update assumes a 23-year planning horizon (2035). The above table is a guideline for improving and evaluating current service. Financial forecasts (as described in Section 5) do not fully support the expansion of service described in this table. Should economic conditions improve at a faster rate than projected during the planning period, all proposed extended hours of operation improvements will be implemented.

4.2.4 Decreased Travel Times

In central Ohio and around the country, demand for public transportation is increasing as the cost of owning and driving a car continues to climb along with skyrocketing gas prices. As a viable option to the automobile, public transit must offer user benefits that make bus service not just feasible, but also an attractive product.

An important component identified by the community during the development of this plan was the need to utilize various strategies to improve bus travel times, and ultimately, enhance the experience of using public transit. By implementing improvements that make using a bus more comparable to the automobile in terms of travel time and convenience, public transit's

contribution to the region's overall transportation system will become more significant.

This plan includes the following tools to help reduce transit travel times.

4.2.4.1 Bus-only Freeway Shoulder Program for Express Buses

The use of bus-only shoulders is an integral part of the LRTP. ODOT, MORPC, and COTA have teamed together in order to test the use of operating transit buses on freeway shoulders in central Ohio.

COTA has partnered with the Ohio Department of Transportation (ODOT) on a project that allows the operation of express buses on freeway shoulders. Since November 2006, buses traveling on I-70 east of downtown are able to merge onto the freeway shoulder to avoid congestion delays. Criteria as to when COTA is allowed to use the freeway shoulder were developed by ODOT. Only COTA buses are authorized to use the shoulders, allowing buses to mitigate travel time delays cause by congestion.

COTA bus on I-70

In brief, buses are allowed on the shoulders only when speeds in the freeway lanes dip below 35 miles per hour (mph), which usually occurs during peak-period commute times. The buses are allowed to go only 15 mph faster than the average speeds for regular traffic, and the maximum speed allowed on the shoulder is 35 mph. The buses merge back into traffic when they encounter vehicle breakdowns on the shoulders, law-enforcement actions, or when forced to do so by the roadway configuration.

COTA was the first transit agency in Ohio to implement the bus on shoulder program. Transit systems in Cincinnati and Cleveland have since implemented bus on shoulder programs. As a model of success, a similar system is being used on more than 230 miles of the freeway system in Minneapolis, Minnesota, and there are nine other states using or testing the use of bus on freeway shoulders. Over the next five years COTA will continue to work with ODOT, MORPC, City of Columbus, and Ohio State Highway Patrol staff to investigate the feasibility for implementation of at least one additional bus on shoulder highway corridor.

4.2.4.2 Intelligent Transportation Systems

A number of new technologies will be utilized to support the bus system, including improving on-time performance and reliability. COTA will implement technologies such as alternative forms of fare collection systems which speed up passenger boarding. COTA will also investigate the feasibility of traffic

signal priority timing at intersections to allow for the rapid movement of public transit vehicles at busy intersections. Additional details about COTA's ITS plans can be found in Section 4.4.

4.2.4.3 New Express Lines and Park and Rides

As described above, increasing the number of and directness of express lines throughout the region, and establishing eight new park and ride/transit center locations will ultimately reduce travel time.

4.2.4.4 Bus Stop Service Improvement Project (BSSIP)

In the fall of 2009, COTA began a system-wide bus stop analysis project to improve transit service throughout the service area. Many of the communities in COTA's service area have changed over time and the current bus stop locations may not reflect neighborhood growth, business changes, surrounding land use types or boarding preferences. As COTA adds service and evaluates existing service, the BSSIP will improve efficiency by shortening travel times and using available resources to best serve riders. A detailed analysis was designed to determine if bus stop spacing can be improved. The analysis determines if bus stops are located appropriately and being adequately used by riders. Once the analysis is complete bus stop spacing may be improved by removing underperforming and non-essential stops.

As part of the BSSIP process COTA has updated its existing bus stop spacing guidelines and examined factors that influence bus stop location. COTA uses factors such as population density, stop level ridership, ridership by line, ADA needs, street amenities, major destination locations, transit-oriented development and other development factors.

Table 4-4 New Bus Stop Spacing Guidelines

Density	Bus Stop Spacing Range
High Density, CBD, Shopping (>20 persons/acre)	500 – 700 ft.
Fully developed residential area (10 – 20 persons/acre)	700 – 850 ft.
Low density residential (3 – 10 persons/acre)	850 – 1200 ft.
Rural (or Express Bus Service) (0 – 3 persons/acre)	1200+ ft.

Significant public involvement is critical to the success of this program. Prior to implementation of the BSSIP program, during 2009 and 2010, COTA formed a stakeholder panel consisting of community, municipality, and other agency individuals to help better communicate COTA's project goals to the community, and to coordinate the logistics of bus stop relocations or consolidation. To solicit public input regarding stop removal and before final decisions are made, the BSSIP is addressed in regular public service change

meetings and the public is alerted to changes through commuter bulletins posted at all affected bus stops.

4.2.4.5 Improved Frequency of Service

Improving the frequency of service on many local, crosstown, and express lines, minimizes the wait time between scheduled buses on a line and makes service more convenient and attractive. The more frequent the service less wait time at the bus stop, reducing the overall travel time; which is particularly important when a transfer is required to complete a trip.

4.3 Mobility Services

As the mobility leader in the central Ohio region, COTA will continue to focus on expanding mobility options to the general public, especially diverse markets such as the elderly, disabled, and low-income individuals who need transportation to work, job training, and childcare. Directly, and in collaboration with others, COTA is committed to continuing to provide a full range of mobility options throughout this 23-year planning cycle.

COTA's Mainstream Vehicle

In addition to the federal ADA, which requires comparable destination-to-destination mobility service be provided to persons who cannot use the fixed-route system due to a disability, COTA understands there are growing populations who have few transportation options. As fixed-route service changes and expands, people with disabilities who use COTA will have new and greater mobility options. For example, improvements to accessible fixed-routes, such as extended hours of operation and an expanded service area have a corresponding impact on increasing mobility services.

COTA's current mobility services program, named Mainstream, has expanded to complement COTA's fixed-route bus service. During 2011, Mainstream provided over 204,000 trips, and from 2005 through 2011, ADA mobility services ridership grew by 24.3%. Due to the increase in mobility services riders and decrease in federal and state funding, COTA continues to face the challenge of identifying and evaluating cost effective measures to provide transportation solutions for the growing population of older adults, persons with disabilities and low incomes.


Wheel Chair Lift

One component in providing alternative methods to traditional mobility service delivery is the expansion of COTA's non-ADA service. Non-ADA service has

been offered to customers who reside or travel outside of the ¾ mile fixed-route service, but within COTA's taxing district. In addition, both services were provided by the same transportation provider. Due to the increase in ADA demand, COTA had to reduce the amount of non-ADA service provided in an effort to comply with ADA regulations.

In December 2011, COTA re-introduced non-ADA service as a separate entity and service is provided by a separate transportation company. COTA will strive to be in a position to continue to offer more transportation products in the future.

The LRTP provides a substantial increase in COTA's Mainstream service that addresses existing and future needs of the mobility services community:

- To reflect historical trends and the anticipated growth in the region's elderly and disabled population, service will increase a total of 46 percent by 2016 over 2006 service levels, with a 14 percent increase between 2012 and 2016;
- COTA's non-ADA service will be expanded to provide more service for persons with special transit needs in the community;
- Mainstream will emerge as a "one-stop" resource for trip planning so that customers experience faster turnaround and more convenient transportation to and from their destinations;
- Mainstream will cultivate more community partnerships to maximize available funding and resources that can strengthen the efficiency of mobility services; and
- An ongoing service evaluation system will continue to review existing operations, and new service delivery methods implemented to improve both service and effectiveness.

4.3.1 Mobility Coordination

During the spring of 2006, COTA and MORPC developed a partnership to create the Franklin County Coordinated Plan for the region. COTA and MORPC jointly prepared and each approved the plan in April of 2008. The plan development was an eligibility requirement for Job Access Reverse Commute (JARC), New Freedom, and the Specialized Transportation Program (STP) funding available from the Federal Transit Administration (FTA). When JARC and New Freedom funding became available, former Governor Ted Strickland named COTA as the designated recipient to manage the funding for central Ohio. ODOT is the designated recipient to manage the STP program statewide.

As a part of the planning process, public and private entities with extensive data collection from transportation funders, providers and users throughout the region were surveyed to share their opinions on transportation challenges and issues. The objective of this "Transit Forum" was to facilitate the sharing of planning and service activities to become a catalyst for encouraging consistency in the locally developed human services transportation, as required under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

4.3.2 The One-Stop Trip Itinerary Planner

To facilitate further development of working with other transportation service providers in a coordinated effort, COTA will pursue development of a one-stop trip itinerary planner which will offer travel planning based on available transportation resources within the central Ohio area. The One-Stop Trip Information system[8] (trip planner) will take requests for transportation needs from the customer or agencies. The request could initially be routed through COTA's Customer Support or the COTA website. The proposed trip planner will maintain an information base regarding providers for all transportation services including fixed-route, mobility services, and community-based transportation. Information regarding applicable fares will also be available. The trip planner will identify the most cost-effective service available.

Once the appropriate transportation has been identified, the trip planner will be able to link the customer with the agencies or transportation providers to request trips. The trip planner will simply identify available options and facilitate the use of the services. COTA will maintain a close working relationship with local transportation providers to stay current on possible service changes, ensuring these changes are reflected in the trip planner process.

4.3.2.1 How the Program Works

Initially, the trip planning center will be created to identify and provide information about the different transportation providers who service employment sites. The center will have an information referral number that any individual or agency can access. The center will also provide information about transit activities and centers. If transportation is not available through COTA's fixed-route service, other transportation providers that can access the work site or employment-related sites may be identified. Individual job seekers, workforce development organizations and the business community will also be able to use the center for transportation information for clients and/or employees.

[8] The trip planner initially may not act as a full "broker" for service. The trip planner may not be able to provide either directly or through subcontract the transportation service needed. The trip planner will only identify available options and facilitate the use of these services.

The center will have a comprehensive inventory of regional service providers, lines and schedules and will use the latest technology to store and retrieve the information. Initially, the information used for the center will be obtained from previous studies and updated as needed.

Once the one-stop center has been established to address employment and job access issues, the process can be expanded to include resources for human service agencies that seek transportation options for their clients. Job Access and Reverse Commute (JARC) grant money may be used to fund the initial start-up and operation of the center. Local grant matching dollars may be derived from the development of partnerships that would benefit from the service. Based upon interviews conducted from previous studies, several agencies expressed an interest in participating in the program. Some examples are:

- Franklin County Department of Job and Family Services for work, job training, and childcare transportation for welfare recipients (included in the Job Access program);
- Employment transportation for United Cerebral Palsy clients;
- Transportation for student teachers with disabilities at the Ohio State University;
- Franklin County Board of Mental Retardation and Development Disabilities for community-based and public transit options for clients; and
- Franklin County Department of Job and Family Services and the Ohio Department of Job and Family Services for community-based and public transit options for Medicaid trips.

As the one-stop center progresses, staff will work closely with the community to identify unmet transportation needs and work with agencies to further define and develop local transportation options. For example, if changes to fixed-route service are proposed that may negatively impact a neighborhood, one-stop staff could work with the local area and COTA's planning and operation's teams to identify viable options for those individuals affected by the service change.

Once the most appropriate transportation option is identified (based on service and cost criteria), the trip planner will link the agency/client with an individual at these organizations who is responsible for making final transportation arrangements.

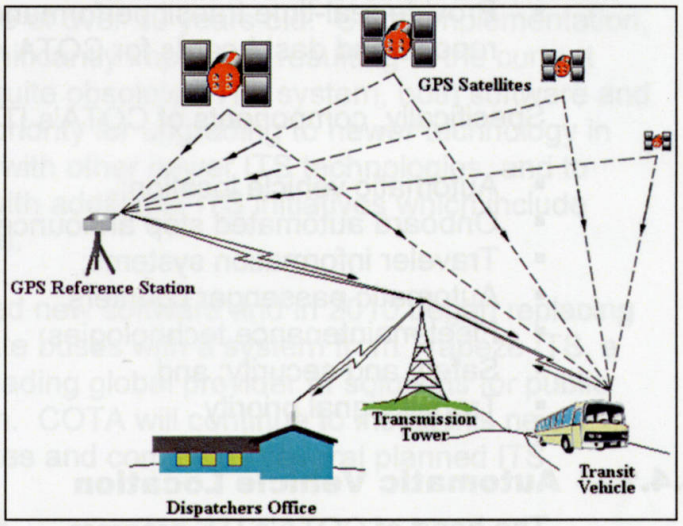
COTA will also maintain a close working relationship with local providers and funding partners to stay current with changes to transportation services within the region. This may include COTA service, MORPC ride-sharing services,

and/or various community-based or private transportation providers. COTA also plans to implement a travel-training program in conjunction with the "One-Stop Center" that will enhance mobility in the central Ohio region.

4.4 Intelligent Transportation Systems

Most transportation professionals agree that we cannot simply build our way out of urban traffic congestion problems. As one of several alternatives to costly build solutions, ITS provides the technology to enable people to make smart travel choices, and continued deployment of ITS strategies is an important component of COTA's long-range plan.

Real-Time Vehicle Location GPS Network



ITS encompasses a broad range of systems and technologies and has created many new opportunities for transportation professionals to respond proactively to increasing demand for effective transportation services, and to convey information to the traveling public. This can include global positioning technology that provides real-time schedule information to riders, electronic fare payment for greater customer convenience, and devices that integrate with traffic signal systems allowing transit vehicles priority over other vehicles. An example may include use of COTA's website to answer the question, "When will my bus arrive?"

The above diagram displays how a bus would send and receive information about its location. Satellites are used to determine the location of the bus, sending information to dispatch and, ultimately, could feed into real-time bus location displays, such as a digital map.

COTA's ITS plan is focused to improve passenger convenience, vehicle operations, and mechanical systems. This includes advances in vehicle dispatching, tracking, and telecommunications that translate into real transit-user benefits: safer, more reliable, more responsive and more accessible service. Further, COTA's ITS enhancements are designed to:

- Make bus travel easier for all passengers, including those with hearing and vision disabilities;
- Avoid traffic congestion and improve on-time performance;

- Provide timely and comprehensive transit information such as real-time "next bus" arrival information on variable message signs located at park and rides, transit centers and selected shelters;
- Make complete schedules and a host of itinerary-planning features available through COTA's web site and web-equipped devices such as smart phones, and tablet PC's ; and
- Provide real-time transit performance and customer data via automated reports and dashboards for COTA management decision making.

Specifically, components of COTA's ITS plan include:

- Automatic vehicle location;
- Onboard automated stop announcements;
- Traveler information systems;
- Automatic passenger counters;
- Fleet maintenance technologies;
- Safety and security; and
- Transit signal priority.

4.4.1 Automatic Vehicle Location


COTA Radio Room

The heart of COTA's ITS program is its CAD/AVL system (Computer Aided Dispatch/Automatic Vehicle Location). This system provides COTA dispatchers and supervisors with the capability of real-time location tracking of each bus. GPS devices placed on each fixed-route, demand-response, supervisor and maintenance vehicle allow dispatchers to monitor a particular vehicle's location. Additionally, the system can automatically calculate important operational metrics for fixed-route vehicles, such as whether the bus is running on-time, early, or late compared to scheduled times. The system, which is integrated with Franklin County's 800 MHz radio system, sends and receives fleet data over the same radio frequencies used by dispatchers to communicate with COTA operators.

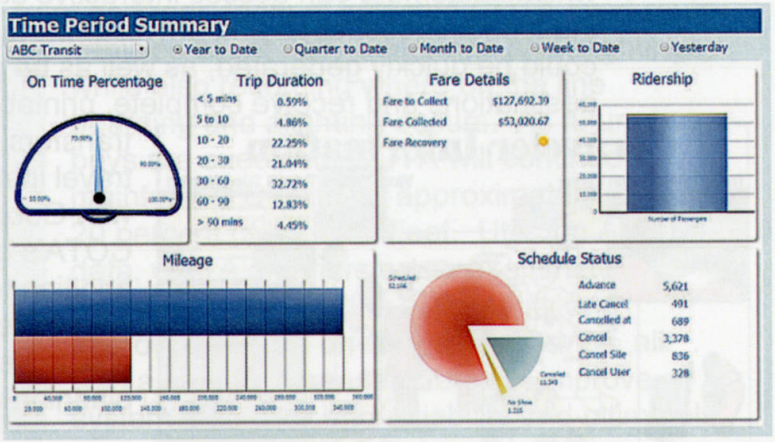
In addition to tracking a vehicle's location in real time, the CAD/AVL system also archives information for future performance analysis, and to assist in incident/dispute resolutions. This archive function provides the ability to "playback" events on a computer, allowing staff to review and remedy where buses encountered delays or other operational issues along a line. Further, data retrieval allows for a wide range of incidents and disputes to be resolved

quickly and easily; eliminating the need to spend numerous hours of limited staff time resolving issues. Additional analysis includes the ability to determine if the current route structure is providing the greatest efficiencies, and if recent service changes are having the intended effect on line efficiency and customer convenience.

COTA's CAD/AVL technology forms the basis for all other ITS components that are built upon and integrated with this system. The current Orbital CAD/AVL has approached a life of over 10 years old. Since implementation, technology advances have significantly improved, resulting in the current system technology becoming quite obsolete. The system, both software and hardware, was identified as a priority for upgrading to newer technology in order to maintain compatibility with other newer ITS technologies, and to allow COTA to move forward with additional ITS initiatives which include advanced, modern components.

Initiated in 2009, COTA installed new software and in 2010 began replacing the Orbital system on fixed-route buses with a system from Trapeze ITS, a division of Trapeze Group, a leading global provider of solutions for public urban passenger transportation. COTA will continue to install this newer technology that also incorporates and completes several planned ITS components:

- Electronic manifest for paratransit operations;
- Driver training and on-board vehicle component and performance monitoring;
- Transit intelligence system named Trapeze ViewPoint. ViewPoint is a reporting, monitoring and analysis solution which will allow staff to access, analyze and distribute operational data, and comes equipped with over 200 standard reports and dashboards; and



Trapeze ViewPoint Dashboard

- Paratransit demand response systems (IVR and Internet based reservation communication and automated notification).

4.4.2 Onboard Automated Stop Announcements

Enhancing the experience of riding on a COTA vehicle is a major component of the ITS program. COTA has installed an Automated Voice Annunciator (AVA) system to make bus travel easier for all passengers, especially those with hearing and vision disabilities.

As a bus approaches a stop, the AVA system automatically announces the next stop, as well as displaying it on a variable message sign inside the bus. The announcements are made using the bus' existing public address system that has speakers inside and outside the bus. The variable message signs are ceiling-mounted at the front of each bus inside the vehicle.

Utilizing a CAD/AVL system which tracks locations of all buses, COTA's fixed-route fleet provides benefits, not only for passengers with hearing and vision disabilities, but also to other riders who may not be familiar with the stops of a particular line. These benefits would also apply to individuals who, due to poor or limited visibility caused by night or inclement weather conditions, have difficulty identifying their bus stop location. The AVA system is currently being updated with the new CAD/AVL system, with completion scheduled by the end of 2012.

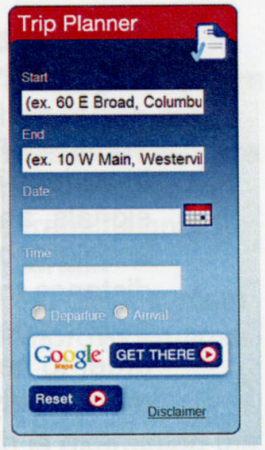
4.4.3 Traveler Information Systems

This ITS application makes available a web-based itinerary planner through which customers can access interactive screens on the COTA web site to input origin/destination and arrival/departure information. Then a trip itinerary could be quickly generated, as well as be used to look-up popular destinations and receive complete, printable itineraries including maps, transfers, stop locations, fares, and written travel instructions. In 2008, COTA partnered with Google to provide trip planning for COTA's customers via Google Maps. In addition to Trapeze's "Bus Tracker" web-based itinerary trip planner, customers now have two options for obtaining trip planning information via the web.

Complete Traveler Information System

Future travel information initiatives planned for the 2012-2013 timeframe will feature "next bus" information at high volume passenger locations, a web-based email subscription service to notify customers via email when their bus is within a specified time from the stop, or if there is an unexpected change in normal bus operation. Since this information can be displayed on any Internet-ready

device, real-time data could be sent to devices including flat panel displays at bus shelters and transit centers.



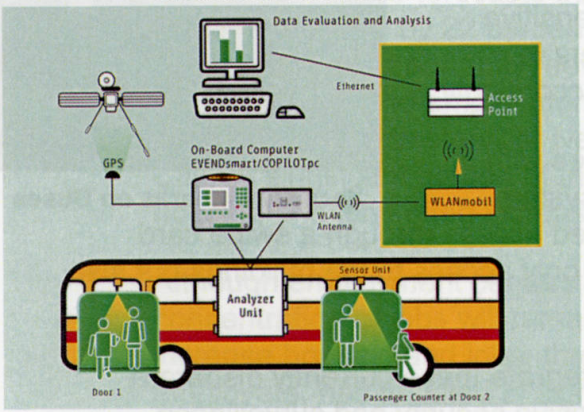
Google Trip Planner

As of March 2012, 97 fixed-route buses have been equipped with the Trapeze CAD/AVL system. During this conversion phase, due to having two different systems in place and the associated impacts on providing accurate information, the real-time bus tracking feature is currently disabled until complete cut-over to the new Trapeze system is completed.

As the Trapeze ITS installation comes to completion, COTA will display "next bus" information at main transit hubs, transit centers, and other high volume bus shelters via display panels. These signs will provide a time-based countdown for the arrival of the next bus in addition to informing the customer if the bus they were waiting for has left or is yet to arrive. Countdown is considered to be the most user-friendly format for presentation and can be readily implemented with scheduled time, current time and schedule adherence data.

4.4.4 Automatic Passenger Counters

ITS applications will continue to significantly enhance COTA's ability to ensure that public transit serves as many customers as possible. Investments will continue to be made in our APC system. With APCs, electronic sensors near the front and rear doors of selected COTA fixed-route vehicles count daily boardings and alightings, while also recording where on the line boarding and alighting occurs. As future bus buys are executed, COTA will continue to maintain APC units on approximately 20 percent of the total fleet. Utilizing APC data, COTA planners can make timely decisions affecting line alignments and improved vehicle on-time performance, all with a goal to increase ridership, improve system efficiency and reliability and ultimately, customer satisfaction levels.



Automatic Passenger Counter System

4.4.5 Fleet Maintenance

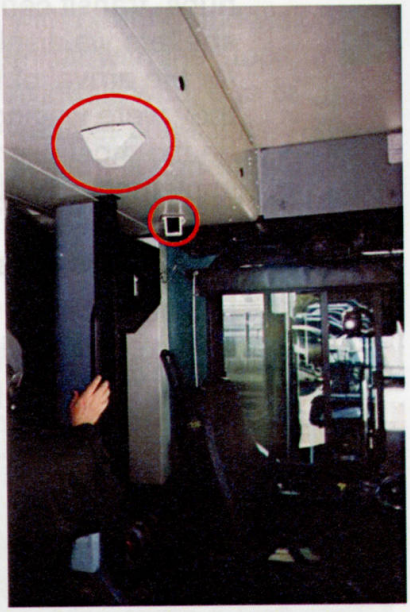
Included with the Trapeze CAD/AVL upgrade is the ability to provide enhanced maintenance capabilities to the fleet through vehicle component monitoring (VCM). VCM, or preventive maintenance software, enables automatic monitoring of transit vehicle engine components and provides warnings to COTA's maintenance personnel if failures are about to occur.

This element would eventually integrate with COTA's existing maintenance software that manages the maintenance records of transit vehicles.

To monitor the COTA vehicle, an on-board microcomputer will be connected to various input devices: engine sensors, GPS receiver, ramp deployment signals, and odometer sensors, which can record characteristics such as acceleration/deceleration, speed/RPM, engine run time, and cumulative distance traveled. When the vehicle returns to the garage, the data can be downloaded via the wireless local area network to the maintenance system in order to help maintenance personnel conduct proactive fleet maintenance in a more timely and efficient manner, reducing overall maintenance costs.

4.4.6 Safety and Security

Ensuring the safety of customers and operators is one of COTA's highest priorities. Over the last few years COTA, along with many other public organizations, has increased their interest in security to include their fleet and facilities.



Security Cameras on Buses

Examples of ITS technologies used in ensuring a safe and secure environment include a video surveillance system which incorporates five to six cameras in each fixed-route bus, images from which are stored automatically to hard drives on the buses. Additional on-board security features include emergency alarms and other sensitive security features which allow dispatchers to monitor situations on the bus and act accordingly.

COTA also currently monitors its facilities with a Closed Circuit Television surveillance system. Finally, each COTA facility has controlled access through a swipe card system. The swipe badges control not only access to the buildings but also the associated parking areas.

In the future, the COTA ITS plan will integrate these currently disparate systems and provide the agency a cohesive security and surveillance approach that is integrated with their dispatch control center operations.

4.4.7 Traffic Signal Priority

Over the past few years, implementation of various ITS technologies has been conducted by several local municipalities. For example, the City of Columbus and ODOT have installed real-time cameras at numerous intersections and highway areas in central Ohio in order to help monitor traffic flow, reduce the running of red lights, improve the speed of traffic incident response times and improve overall safety of operations.

Another potential area of ITS integration and partnering with local agencies includes the ability to interface with the city of Columbus' traffic signal system and provide COTA buses priority at certain intersections when buses are running late. COTA, with the assistance of MORPC, continues to investigate the feasibility of integrating with the Columbus signal system in order to determine how the City's system can be adapted to provide transit signal priority to COTA buses by extending the green time (within certain parameters) when the bus is running late. In the future, as the city's system evolves, this is another key integration project which would improve on-time performance and system reliability.

In 2011, COTA began an Alternatives Analysis study, which is examining the feasibility of implementing bus rapid transit along Cleveland Avenue. Part of this study includes the feasibility of implementing signal priority, primarily along Cleveland Avenue. Improvements within the Cleveland Avenue corridor are expected to be made after the completion of the study. Traffic signal priority is just one type of improvement. Further information regarding the study can be found below in Section 4.5.3.4.

COTA will continuously pursue diverse ITS technologies to increase mobility and enhance transit operations by making travel safer, more efficient, cost effective, and convenient.

4.5 Strategic Transit Investments

By 2035, MORPC forecasts that population is expected to rise by 16 percent and employment by 22 percent[9] in Franklin County, as shown in Figures 2-2 and 2-3. More importantly, development patterns indicate that the majority of the population and employment growth will occur along I-270 in the suburbs Hilliard, Dublin, Westerville, New Albany, Gahanna, Reynoldsburg, and Grove City. A significant portion of this growth will occur in clusters, with new housing and jobs often increasing together.

Although employment centers are growing in the suburbs, the largest concentration of jobs will remain in the CBD. City of Columbus' initiative to increase housing and jobs, through tax incentives for homeowners and employers, has resulted in significant growth in the residential market and employment opportunities returning to the CBD. As a result, office vacancy rates have decreased from 26 percent in the first quarter of 2003 to 13 percent as of the second quarter of 2008[10]. Over the next 25 years, the CBD will remain the single largest concentration of employment in the region.

For residents of central Ohio, this means significant increases in traffic congestion, shown in Figure 2-5. These factors offer COTA a unique

[9] MORPC 2010 Land Use by Grid population and employment projections
[10] 2010 Downtown Columbus Strategic Plan

opportunity to explore strategic transit investments that provide transportation options in the most congested travel corridors in the region.

Strategic transit investments include alternative transit modes and other investments such as:

- Fixed-guideway options;
  - Bus Rapid Transit (BRT), light rail, commuter rail, etc.
- Non-fixed-guideway options;
  - BRT light, a type of BRT service with fewer service amenities than full BRT. See section 4.5.3.4 for more details.
- Advanced purchase of property for future park and rides and transit stations; and
- Other capital investments that directly support transit use.

COTA's commitment to improving transit in the region includes the pursuit of funds for alternative modes of transit; however, the current funding levels, both at the federal, state and local levels limit future initiatives. Additionally, COTA pledged to use the current temporary 0.25 percent sales tax to fund fixed-route bus service and mobility services expansion. For rail alternatives or an exclusive guideway system to be possible, additional funding would have to be sought and approval by the voters. However, in combination with COTA's local funding, discretionary grant funding through various federal and State programs will continue to be sought after.

4.5.1 Strategic Initiatives

Two major types of initiatives emerged during the planning process as candidates to support long-term transportation needs. These include:

- Alternative transit modes, such as Bus Rapid Transit (BRT) and investigating potential fixed-guideway options;
- Strategic property acquisition for potential fixed-guideways; transit centers and park and ride facilities.

4.5.2 Alternative Transit Modes

COTA will continuously investigate modes of transit that offer alternatives to the traditional bus fixed-route service. These modes include fixed-guideway alternatives, such as rail and full bus rapid transit (BRT), and alternative service modes, such as limited-stop locals and BRT light, a type of BRT service with fewer service amenities than full BRT. However, the current funding challenges mentioned above restrict implementation for rail initiatives and projects that require exclusive rights-of-way.

In the past, COTA has studied the implementation of fixed-guideway transit modes, particularly rail within the North Corridor. The first attempt at funding rail with proposed expanded bus service was in 1999; due to many circumstances that proposed referendum failed to pass. From 2000 through 2006, COTA engaged in an Environmental Impact Study for Light Rail, Bus Rapid Transit, and Streetcar all in an exclusive right-of-way in the North Corridor Transit Study. The corridor ran from the Central Business District north through Worthington and had a terminus of Lazelle Road. At the conclusion of that study, the COTA staff recommended and the COTA Board of Trustees accepted the Locally Preferred Alternative as expanding the Bus network.

Currently, COTA does not have plans to implement any fixed-guideway initiatives in the near future. COTA will continue to solicit public feedback about desired modes of fixed-guideway transit, such as light rail, commuter rail, streetcar, or bus rapid transit in an exclusive corridor; however, for those types of systems to be implemented, additional funding would need to be identified.

Although there are no plans for a fixed-guide initiative, COTA is undertaking a study on the Cleveland Avenue corridor. The Northeast Corridor Alternatives Analysis is examining potential alternative forms of transportation, including expanded fixed-route bus service and the implementation of a Bus Rapid Transit (BRT). This form of BRT can operate in mixed traffic and without dedicated lanes reducing the cost dramatically yet improving service levels that draw ridership increases. A detailed explanation of the study and future plans can be found below in section 4.5.3.4.

4.5.3 Strategic Property Acquisition

As a part of COTA's continuing effort to meet the future transportation needs of the central Ohio area, the agency continually identifies strategic property acquisitions that positions COTA to enhance our fixed-route bus service. With the region's growing population and development, the need to transport commuters quickly and safely while simultaneously reducing congestion on roads and improving air quality is a top priority.

Advanced acquisition of property for transit centers, park and ride facilities and other Right-of-Way (ROW) uses offers COTA opportunities to improve transit service. Purchasing property in advance allows COTA to select locations that offer a "best fit" with future service expansion, creating a more effective system. Examples of strategic property acquisition primarily include, but are not limited to, purchasing land for transit centers and park and rides, and purchasing or acquiring the rights-of-way for future guideway projects.

As the plan is updated every four years and demand evolves over time, new strategic acquisition opportunities may be identified beyond what is present in

the current plan. Additionally, as plans change already acquired strategic investments may no longer be needed. As such, COTA will be responsible managers of tax payer money by "banking" the land to sell it at a future date to recover the cost of the acquisition.

4.5.3.1 Park and Rides

Park and ride facilities offer a significant opportunity to improve transit service by providing a safe location for customers to park vehicles and an enhanced bus stop waiting environment. Opportunities for strategic property acquisition include the purchase of property along current and planned express lines as well as major local lines. Locations are generally selected within suburban communities near arterial roads with high visibility and easy accessibility.

As development and transportation construction projects occur throughout central Ohio, COTA will continue to investigate opportunities for acquisition of property for potential park and rides. As an example, during the construction of freeway interchanges, if the location is ideal, COTA could approach ODOT and request land to be set aside for a new park and ride. This is particularly important where new interchanges are constructed, as development generally follows new interchanges and drives up the price of land.

Planned park and rides can be found above in section 4.2.2.

4.5.3.2 Transit Centers

Transit centers are facilities that serve as a focal point of fixed-route bus lines, combining increased access to service with supporting services within the same or adjacent facilities. These locations offer a safer, more comfortable waiting environment for customers as well as information about COTA's services, such as schedules and fare prices. In combination with transit service, transit centers provide locations for businesses in a transit oriented land use. Examples could be child care facilities, such as at the Easton Transit Center, health care and banking services, or other service related fields.

Often located at the intersection of major arterial streets, on which major fixed-route bus lines operate, and at important transfer locations, transit facilities are limited in potential locations. As with park and rides, COTA will monitor development and transportation construction throughout central Ohio for opportunities to acquire strategic locations for transit centers. Unlike park and rides, locations must service major fixed-route bus lines and be along busy arterial roads. Additionally, the cost of a transit center is substantially greater than a park and ride and often involves several COTA lines, making selection of a potential transit center location more strategic and challenging.

COTA plans to find some property along the Cleveland Avenue corridor relocating the Northern Lights Transit Hub and Park and Ride site to a new location in proximity to Northern Lights increasing the parking supply. Potential locations will likely be north of the current Northern Lights Park and Ride, with development expected to begin in 2014.

Northern Lights Transit Center Concept

4.5.3.3 Right of Way (ROW) and Fixed-Guideway Purchase

Fixed-guideway transit options, such as light rail transit (LRT) or bus rapid transit (BRT), are frequently implemented within a utility Right of Way (ROW), usually a freight railroad line. Within a built environment, such as a suburb or city, these ROWs generally offer the only opportunity to provide an exclusive route in which transit can run separately from auto traffic, achieving higher speeds and better schedule adherence. Because fixed-guideways are utilized by transit vehicles only, they allow for the quick and timely transport of people to and from key urban centers. These service improvements are necessary to attract a significant number of transit riders necessary for the fixed-guideway service to be successful.

Central Ohio has some unique opportunities with respect to railroad ROW. With consolidation of rail-freight carriers over the last 20 years, Class I railroads have sold their lower volume lines to Short Line operators and railroads have reduced the number of tracks in most corridors. Railroad corridors are particularly attractive as they often present sufficient width, length and opportunities to partner with freight carriers who lack the necessary capital to improve the infrastructure. Active rail-freight corridors that carry heavy volumes of freight are more complex, but it is possible to investigate shifting rail-traffic patterns in the region if a capacity study is undertaken that supports more efficient movements for freight carriers. COTA will investigate opportunities as they arise and strategically determine if action or feasibility studies might be warranted in the future; however, COTA's current funding stream wouldn't support a major investment without additional funding. Currently COTA is not investigating the purchase or use of any rail ROW.

4.5.3.4 Northeast Corridor Alternatives Analysis Study

In July 2010, COTA applied for and was awarded grant funding from the FTA's Section 5339 Livability Funding Opportunity: Alternative Analysis Program. The program focuses on the six livability principles of the Sustainable Communities initiative, a partnership initiative between federal Housing and Urban Development (HUD), Department of Transportation (DOT) and Environmental Protection (EPA) agencies. COTA has committed to using the award to fund an alternatives analysis study for BRT service within the Northeast Corridor surrounding Cleveland Avenue. A Request for Proposals (RFP) was issued in the summer of 2011. As of March 2012, the study is currently underway and is investigating the feasibility of implementing various alternatives of BRT services based upon goals set forth in the study.

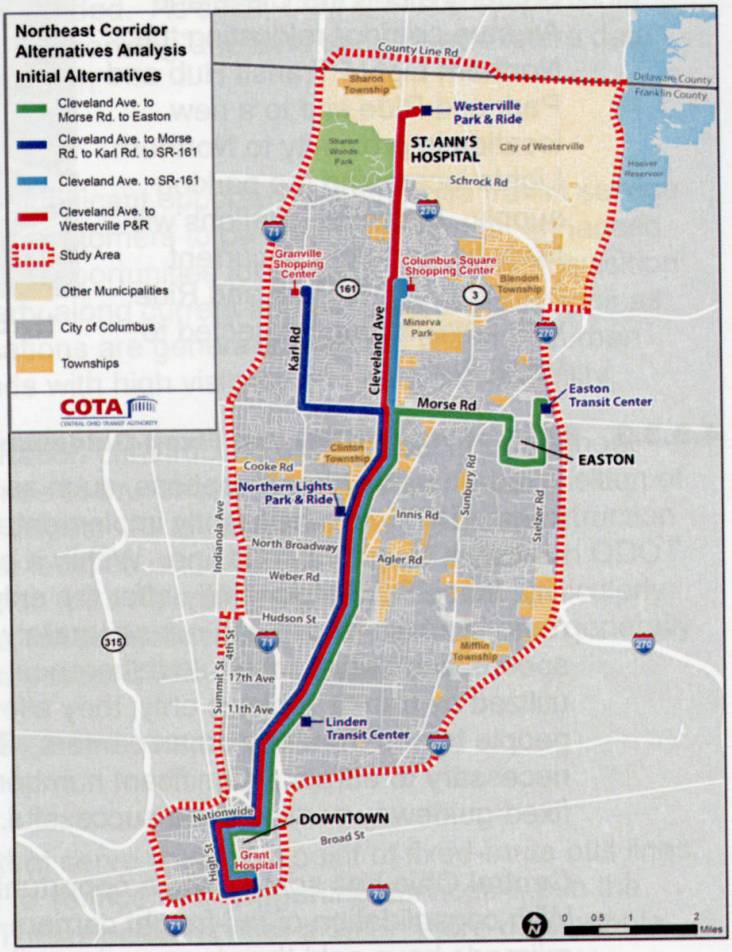


Figure 4-9 Cleveland Avenue Corridor Alternatives

The project's purpose is to expand and improve mass transit's role and contribution to the overall livability, sustainability and economic vitality of the Northeast corridor and the central Ohio region through faster and more-convenient transit service and improved amenities for mass transit users.

The project goals, developed from the purpose, are outlined below:

- Goal 1: Transit level of service improvements
- Goal 2: Sustain and enhance economic vitality
- Goal 3: Promote livability principles
- Goal 4: Develop a financially feasible project

Initial evaluation of transit alternatives recommends BRT in mixed traffic utilizing one of four potential alignments, as shown on the previous map, Figure 4-9. The study will examine various components of BRT service, including vehicle type, advanced boarding methods, fare collection, etc.

The study is scheduled to be completed by July 2012. If a build alternative is chosen by the study and approved by the FTA, funding for the chosen alternative for the corridor will be pursued. Securing funding will allow the project to complete the Project Development process and move into construction, with a completion date of 2016. Section 4.5.4 further details this process.

4.5.3.5 Future Alternatives Analysis Studies

COTA may consider additional corridors for alternatives analysis studies as future funding opportunities become available. Working with the City of Columbus, Franklin County, other area agencies and the public is necessary to identify corridors that both have a high potential for success and are feasible candidates. For example, a particular corridor may be an excellent candidate, with high transit ridership, dense housing and supportive land use; however future plans and current conditions, such as lack of available driving lanes, may make alternative transit modes unfeasible.

4.5.3.6 Funding Alternative Transit Mode Projects

Most large scale transit projects, including fixed-guideway development, cannot be realized without financial assistance from not only local sources, but from federal and state government sources as well. The federal government authorizes funding through Congress in the form of a six-year transportation bill. The most recent bill, known as SAFETEA-LU, was signed into law by President Bush in August 2005[11]. As of September 30, 2009, the SAFETEA-LU expired and has been funded through continuing resolutions, a temporary extension of the act, although the total funding levels have been reduced. It is expected that a new Surface Transportation Act will be passed after 2012 elections and the current act will continue to be funded through continuing resolutions until then.

In the initial passing of SAFETEA-LU over $8.1 billion were authorized for New Starts projects. Through Section 5309 (49 U.S.C. 5309) of the bill, over $5.0 billion in grants were provided for funding fixed-guideway projects in the next three years (2007 to 2009). Continuing resolutions have kept funding available for grants. These grants, known as 'New Starts', 'Small Starts' or 'Very Small Starts', are disbursed through the FTA, which also outlines and monitors the grant qualification process. FTA provisions can significantly reduce the amount of funding required from local and state governments and the transit agency itself. This, in turn, allows a transit agency such as COTA to reserve more of its budget for other operational or capital projects.

[11] FTA, "SAFETEA-LU Implementation" (www.fta.dot.gov/index_4696.html)

4.5.3.7 Types of Federal Funding Available

There are two primary types of federal funding available for fixed-guideway development under Section 5309 of SAFETEA-LU. The first, known as 'New Starts', is reserved for the largest projects in both scope and cost. New Start funding is available for Major Fixed-Guideway Capital Investment projects[12]. Of the $5.1 billion set aside for fixed-guideway development in the next three years, $4.5 billion is reserved for New Starts projects, see Table 4-5. Due to the large proportion of fixed-guideway funds set aside for New Starts projects, the requirements for obtaining these funds are also the most stringent.

Table 4-5 SAFETEA-LU Section 5309 Fixed-Guideway Capital

	2007	2008	2009	Total
New Starts	$1,366 M	$1,500 M	$1,609 M	$4,475 M
Small Starts	$200 M	$200 M	$200 M	$600 M
Other	$20 M	$20 M	$20 M	$60 M
Fixed-Guideway Total	$1,586 M	$1,720 M	$1,829 M	$5,135 M

The second type of funding available under Section 5309 is labeled 'Small Starts' funding. Small Starts projects must be either (a) transit systems that meet the criteria for fixed-guideways for at least 50 percent of the length during peak periods, or (b) corridor-based bus projects that contain specific elements prescribed by the FTA[13]. Only projects valued under $250 million are eligible for this funding. The maximum amount of grant funding that can be obtained through the FTA is $75 million. Small Starts projects also have more relaxed eligibility criteria and a streamlined approval process. On July 27, 2007 the FTA published the Updated Interim Guidance and Instructions for the Small Starts program.

Within the category of Small Starts funding is a sub-category labeled 'Very Small Starts' (VSS). To qualify as a VSS project, the same criteria for a Small Starts project must be met, with a few additional criteria: the capital cost of the project must be less than $50 million, the construction cost must be less than $3 million per mile, and the corridor must have a minimum of 3,000 daily transit riders. Funding for VSS projects is taken from the pool of Small Starts grants, with the amount designated for Very Small Starts to be determined by the FTA[14].

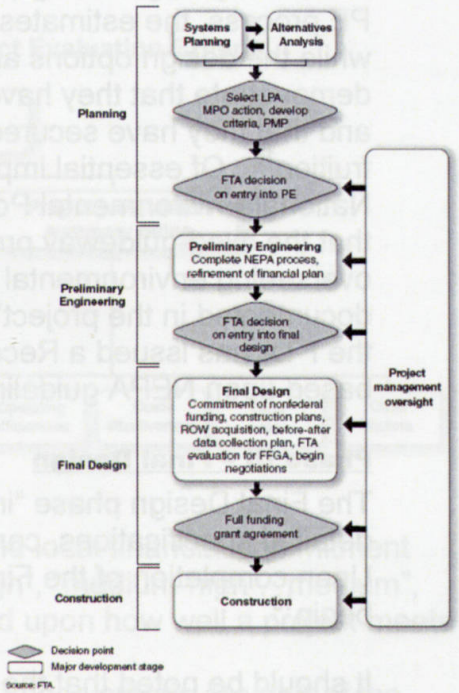
The Northeast Corridor Alternative Analysis study, outlined above, will pursue a "Very Small Starts" discretionary funding option. Once the analysis is complete and a "Locally Preferred Alternative" (LPA) is identified, COTA will

[12] FTA, "New Starts Fact Sheet" (www.fta.dot.gov/documents/FTA_New_Starts_Fact_Sheet_Sept05.pdf#search=%22new%20starts%20small%20starts%22)
[13] Ibid.
[14] FTA, "New Starts Fact Sheet" (www.fta.dot.gov/documents/FTA_New_Starts_Fact_Sheet_Sept05.pdf#search=%22new%20starts%20small%20starts%22)

move forward with the application process, currently scheduled to begin in Fall 2012.

4.5.4 Project Development and Evaluation

The FTA requires all New Starts grant applicants to partake in an extensive application process that contains numerous steps and demands a commitment to the long-term development, maintenance, and funding of the project. This process can be divided into two primary stages: (a) Planning and Project Development, during which the applicant justifies the validity of the project from various perspectives, including economic feasibility, environmental impact and physical design, and (b) Project Evaluation, where the FTA rates the project based upon the aforementioned criteria and determines whether or not the project should be funded.



FTA New Starts Planning and Development Process

4.5.4.1 Planning and Project Development

The initial step in project planning requires the public agency to identify a specific corridor for potential transit development. This corridor must be chosen based upon community needs and a desire to alleviate transportation problems within and surrounding the chosen corridor. Once the priority corridor is identified, the agency can begin with the Planning and Project Development stage.

All three types of funding, "New Starts", "Small Starts" and "Very Small Starts" follow the same three phases under Planning and Project Development. The three phases are:

Phase I – Alternatives Analysis

In the Alternatives Analysis, the project sponsors must explain their reasons for proposing a fixed-guideway system and for choosing a particular corridor for development. Included in this step is an evaluation of the various mode and alignment options, a review of the sponsor's effort to involve local officials and community members in the decision making process, and the selection of a "Locally Preferred Alternative" (LPA), or plan. Each step of this process must be documented in a publication called an Environmental Impact

Statement (EIS). The Draft Environmental Impact Statement (DEIS) must be completed at this time[15].

Phase II – Preliminary Engineering

Preliminary Engineering (PE) is a refinement phase of the plan. During the PE process, the estimates of project costs, benefits, and impacts are honed, while the design options are carefully considered. The sponsors must demonstrate that they have the engineering capability to develop the project and that they have secured enough local funding to bring the project to fruition[16]. Of essential importance at this time is the completion of the National Environmental Policy Act (NEPA) process. This process requires that the fixed-guideway project comply with the various federal laws overseeing environmental protection, and that the compliance with the laws is documented in the project's EIS[17]. This phase is considered complete once the FTA has issued a Record of Decision or Finding of No Significant Impact based upon NEPA guidelines[18].

Phase III – Final Design

The Final Design phase "includes the preparation of final construction plans, detailed specifications, construction cost estimates, and bid documents." Upon completion of the Final Design phase, construction of the project can begin[19].

It should be noted that the FTA does not support the use of Section 5309 funds for initial planning activities. Moreover, as amended by the Transportation Equity Act for the 21st Century, 49 U.S.C. 5309(m)(2) limits the amount of New Starts funding that can be used for purposes other than final design and construction to not more than eight percent of funds appropriated. Projects become candidates for funding under this program by successfully completing the appropriate steps in the major capital investment planning and project development process[20].

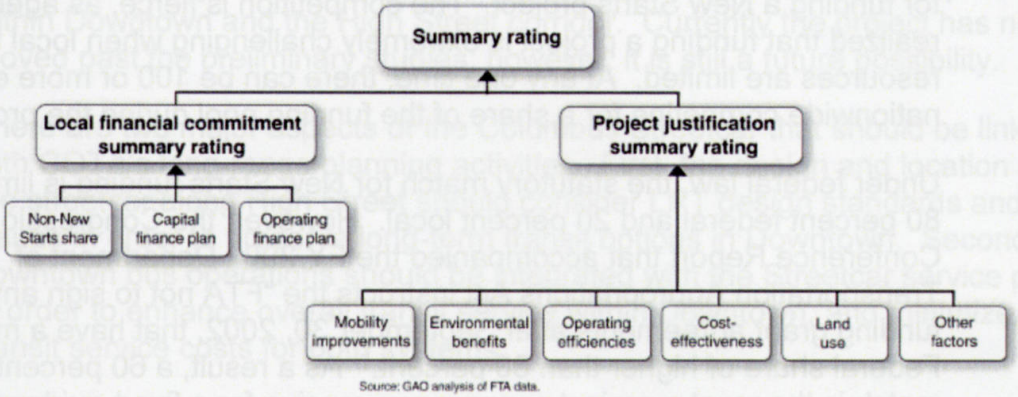
Project Evaluation

Federal funding for a New Starts project will not be granted until the project is evaluated and a project rating is assigned. The FTA analyzes two primary areas, in addition to the factors that have a role in each area, for calculating a rating. The first, the project's local financial commitment, takes into consideration the amount of capital already available for the project, the

[15] FTA, "Introduction to New Starts" (http://www.fta.dot.gov/planning/newstarts/planning_environment_2608.html)
[16] Ibid.
[17] Ibid.
[18] FTA, "What Is NEPA?" (www.fta.dot.gov/planning/environment/planning_environment_225.html)
[19] FTA, "Introduction to New Starts",(www.fta.dot.gov/planning/newstarts/planning_environment_2608.html)
[20] Ibid.

amount of capital that will be financed, and the financial operating plan for the project, as shown in the following figure. The second area summarizes the project justification. These topics, specifically the mobility improvements brought forth by the project, environmental benefits, and cost-effectiveness of the project, amongst others, are covered in the EIS, Figure 4-10.

Figure 4-10 New Starts Project Evaluation Criteria



Source: GAO analysis of FTA data.

The FTA gathers the project justification and local financial commitment criteria, and from it rates the project as "high", "medium-high", "medium", "medium-low", or "low". The rating is based upon how well a project meets the FTA's Project Justification criteria. (http://www.fta.dot.gov/12304_2607.html) These criteria are part of the federal *Livability Initiative,* a DOT-HUD-EPA partnership initiative created to promote integration of transportation, housing, and the environment. The criteria examined are broken into six categories:

- **Mobility Improvements**
  - Measured by travel time benefits per project passenger mile, low-income households served, and employment near stations.
- **Environmental Benefits**
  - Measured by change in regional pollutant emissions, change in regional energy consumption, and EPA air quality designation.
- **Cost Effectiveness**
  - Measured as the cost per hour of travel time saved.
- **Operating Efficiencies**
  - Measured by system operating cost per passenger mile.
- **Transit Supportive Land Use & Future Patterns**
  - Measured by existing land use, transit supportive plans and policies and performance, and impacts of policies.

- **Other**
  - Includes a number of optional factors, including the projected economic impact of the project.

Although the New Starts process is lengthy and challenging, transit agencies are willing to endure the process to attract the federal assistance necessary for funding a New Starts project. The competition is fierce, as agencies have realized that funding a project is extremely challenging when local financial resources are limited. At any one time, there can be 100 or more entities nationwide competing for a share of the funding pool during the process.

Under federal law, the statutory match for New Starts funding is limited to 80 percent federal and 20 percent local. However, the Congressional Conference Report that accompanied the FY 2002 Department of Transportation Appropriations Act instructs the "FTA not to sign any new full funding grant agreements after September 30, 2002, that have a maximum Federal share of higher than 60 percent." As a result, a 60 percent grant match is the most a project sponsor can receive for a fixed-guideway project, leaving the local agencies with the responsibility of covering 40 percent of the project cost.

4.6 High Capacity Transit Corridors

As part of the 2006 long-range planning process, MORPC conducted a general analysis of the major travel corridors in central Ohio. Based upon population, employment, and travel predictions, MORPC identified three corridors as meriting consideration for fixed-guideway options: North, Northwest, and East.

In 2006, COTA completed the North Corridor Transit Project to study fixed-guideway opportunities within the north corridor. Based upon the results of the study the COTA Board of Trustees adopted a Locally Preferred Alternative (LPA) for the corridor that focuses upon bus service improvements and did not include any fixed-guideway options. It may become appropriate at some time in the future to re-examine that decision under several scenarios, such as: a rapid increase in travel within the corridor, a major increase in gasoline prices, or a change in the method the FTA evaluates projects.

To develop a fixed-guideway project and receive federal funding from the New Starts program, COTA will be required to follow the lengthy and rigorous FTA process summarized earlier in this section for each corridor.

It is important to note that future corridors identified for potential fixed-guideway use will be re-assessed along with the rest of the plan components in order to stay current with actual development patterns. It is

possible that any or all of the modes discussed above could be considered throughout the region at some point in the future.

4.6.1 Relationship with the City of Columbus Streetcar Project

In 2006, the City of Columbus studied the potential for a street car in the High Street corridor. The streetcar is expected to increase circulation, enhance mobility and serve as a catalyst for further economic development within Downtown and the High Street corridor. Currently the project has not moved past the preliminary studies; however, it is still a future possibility.

There are two major aspects of the Columbus Streetcar that should be linked with COTA's long-range planning activities. First, the design and location of the streetcar along High Street should consider LRT design standards and issues in order to preserve long-term transit options in Downtown. Secondly, downtown bus operations should be integrated with the Streetcar service plan in order to enhance overall transit service within Downtown, and minimize transit service costs for both systems.

4.6.2 Other Strategic Initiatives

Other strategic opportunities may present themselves that are currently not under consideration. Alternative fuels are becoming an expanding area of interest in the transit industry. COTA plans to integrate compressed natural gas (CNG) into the bus fleet, eventually replacing standard diesel buses, and it may be necessary for COTA to partner with a gas provider and construct a CNG fueling station. This idea represents the type of strategic initiative COTA plans to be well positioned to pursue in order to best meet the transit needs of the community.

4.7 Customer Services, Amenities and Public Outreach

COTA realizes that quality customer service and attractive, informative, and recognizable amenities are necessary to provide first-class service to customers. Quality customer services remove barriers to riding and understanding COTA's transit system by providing methods to purchase passes and interact with customer service agents over the phone or in person. Amenities include bus stop signage, shelters, park and rides, kiosks, and other passenger amenities. Additionally, public outreach efforts provide a platform in local communities to interact with COTA, encouraging face-to-face interaction with COTA staff.

4.7.1 COTA Rebranding Project

To complement COTA's expansion of its fixed-route and mobility services and significant investments in its capital infrastructure, the Authority embarked on an ongoing brand identity effort to update its image among stakeholders, customers and the general public.

Initially, efforts to improve COTA's image focused on promoting service improvements such as reliability, on-time performance and the appearance and maintenance of the bus fleet. In addition, as new service was being introduced, frequencies improved and new coaches replaced older vehicles, COTA communications and outreach efforts focused on introducing the improvements to new and existing customers as well as community stakeholders who had been supportive of efforts to reinvigorate the transit agency.

The Authority decided that an update of its brand and logo was the next logical step in order to send the message to the community that the transformation from an agency formerly on the decline (service reductions, outdated equipment, etc.) to a growing, renewed and increasing relevant community asset was complete.

Research, including small focus groups of employees and customers as well as broader surveys into the existing COTA logo and corporate image, suggested that an updated visual appearance could energize the Authority's image among both internal and external stakeholders. A refreshed logo incorporating the rotunda of Ohio's Capitol building was designed. The new logo also spelled out "Central Ohio Transit Authority" while maintaining the "COTA" moniker. Logo colors were adjusted that kept the familiar red and blue while updating the shades of each for a more manifest appearance.

The new logo first appeared prominently in COTA's relocated administrative headquarters at the corner of High and Broad Streets in downtown Columbus across from the Ohio Statehouse. The refreshed logo has been installed in other COTA facilities, on the website and in printed collateral materials. The introduction of the refreshed logo has occurred as old collateral materials are used up in an effort to reduce waste and control the costs of the changeover (itself a component of COTA's new image).

As COTA's recent facilities renovations and new construction have been completed, and as service and ridership levels have significantly grown to levels not seen since 2000, so too has COTA's visibility improved. The image and rebranding effort is revealed via a new color and design scheme on all new coaches acquired by the Authority. Additionally, rebranded bus stop signs have been introduced. Over the next few years, over 4,000 older, brown bus stop signs with a logo introduced in the early 1980s are being replaced with new signs featuring updated colors and a white, crisp background.

In 2011, new timetables were introduced for every line in the system. The timetables were designed to make riding COTA even easier.

COTA's brand image is an important part of the overall customer experience. The refreshed and updated branding program that has been introduced to the community is designed to complement the transit experience while enhancing COTA's commitment to excellence in serving the customer, the community and the employee.

4.7.2 COTA Pass Sales Center

COTA's pass sales and customer service center is located in the lobby of the William J. Lhota Building, 33 N. High St. in the center of downtown Columbus. 31-DayPasses, DayPasses, Senior Discount and Key-Cards, system maps, and schedule information can be obtained at this location, and it serves as COTA's "Lost and Found" center. Additionally, 31-DayPasses and DayPasses are available for purchase at 93 locations throughout Franklin County. COTA's Call Center (which provides telephone information to the public), and COTA's Quality Service Office operates at 1600 McKinley Ave.

COTA service information is also easily accessible via an automated customer information system named Trapeze INFO. Consisting of several software modules, Trapeze INFO allows customers to obtain schedule and other information interactively via the telephone or COTA's website 24 hours a day.

In 2011, COTA's customer call center received 2 million calls, a 6 percent increase over 2010.

4.7.3 "All for One" Programs

COTA operates successful partnerships with The Ohio State University (OSU), Columbus City Schools and the Columbus College of Art and Design by providing students access to transit services at a reduced cost.

COTA's partnership with OSU (branded as "GO BUS!") began in 1997 and offers students access to any COTA bus when, as of January 2012, they swipe their "Buck ID" student identification card through the farebox. Students pay a $9.00 fee per quarter (that will increase to $13.50 when OSU converts to semesters in summer 2012), for unlimited use of the COTA system.

The partnership serves to provide mobility to OSU students, opens up destinations to young people unfamiliar with the city and attracts new riders to COTA who may become long term transit riders after graduation. In addition, COTA designed, planned and introduced new service based largely on requests and recommendations from Ohio State students. Through the terms of the contract with OSU, COTA employs an OSU student as a Marketing

Intern each year to provide valuable professional experience while presenting COTA with a unique advantage of student to student marketing.

OSU student ridership represents 11.6 percent of overall system ridership. As a result of the overwhelming student support for the partnership, the program has provided, among other things:

- Improved frequency of service and/or modified alignments on North High Street and Neil Avenue;
- Additional crosstown service from the OSU campus area to the Lennox Town Center (including late night service on the weekdays as well as weekend service). This service was divided into three lines in 2011 to provide expanded service to Grandview, Upper Arlington and continue to serve the Lennox Town Center;
- Late night weekend "#21 Night Owl" service along the North High Street corridor between Clintonville and German Village; and
- More frequent local service to the Bethel/Sawmill corridors and the Mall at Tuttle Crossing areas.

COTA also provides limited express service at the beginning and end of each quarter between the OSU campus area and Port Columbus International Airport. In total, there are ten bus lines that provide service in and around the OSU campus.

Between 2010 and 2011 OSU ridership has grown. In September 2011, a record 163,958 Buck ID passenger trips were recorded. OSU ridership grew by nearly 25 percent in 2011, compared to nearly ten percent growth for total ridership. Factors driving the growth include a strengthened relationship between COTA and the university, a strong campus presence due to a student marketing intern, service planning focused on increasing frequencies and destinations to meet the needs of students and higher gas prices.

In 2011, COTA upgraded its fare collection technology and beginning January 2012, began monitoring OSU ridership more accurately by requiring students to "swipe" their Buck ID instead of presenting it to the coach operator. In consideration of the mutually beneficial enhanced statistical data provided by the magnetic swipe card, during this LRTP timeframe, new data will be available to update the terms of the partnership and financial agreement between OSU and COTA.

4.7.4 COTA's Website and COTA Online

According to the Pew Research Center, nearly 80 percent of all Americans are now online and many Americans trust using the Internet to access information from government sites and to make purchases online. In September 2011, www.cota.com had more than 49,000 visit the site to access schedules, use the Google Trip Planner, learn how to use our service, apply for a job and learn how to do business with COTA.

To meet the growing demand that consumers have ready access to transit information, COTA proposes investing in a comprehensive digital experience that will span web and mobile devices to reach consumers both in our space (at www.cota.com) and through COTA's newly developed social media channels.

The first phase of the digital experience will include a redesign of www.cota.com to meet the standards of web 2.0. This will include programming the site to evolve with enhancements rather than creating a new site every time new technology is introduced. For example, once real time data is available, we will be able to integrate the third party software without a reinvestment in programming and design. The project will also involve developing a site for mobile devices. Both sites will enhance the consumer experience based on the known and to-be discovered needs of consumers. For example, the current site is very reliant on PDFs. The new site will explore interactive maps and new technology that provides faster access and is more mobile friendly. Other notable aspects of the digital experience include:

- Google Trip Planner;
- Online Real-Time Customer Service;
- Mobile Experience;
- Social Media; and
- Real-Time Data.

4.7.4.1 Google Trip Planner

The website features a trip planner linked to Google Transit. From the home page customers can input the origin of their trip, their destination, when they are traveling and the time they would like to either arrive or depart. Once this information is entered, a simple click opens up a new window displaying Google Transit's trip itinerary, including walking distances and transfer options. When the site is re-designed, the form on www.cota.com will be geo-coded to provide better results from the Google Transit page.

4.7.4.2 Online Real-time Customer Service

COTA also makes available through its website the ability to "Tell Us How We Are Doing" function, which allows customers to provide feedback about service suggestions, complaints, website issues, or any other topic related to COTA services. COTA plans to enhance this experience by providing access

to customer service via a chat function during regular customer service hours. In doing so, it will create efficiencies both for the consumer and for COTA staff.

4.7.4.3 Mobile Experience

The site will also be designed to meet the advent of smart phone technology. Consumers will be able to access schedules, trip times, and other critical information in a mobile friendly experience. In addition, COTA will build upon 'TXT 4 NXT BUS', a service that provides the next scheduled bus via text messaging.

4.7.4.4 Social Media

From the 2010 COTA On-Board Marketing Survey, COTA discovered that there are three ways customers prefer to receive communications from COTA. People that text and use social media are less likely to visit the www.cota.com website and prefer to receive a text or message on social media. Therefore it will be increasingly important for COTA to go to the spaces, such as Facebook, in order to communicate. In 2011, COTA entered social media with a page on Facebook, a channel on You Tube and a handle on Twitter. The goal is to use the first two channels as a combination of service updates and community engagement and the latter for just service updates. These channels have become useful tools to getting customer feedback and information about our service, both solicited and unsolicited.

4.7.4.5 Real-time Data

As a result of a project to replace COTA's existing automated vehicle location (AVL) system on each bus, in 2010, COTA's popular real-time bus tracking service was temporarily disabled on the website. As of March 2012, 97 of 302 fixed-route buses have been equipped with the new system. During this conversion phase, due to having two different systems in place and the associated impacts on providing accurate information, the real-time bus tracking feature was removed from COTA's website. As this project progresses and reaches improved stability for accurate information, COTA intends to restore the real-time bus tracking feature to our website by 2013.

As part of the SRTP, COTA will continue to monitor and invest in the latest computer hardware and software, and Internet technologies available to deliver accurate and timely transit information to central Ohio residents.

4.7.5 Planning and Community Outreach Public Meetings

COTA routinely solicits public input and feedback when planning future transit enhancements. For example, during development of the 2006 LRTP, COTA conducted an extensive public involvement process which was focused on obtaining input from riders and the general public on the types of new and improved services desired in the future. Input was received via 18 public

meetings, five focus groups, numerous stakeholder meetings, online surveys, bus rides by management staff, COTA's website, and COTA's Customer Service Center. The service changes and improvements which were proposed in the previous LRTP were initiated in 2007, and will continue to be carried out via this LRTP.

With a focus on soliciting public input and listening to what our customers, community residents and businesses have to say about their public transit system, COTA will continue efforts to utilize this valuable information for improving the bus system. Each year COTA staff develops a Community Outreach and Education Plan (COEP). Implementation of the COEP has enabled COTA to develop new constituencies and community partnerships, engage the community in the planning process, and provide COTA officials with valuable community input on transit initiatives. Internal stakeholders assisting in conducting outreach activities include COTA's:

- President/CEO;
- Leadership Team;
- Corporate Communications, Community Relations and Marketing staff;
- Mobility Services staff;
- Scheduling staff; and
- Capital Projects and Planning staff.

Ongoing outreach activities include, but are not limited to, convening targeted community leaders for roundtable discussions; serving on various planning committees; delivering presentations to neighborhood groups, business and social/civic organizations; providing travel training for immigrant/English as a Second Language groups, and meeting with citizen advisory groups, local governments, elected officials, etc. In 2011 COTA conducted and/or participated in over 350 outreach activities.

In addition to our ongoing outreach efforts, COTA continues to be the lead host for the Statewide Tribute to Rosa Parks event, a national award-winning public relations event that engages community stakeholders and children throughout Ohio. Past events have been attended by hundreds of community leaders and thousands of elementary school children (K-third grades), recognizing December 1 as Rosa Parks Day in Ohio. A partnership with Columbus Ohio's major print and TV media has enabled the event to be viewed live, throughout the state, via the internet.

4.8 Other Service Improvements

In addition to the major components described above, other important enhancements to COTA's operations will be an integral part of shaping future transit services. Each of the following service elements are focused towards

attracting new riders and encouraging existing riders to take advantage of a more user-friendly and accessible mass transit system.

4.8.1 Combining Bicycling With Transit

Combining bicycling trips with transit trips will continue to be an important part of the LRTP. Beginning in September 2004, each COTA fixed-route bus was equipped with a bike rack that allows a customer to take their bike along with their bus trip. Providing this multimodal service helps reduce the number of automobiles on the road, increases bus stop accessibility, and provides safety for bike riders who may encounter bad weather, mechanical problems, fatigue, or poor visibility due to darkness at night or in the early morning. Throughout the LRTP timeframe, COTA will continue to build on the progress of this successful program, ensuring all new fixed-route buses are equipped with bike racks, and that the Bike 'n Bus program is promoted across the central Ohio community.

COTA Bike Rack

COTA has partnered with the Mid-Ohio Regional Planning Commission (MORPC) to create the Columbus Metro Bike Users Map. The map features COTA facilities as well as a section on COTA's Bike 'n Bus program and information about how to obtain information about bus service. The map is available on MORPC's website at www.morpc.org.

4.8.2 Alternative Fuels

In April 2004, the federal Environmental Protection Agency (EPA) designated the central Ohio region as "non-attainment" for failing to meet minimum air quality standards for ozone. Additionally, the EPA has mandated a reduction in the emissions of nitrous oxide, sulfur dioxide, hydrocarbons, and particulate matter. In 2000, COTA joined forces with MORPC's Air Quality Program, which was formed to address the region's growing air quality issues. This program's membership includes representation from local governments, health-based organizations, businesses and environmental interests.

Low-sulfur petrodiesel engine emission reductions, mandated by the EPA, are deemed to offer significant opportunities for fine particulate matter and ozone improvements. Through the use of alternative engine fuels, COTA will continue to be very proactive in helping to improve air quality in the region. Reducing the dependency on petrodiesel fuel by using alternative fuels such as compressed natural gas, helps improve the region's air quality and quality of life for area residents.

As soon as the spring of 2013, and dependent upon identifying adequate funding support, COTA plans to begin transitioning its fleet from the use of conventional diesel fuel (ULSD) to Compressed Natural Gas (CNG). COTA expects to purchase up to thirty (30) buses per year through 2016. It is financially prohibitive to replace all buses at one time with CNG alternatives. As such, COTA will use a phased approach, dependent upon funding, by replacing up to one-twelfth of its fleet annually. Along with the transition of the fleet to use CNG, COTA will progress towards constructing CNG fueling stations at the three fueling facilities.

The transition to CNG fueled vehicles will have a positive impact throughout COTA's service area in terms of cleaner emissions and an improved impression of COTA as an important contributor to a greener and more sustainable region. Additionally, CNG is cheaper than diesel when compared to the average price of dollars per Btu.[21]

Furthermore, this transition will decrease greenhouse gas emissions as compared to the existing diesel-fueled buses. CNG is a fueling system that is used successfully in many US transit agencies and is even more prominent in other countries. It is a proven technology that is reliable and achieves air quality improvements. According to the U.S. Department of Energy Alternative Fuels and Advanced Vehicles Data Center, there are significant improvements in nitrogen oxide and carbon monoxide emissions and near elimination of particulate matter emissions.

Franklin County is currently located in a "nonattainment" area for particulate matter at 2.5 microns (PM 2.5). A study conducted by the U.S. Department of Energy concluded that CNG buses emitted 85% less total particulate matter than their diesel counter parts. The CNG buses also emitted 53% lower NOx and 89% lower CO than diesel buses.

Additionally, the county is currently listed as "maintenance" status for eight hour ozone. According to the Clean Alternative Fuels: Liquefied Natural Gas fact sheet published by the USEPA in 2002, CNG produces 50% less volatile organic hydrocarbons (VOCs) than diesel fuel. The VOCs contribute directly to the production of increased ozone levels. The gradual conversion to CNG from diesel will contribute to an improvement in air quality in the COTA service area.

4.8.3 Facility Improvements

To operate a modern, safe and effective transit system, COTA must maintain the facilities that support the system in good repair. Currently COTA operates two bus garages, Fields Avenue and McKinley Avenue, a paratransit facility for Mainstream, which houses not only vehicles but administrative offices and

[21] Clean Cities Alternative Fuel Price Report, April 2011, US Department of Energy

a training and testing facility, administrative offices in downtown Columbus and Street and Remote Maintenance, which houses maintenance equipment such as bus stops, shelters and paving equipment.

In 2009, COTA completed renovation of the previously closed Fields Avenue Bus Storage and Maintenance Facility. The facility was restored to "like new" standards and renovations included: complete slab replacement, new HVAC and electrical systems, partitions, finishes, vehicle maintenance bays and equipment, administrative/operations area remodeling, addition of a wellness center and an entry vestibule, exterior wall upgrades, lighting upgrades, and other site improvements. The $18 million Fields Avenue facility renovation design included using innovative, energy-efficient and environmentally responsible construction methods; the building was commissioned receiving a LEED "Gold" certification. At the time of its commissioning, this was one of only five LEED Gold buildings in central Ohio.

In the summer of 2010, COTA relocated its administrative offices and customer service center to 33 N. High Street. Purchased in 2008, COTA's newly renovated administrative office, pass sales center and an operator relief station is located just north of the intersection of Broad Street and High Street in downtown Columbus. This intersection is the nexus of COTA's system, with nearly every local and many express line traversing the intersection.

As part of the phasing of the bus fleet to compressed natural gas (CNG) buses and to continue COTA's commitment to the environment, COTA plans to renovate the McKinley Avenue Bus Storage, Maintenance and Customer Service Call Center Facility to support CNG fueling and maintain a modern facility. COTA is pursuing discretionary funding for the renovation and plans to work with local CNG suppliers to construct a fueling station. One such possible supplier is the Solid Waste Authority of Central Ohio (SWACO), who plans to harvest natural gas from waste.

As facilities are updated in the future, COTA will continue to be committed to pursuing environmentally responsible initiatives.

5.0 FINANCIAL PLAN

This section of the plan presents the results of the financial analysis undertaken to determine the ability of COTA to deliver the components of the LRTP.

5.1 Introduction

This report examines the financial capacity of COTA to deliver the components of the LRTP and operate and maintain its existing system in a state of good repair. The results of this financial analysis serve as a critical input to the LRTP.

COTA conforms to a calendar year-based fiscal year beginning January 1 and ending December 31. This differs from fiscal years for the State of Ohio (July 1 through June 30) and the federal government (October 1 through September 30). For clarity in presentation to stakeholders and interested parties, information presented hereinafter refers to COTA's January-December fiscal year. For example, FY 2012 refers to the period January 1, 2012 through December 31, 2012.

5.2 Financial Analysis Methodology

The objective of the financial analysis is to project annual expenses and revenues, both capital and operating, over a 23-year period from 2012 to 2035 to examine the financial capacity of COTA to deliver the components of the LRTP. To provide a base to which to compare the projections actual 2011 financial information is provided in the projection tables as well. The transportation financial planning process that is applied in the financial analysis emphasizes a comprehensive approach to the integration of expenses and revenues, both capital and operating, for major transportation investments. This approach was considered prudent, given the magnitude of revenues to be applied.

Four major data inputs form the basis for describing the characteristics of the transit system in the base year and design year and for stating the resulting transit system costs and revenues:

- Implementation dates of capital investments and service elements of the LRTP
- Transit fleet: A projection of the annual cost for acquiring new buses for routine replacement and for service expansion. This makes use of the following information:

  - Description of the existing fleet: for each subfleet (buses of a specific manufacturer and purchase year), data regarding the subfleet size and anticipated retirement year.
  - Committed purchases: for already-programmed purchases, the number, size, cost, and anticipated retirement year of each planned new subfleet.
  - Proposed future purchase parameters: for all future subfleets, average bus costs, useful lives, and spare requirements. Fleet size requirements are based on the travel demand forecasts and operational analysis, which considers the assumed spare ratio across the fleet or by subfleet.
  - In each year, the analysis considers the prior year fleet size, subtracts current year retirements, and compares the balance to the current year total fleet requirement (peak plus 20% for spares). If a shortfall exists, additional vehicles are assumed to be "purchased" and these vehicles are considered a part of the fleet for their specified useful life, at which point they are assumed to be retired.

- Operating costs: Operating and Maintenance (O&M) costs are estimated using a direct\indirect cost allocation model in table 5-2.
- Operating revenues: Growth in passenger fare revenues is projected on the basis of growth in service, which in turn results in growth in ridership, which, in turn, is based on assumptions regarding:
  - Base year 2011 annual fare revenue;
  - Projected fare increases;
  - Growth in level of service; and
  - Estimated fare and service elasticity.

The computation of costs and revenues is governed by two major implementation assumptions:

- Rate of growth in transit service: including growth in annual hours of operation and growth in fleet size, which in turn drive growth in new vehicle costs, operating costs, and fare revenues.
- The analysis is performed in year-of-expenditure (YOE or inflated) dollars. Base year (2011) Capital and Operating costs are inflated along with projected revenue sources to arrive upon estimated cash flow.

The sources and uses of funds analysis is then undertaken and year-end cash balances are examined to assure that neither capital nor operating shortfalls occur. Throughout the financial planning process, reviews are

undertaken to assure that underlying assumptions in the financial analysis are internally consistent.

5.3 Cash Flow Analysis

This section discusses the assumptions contained in the financial plan regarding the uses and sources of funds evaluated in the financial analysis. It begins with a description of capital and operating uses of funds, and continues by addressing sources of funding available to COTA for the LRTP and its other operating and capital programs.

5.3.1 Uses of Funds

Described below is the basis for determining operating and capital program expenditures.

5.3.1.1 COTA Capital Improvement Program Uses of Funds

The COTA Capital Improvement Program (CIP) includes capital investments to assure that fixed assets remain in a state of good repair, that technological and other improvements are made to maintain and improve operating efficiency and effectiveness, and that customer service and convenience is maintained and improved. The modeled CIP is comprised of the following major elements:

- Rehabilitation and replacement: These requirements address routine renewal of COTA's fixed assets beyond the level of maintenance included in the operating budget. This typically includes maintenance actions whose cycle length is greater than every three to five years. Examples include station, transit center, maintenance, and administrative facility rehabilitation; computer hardware investment; and a small bus maintenance facility.
- Buses: Future bus purchases are projected based on the following assumptions:
  - Age distribution and retirement schedule for the existing COTA fleet;
  - Assumed retirement age of buses to be purchased in the future;
  - Projected growth in bus service and any realignment of bus service; and
  - The life expectancy of fixed route buses is assumed at 12 to 14 years. A 20 percent spare ratio was assumed. The financial analysis anticipates that future bus purchases would have the same unit cost in 2011 dollars adjusted for inflation as purchases presently under contract.

New initiatives: These investments address improvements to service and opportunities to implement new technologies.

The COTA capital improvement program costs are illustrated in Table 5-1.

Table 5-1 COTA Capital Improvement Program Cost Assumptions

Central Ohio Transit Authority LRTP Capital Improvement Plan

FY 11 through FY 23 (in millions)

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
SOURCES													
State Funding	$ 1.01	$ 1.65	$ 1.66	$ 1.47	$ 1.27	$ 1.34	$ 1.29	$ 1.62	$ 0.81	$ 0.90	$ 0.84	$ 0.93	$ 0.87
Federal Funding	$ 20.71	$ 23.09	$ 20.44	$ 25.98	$ 28.61	$ 27.53	$ 20.28	$ 20.74	$ 20.80	$ 20.86	$ 20.92	$ 20.98	$ 21.04
TOTAL SOURCES	$ 21.72	$ 24.73	$ 22.10	$ 27.45	$ 29.88	$ 28.86	$ 21.57	$ 22.36	$ 21.61	$ 21.75	$ 21.76	$ 21.91	$ 21.91
USES													
Bus Replacement													
Fixed Route Diesel Buses	$ 16.30	$ 9.57	$ 13.61	$ 14.15	$ 20.63	$ 13.77	$ 3.71	$ -	$ 18.36	$ 17.90	$ 23.06	$ 32.41	$ 26.30
Non-revenue Support Vehicles	$ 0.64	$ 0.42	$ 0.08	$ 0.60	$ 0.50	$ 0.19	$ 0.19	$ 0.20	$ 0.20	$ 0.21	$ 0.22	$ 0.22	$ 0.23
MMTT	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Paratransit Facility	$ 0.75	$ 0.98	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Refurbished Bus Program	$ 0.40	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bus Rapid Transit	$ -	$ -	$ 2.50	$ 9.00	$ 10.60	$ 9.50	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Administrative Building	$ 0.38	$ 1.06	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Park & Ride's	$ 0.35	$ 0.60	$ 4.87	$ 0.07	$ -	$ 1.22	$ -	$ 1.29	$ -	$ 1.37	$ -	$ 1.46	$ -
ITS	$ 2.32	$ 5.89	$ 2.00	$ 2.00	$ 4.00	$ 3.00	$ 3.09	$ 3.18	$ 3.28	$ 3.37	$ 3.48	$ 3.59	$ 3.70
Computer Hardware \ Software	$ 1.02	$ 0.72	$ 0.74	$ 0.76	$ 0.78	$ 0.81	$ 0.83	$ 0.85	$ 0.88	$ 0.91	$ 0.93	$ 0.96	$ 0.99
Facility Improvements	$ 4.50	$ 22.50	$ 21.16	$ 16.19	$ 11.23	$ 11.26	$ 11.30	$ 16.34	$ 1.38	$ 1.42	$ 1.46	$ 1.51	$ 1.55
Shop / Other Equipment	$ 0.80	$ 2.00	$ 0.48	$ 0.49	$ 0.51	$ 0.74	$ 0.76	$ 0.78	$ 0.81	$ 0.83	$ 0.86	$ 0.89	$ 0.91
Strategic Investments- Property	$ -	$ 4.90	$ 2.50	$ 2.50	$ 2.50	$ 2.50	$ 2.50	$ 2.50	$ 2.50	$ 2.50	$ 2.50	$ 2.50	$ 2.50
Paratransit Vehicles	$ 1.39	$ 1.48	$ 0.99	$ 0.66	$ 1.60	$ 1.26	$ 1.30	$ 1.33	$ 1.37	$ 1.42	$ 1.46	$ 1.50	$ 1.55
Bus Stops, Shelters/Signage Etc.	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transit Enhancements	$ 0.90	$ 0.35	$ 0.36	$ 0.37	$ 0.39	$ 0.40	$ 0.41	$ 0.42	$ 0.43	$ 0.44	$ 0.45	$ 0.46	$ 0.47
TOTAL USES	$ 29.74	$ 50.47	$ 49.28	$ 46.79	$ 52.73	$ 44.64	$ 24.08	$ 26.90	$ 29.21	$ 30.37	$ 34.43	$ 45.50	$ 38.21
Local Captital Requirement	$ (8.02)	$ (25.74)	$ (27.18)	$ (19.34)	$ (22.85)	$ (15.77)	$ (2.51)	$ (4.54)	$ (7.60)	$ (8.62)	$ (12.67)	$ (23.59)	$ (16.30)

Table 5-2 COTA Capital Improvement Program Cost Assumptions

Central Ohio Transit Authority LRTP Capital Improvement Plan

FY 24 through FY 35 (in millions)

	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035
SOURCES												
State Funding	$ 0.96	$ 0.90	$ 0.99	$ 0.93	$ 1.03	$ 0.96	$ 1.07	$ 1.00	$ 1.12	$ 1.06	$ 1.18	$ 1.11
Federal Funding	$ 21.11	$ 21.18	$ 21.26	$ 21.33	$ 21.41	$ 21.49	$ 21.57	$ 22.11	$ 22.66	$ 23.23	$ 23.81	$ 24.40
TOTAL SOURCES	$ 22.07	$ 22.08	$ 22.25	$ 22.26	$ 22.44	$ 22.44	$ 22.63	$ 23.11	$ 23.78	$ 24.28	$ 24.98	$ 25.51
USES												
Bus Replacement												
Fixed Route Diesel Buses	$ 17.60	$ 21.78	$ 22.65	$ 30.63	$ 22.05	$ 5.95	$ -	$ 25.26	$ 26.27	$ 35.52	$ 25.57	$ 6.90
Non-revenue Support Vehicles	$ 0.24	$ 0.24	$ 0.25	$ 0.26	$ 0.27	$ 0.28	$ 0.29	$ 0.29	$ 0.30	$ 0.31	$ 0.32	$ 0.32
MMTT	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Paratransit Facility	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Refurbished Bus Program	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bus Rapid Transit	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Administrative Building	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Park & Ride's	$ 1.55	$ -	$ 1.65	$ -	$ 1.76	$ -	$ 1.87	$ -	$ 1.97	$ -	$ 2.07	$ -
ITS	$ 3.82	$ 3.94	$ 4.06	$ 4.19	$ 4.32	$ 4.46	$ 4.60	$ 4.72	$ 4.84	$ 4.96	$ 5.08	$ 5.21
Computer Hardware \ Software	$ 1.02	$ 1.06	$ 1.09	$ 1.13	$ 1.16	$ 1.20	$ 1.24	$ 1.27	$ 1.30	$ 1.33	$ 1.36	$ 1.40
Facility Improvements	$ 1.60	$ 1.66	$ 1.71	$ 1.76	$ 1.82	$ 1.88	$ 1.93	$ 1.98	$ 2.03	$ 2.08	$ 2.14	$ 2.19
Shop / Other Equipment	$ 0.94	$ 0.97	$ 1.00	$ 1.03	$ 1.07	$ 1.10	$ 1.14	$ 1.16	$ 1.19	$ 1.22	$ 1.25	$ 1.29
Strategic Investments- Property	$ 2.50	$ 2.50	$ 2.50	$ 2.50	$ 2.50	$ 2.50	$ 2.50	$ 2.56	$ 2.63	$ 2.69	$ 2.76	$ 2.83
Paratransit Vehicles	$ 1.60	$ 1.65	$ 1.70	$ 1.76	$ 1.81	$ 1.87	$ 1.93	$ 1.98	$ 2.03	$ 2.08	$ 2.13	$ 2.19
Bus Stops, Shelters/Signage Etc.	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transit Enhancements	$ 0.48	$ 0.50	$ 0.51	$ 0.52	$ 0.53	$ 0.55	$ 0.56	$ 0.57	$ 0.59	$ 0.60	$ 0.62	$ 0.63
TOTAL USES	$ 31.36	$ 34.30	$ 37.13	$ 43.78	$ 37.30	$ 19.78	$ 16.06	$ 39.80	$ 43.14	$ 50.80	$ 43.30	$ 22.95
Local Captital Requirement	$ (9.29)	$ (12.22)	$ (14.89)	$ (21.53)	$ (14.86)	$ 2.66	$ 6.58	$ (16.69)	$ (19.36)	$ (26.52)	$ (18.32)	$ 2.56

O&M Uses of Funds

Long-term projections of COTA's operating budget were performed utilizing cost allocation models relating line-item costs to specific cost drivers. The O&M cost projection applied in the financial analysis is based on the unit costs from the O&M cost table. The financial analysis assumes growth is projected to be consistent with COTA LRTP service model projections.

Operating Costs

Operating costs are projected using a direct\indirect cost allocation model that increases object costs both by their applicable inflation percentage and increases in bus service hours, if applicable, based upon the percentage that is deemed direct with the indirect percentage being inflated only by the general inflation percentage. The direct\indirect cost allocation model is displayed in Table 5-2.

The analysis grows bus service hours consistent with the LRTP. Annual service hours are assumed to grow 40,000 hours in FY's 12-15, 54,000 hours in FY16, to a total of 1.05 million service hours of operation through 2035. Mobility service hours are assumed to grow roughly 3.5 percent from FY12 to FY16 and continuing with minimal growth through 2035 to reflect increases in the population served.

Table 5-3 COTA Operating Cost Allocation Model

Expense Object Class	Direct allocation %	Indirect allocation %
Operating Labor	91%	9%
Administrative Labor	20%	80%
Benefits	74%	26%
Services	40%	60%
Fuel	100%	0%
Material & Supply	80%	20%
Utilities	0%	100%
Casualty & Liability	100%	0%
Other	10%	90%

5.3.1.2 LRTP Life-Cycle Costs

Prudent business planning for transit agencies that are considering undertaking major capital investments must take into account "life-cycle" costs. This approach to major investment planning insures that adequate consideration is given to the full extent of the costs associated with the acquisition and use of transportation facilities and rolling stock.

COTA's CIP contains elements that represent longer life-cycle activities, such as replacing radios, fare boxes, and maintenance equipment as well as the replacement of major structural elements, such as new roofs, paving, and bus shelters. Bus purchases are projected based on a retirement schedule of the

existing fleet and the annual service expansion plans that underlie annual O&M costs and fare revenue. Every existing bus in the COTA fleet is replaced at least twice in the financial plan.

5.3.1.3 Sources of Funds

This section describes the basis for the projection of funds applied to the operating and capital programs.

Sources of Funds for Capital

The financial analysis applies projections of the following sources of capital funding:

- Dedicated taxes: The major local funding source proposed for the LRTP is the sales tax currently levied in the COTA service area. COTA receives revenue from a permanent sales tax of 0.25 percent passed in November 1999. An additional 0.25 percent, ten-year renewable tax was approved by voters in November 2006, bringing the total collections to 0.50 percent. Furthermore, the analysis assumes that the ten-year sales tax increase is subsequently renewed in 2016 and 2026.

- COTA's sales tax base is projected to grow an average of 2.5 percent annually over the period of analysis. This projection is based on FY 2011 Congressional Budget Office's 2011-2021 Economic Outlook where GDP & CPI are projected over a 20 year horizon. The 2.5 percent projection represents a simple average of those 2 key drivers of taxable sales.

- State grants: COTA is assumed to continue to receive a state matching grant, subject to annual caps, of 10 percent on capital projects funded with federal Congestion Mitigation and Air Quality (CMAQ) and Section 5309 Bus and Bus Related grants, described below.

- Federal grants: The financial analysis addresses the following sources of Federal grants:

  - Section 5307 Urban Formula grants: These urbanized area formula grants are based on various demographic, service level, and ridership variables. Factors in the formula that allocates grants to urbanized areas are estimated based on an assumed annual growth in total Section 5307 funds, adjusted to account for increases in COTA's transit service and demographic base over which these grants are applied, to the extent necessary.

  - SAFETEA-LU limits federal grants to capital purposes, but preventative maintenance expenses in the operating budget may in some instances be considered as "capital." One percent of these grants must be applied to "enhancements," which include the new initiative capital

projects described in the prior section. COTA's recent practice has been to apply all of these funds to capital replacement predominately vehicle replacements as dictated by their respective life-cycles.

  - Section 5309 Bus and Bus Related Grants: These discretionary grants are applied to the purchase of buses and bus-related assets. COTA is assumed to receive matching grants on bus purchases subject to an annual cap of $1.0 million in base-year dollars.

  - CMAQ Grants: CMAQ grants may be applied toward transportation projects in Clean Air Act non-attainment areas for ozone and carbon monoxide. Projects must contribute to meeting attainment of national ambient air quality standards. In general, the capital costs of transit system expansions and improvements that are projected to increase ridership are eligible under the CMAQ program. COTA is assumed to receive a matching grant on bus purchases subject to an annual cap of $2.5 million in base-year dollars.

- Other funds:

  - Interest on capital fund: These are interest earnings on the capital fund (if any), which is maintained at a minimum level of working capital (defined as two months of operating). A portion of interest earnings on the capital funds may be applied to capital.

Sources of Funds for Operations

The financial analysis applies the following sources of operating funding:

- Dedicated local revenues: A large portion of COTA's existing dedicated sales tax revenue, a 0.25 percent permanent tax and 0.25 percent ten-year renewable tax described in the Executive Summary, is applied to support COTA operations.

- Passenger revenue: Fare revenues are based on COTA's projected ridership for existing bus services, as well as projected ridership for the LRTP. Average fare paid per passenger is assumed to grow with inflation, adjusted every three years.

- Other transit related revenue: These revenues, based on current budget values, are adjusted annually to account for growth in inflation, level of service, ridership, and/or demographics. Additional operating revenues include the following:

  - Lease income: Rents collected from tenants in COTA owned facilities.

  - Miscellaneous income: Proceeds from disposal of assets beyond their useful life and other miscellaneous revenue sources.

- State and local assistance: COTA receives a small amount of operating funding from the State of Ohio in the form of a fuel tax refund and from state funds for elderly and handicapped assistance. These grants are assumed to remain constant in YOE dollars.
- Interest on capital fund: These are interest earnings on the capital fund (if any), which is maintained at a minimum level of working capital (defined as two months of operating budget). A portion of interest earnings on the capital funds may be applied to operations.

5.3.1.4 Cash Flow Statements

Table 5-3 on the following page presents COTA's cash flow statements for the LRTP over a 23-year period of analysis.

5.4 Conclusion

This section establishes a strategy to fund the capital and operating needs of the LRTP. LRTP annual operating needs would be funded with fare revenue, as well as COTA's other dedicated revenue sources.

The analysis finds that with the renewal of the ten-year 0.25 percent sales tax, COTA funds would be sufficient to implement the components of the LRTP.

Uncertainties associated with fluctuating economic conditions and other factors may result in the actual results of COTA's financial program varying from the projections in the financial analyses, and the variations could be material.

Future financial results presented are intended to chart a general course of action regarding plan implementation, transit service expansion, and initiation of activities to establish new funding and financing approaches.

Table 5-4 Cash Flow Statement
Central Ohio Transit Authority LRTP Cashflow
FY 2011 through FY 2023 (in millions)

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
BEGINNING BALANCE	**$ 47.58**	**$ 66.79**	**$ 66.59**	**$ 62.81**	**$ 63.96**	**$ 58.92**	**$ 56.80**	**$ 66.68**	**$ 74.30**	**$ 78.93**	**$ 81.76**	**$ 81.23**	**$ 70.66**
REVENUE SOURCES													
Sales and Use Tax - Existing	$ 48.98	$ 51.06	$ 52.33	$ 53.64	$ 54.98	$ 56.36	$ 57.77	$ 59.21	$ 60.69	$ 62.21	$ 63.76	$ 65.36	$ 66.99
Sales and Use Tax - New	$ 48.98	$ 51.06	$ 52.33	$ 53.64	$ 54.98	$ 56.36	$ 57.77	$ 59.21	$ 60.69	$ 62.21	$ 63.76	$ 65.36	$ 66.99
Total Sales and Use Tax	$ 97.95	$ 102.11	$ 104.67	$ 107.28	$ 109.97	$ 112.72	$ 115.53	$ 118.42	$ 121.38	$ 124.42	$ 127.53	$ 130.72	$ 133.98
BUS RELATED SOURCES													
Passenger Revenues	$ 17.26	$ 21.09	$ 23.07	$ 23.68	$ 25.34	$ 26.61	$ 26.61	$ 27.75	$ 28.20	$ 28.20	$ 29.42	$ 29.90	$ 29.90
Federal Asst.(JARC, 5307, Misc Grants)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
State Assistance (E&D)	$ 3.19	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Fuel Tax Refund (State)	$ 0.82	$ 0.79	$ 0.83	$ 0.87	$ 0.87	$ 0.92	$ 0.92	$ 0.92	$ 0.92	$ 0.92	$ 0.92	$ 0.92	$ 0.92
Investment Income	$ 0.04	$ 0.42	$ 0.42	$ 0.38	$ 0.34	$ 0.26	$ 0.20	$ 0.20	$ 0.23	$ 0.26	$ 0.27	$ 0.25	$ 0.21
Lease Income	$ 0.73	$ 0.74	$ 0.76	$ 0.78	$ 0.80	$ 0.82	$ 0.84	$ 0.86	$ 0.88	$ 0.90	$ 0.92	$ 0.95	$ 0.97
Other (Miscellaneous)	$ 0.37	$ 0.22	$ 0.22	$ (0.23)	$ 0.23	$ 0.24	$ 0.24	$ 0.25	$ 0.26	$ 0.26	$ 0.27	$ 0.28	$ 0.28
TOTAL - REVENUE SOURCES	$ 120.36	$ 125.37	$ 129.96	$ 133.21	$ 137.54	$ 141.56	$ 144.34	$ 148.40	$ 151.87	$ 154.96	$ 159.33	$ 163.01	$ 166.27
USES													
Operating Labor	$ 29.62	$ 32.00	$ 33.82	$ 35.70	$ 37.97	$ 40.83	$ 41.86	$ 42.90	$ 43.97	$ 45.07	$ 46.20	$ 47.36	$ 48.54
Adminstrative Labor	$ 12.93	$ 13.21	$ 13.72	$ 14.25	$ 14.80	$ 15.43	$ 15.81	$ 16.21	$ 16.61	$ 17.03	$ 17.46	$ 17.89	$ 18.34
Benefits	$ 19.46	$ 21.51	$ 23.87	$ 26.46	$ 29.31	$ 32.75	$ 34.39	$ 36.11	$ 37.91	$ 39.81	$ 41.80	$ 42.85	$ 43.92
Services	$ 6.39	$ 6.43	$ 6.71	$ 7.01	$ 7.31	$ 7.67	$ 7.86	$ 8.06	$ 8.26	$ 8.47	$ 8.68	$ 8.90	$ 9.12
Paratransit	$ 6.53	$ 6.84	$ 7.25	$ 7.68	$ 8.14	$ 8.63	$ 9.15	$ 9.38	$ 9.61	$ 9.85	$ 10.10	$ 10.35	$ 10.61
Fuel	$ 7.59	$ 9.23	$ 10.04	$ 9.93	$ 9.95	$ 9.67	$ 9.64	$ 10.02	$ 9.36	$ 9.02	$ 8.34	$ 7.66	$ 6.98
Other Materials and Supplies	$ 6.34	$ 6.27	$ 6.66	$ 7.07	$ 7.49	$ 8.02	$ 8.22	$ 8.43	$ 8.64	$ 8.85	$ 9.07	$ 9.30	$ 9.53
Utilities	$ 1.91	$ 1.96	$ 2.01	$ 2.06	$ 2.11	$ 2.16	$ 2.21	$ 2.27	$ 2.33	$ 2.38	$ 2.44	$ 2.51	$ 2.57
Casualty & Liability Costs	$ 0.33	$ 0.17	$ 0.18	$ 0.19	$ 0.21	$ 0.22	$ 0.23	$ 0.24	$ 0.24	$ 0.25	$ 0.25	$ 0.26	$ 0.27
Other	$ 2.02	$ 2.23	$ 2.30	$ 2.37	$ 2.44	$ 2.52	$ 2.58	$ 2.64	$ 2.71	$ 2.78	$ 2.85	$ 2.92	$ 2.99
SUBTOTAL OPERATING USES	$ 93.12	$ 99.84	$ 106.56	$ 112.71	$ 119.73	$ 127.91	$ 131.95	$ 136.25	$ 139.65	$ 143.51	$ 147.19	$ 149.98	$ 152.86
NET (OPERATIONS)	$ 27.24	$ 25.54	$ 23.40	$ 20.50	$ 17.81	$ 13.65	$ 12.39	$ 12.16	$ 12.22	$ 11.45	$ 12.14	$ 13.03	$ 13.41
LOCAL CAPITAL REQUIREMENT	$ (8.02)	$ (25.74)	$ (27.18)	$ (19.34)	$ (22.85)	$ (15.77)	$ (2.51)	$ (4.54)	$ (7.60)	$ (8.62)	$ (12.67)	$ (23.59)	$ (16.30)
ENDING BALANCE (CURRENT DOLLARS)	**$ 59.29**	**$ 59.09**	**$ 55.31**	**$ 56.46**	**$ 51.42**	**$ 49.30**	**$ 59.18**	**$ 66.80**	**$ 71.43**	**$ 74.26**	**$ 73.73**	**$ 63.16**	**$ 60.27**

Table 5-5 Cash Flow Statement
Central Ohio Transit Authority LRTP Cashflow
FY 2011 through FY 2023 (in millions)

	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035
BEGINNING BALANCE	$ 67.77	$ 73.50	$ 76.29	$ 75.88	$ 69.65	$ 70.05	$ 87.40	$ 104.81	$ 98.72	$ 89.14	$ 71.56	$ 62.83
REVENUE SOURCES												
Sales and Use Tax - Existing	$ 68.67	$ 70.38	$ 72.14	$ 73.95	$ 75.79	$ 77.69	$ 79.63	$ 81.62	$ 83.66	$ 85.75	$ 87.90	$ 90.10
Sales and Use Tax - New	$ 68.67	$ 70.38	$ 72.14	$ 73.95	$ 75.79	$ 77.69	$ 79.63	$ 81.62	$ 83.66	$ 85.75	$ 87.90	$ 90.10
Total Sales and Use Tax	$ 137.33	$ 140.77	$ 144.29	$ 147.89	$ 151.59	$ 155.38	$ 159.26	$ 163.25	$ 167.33	$ 171.51	$ 175.80	$ 180.19
BUS RELATED SOURCES												
Passenger Revenues	$ 31.18	$ 31.69	$ 31.69	$ 33.05	$ 33.59	$ 33.59	$ 35.04	$ 35.61	$ 35.61	$ 35.61	$ 37.14	$ 37.74
Federal Asst.(JARC, 5307, Misc Grants)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
State Assistance (E&D)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Fuel Tax Refund (State)	$ 0.92	$ 0.92	$ 0.92	$ 0.92	$ 0.92	$ 0.92	$ 0.92	$ 0.94	$ 0.97	$ 0.99	$ 1.01	$ 1.04
Investment Income	$ 0.22	$ 0.21	$ 0.21	$ 0.20	$ 0.19	$ 0.19	$ 0.20	$ 0.20	$ 0.21	$ 0.21	$ 0.22	$ 0.22
Lease Income	$ 0.99	$ 1.02	$ 1.04	$ 1.07	$ 1.10	$ 1.13	$ 1.15	$ 1.18	$ 1.21	$ 1.24	$ 1.27	$ 0.30
Other (Miscellaneous)	$ 0.29	$ 0.30	$ 0.31	$ 0.31	$ 0.32	$ 0.33	$ 0.34	$ 0.35	$ 0.35	$ 0.36	$ 0.37	$ 0.38
TOTAL - REVENUE SOURCES	$ 170.94	$ 174.91	$ 178.45	$ 183.45	$ 187.71	$ 191.53	$ 196.91	$ 201.52	$ 205.67	$ 209.92	$ 215.81	$ 220.88
USES												
Operating Labor	$ 49.75	$ 51.00	$ 52.27	$ 53.58	$ 54.92	$ 56.29	$ 57.70	$ 59.14	$ 60.62	$ 62.13	$ 63.69	$ 65.28
Adminstrative Labor	$ 18.80	$ 19.27	$ 19.75	$ 20.24	$ 20.75	$ 21.27	$ 21.80	$ 22.34	$ 22.90	$ 23.48	$ 24.06	$ 24.66
Benefits	$ 45.01	$ 46.14	$ 47.29	$ 48.48	$ 49.69	$ 50.93	$ 52.20	$ 53.51	$ 54.85	$ 56.22	$ 57.62	$ 59.06
Services	$ 9.35	$ 9.58	$ 9.82	$ 10.07	$ 10.32	$ 10.58	$ 10.84	$ 11.11	$ 11.39	$ 11.67	$ 11.97	$ 12.26
Paratransit	$ 10.87	$ 11.15	$ 11.42	$ 11.71	$ 12.00	$ 12.30	$ 12.61	$ 12.93	$ 13.25	$ 13.58	$ 13.92	$ 14.27
Fuel	$ 6.39	$ 6.63	$ 6.88	$ 7.13	$ 7.40	$ 7.68	$ 12.67	$ 13.18	$ 13.70	$ 14.25	$ 14.82	$ 15.41
Other Materials and Supplies	$ 9.77	$ 10.02	$ 10.27	$ 10.52	$ 10.79	$ 11.06	$ 11.33	$ 11.62	$ 11.91	$ 12.20	$ 12.51	$ 12.82
Utilities	$ 2.63	$ 2.70	$ 2.77	$ 2.83	$ 2.91	$ 2.98	$ 3.05	$ 3.13	$ 3.21	$ 3.29	$ 3.37	$ 3.45
Casualty & Liability Costs	$ 0.27	$ 0.28	$ 0.29	$ 0.29	$ 0.30	$ 0.31	$ 0.32	$ 0.32	$ 0.33	$ 0.34	$ 0.35	$ 0.36
Other	$ 3.06	$ 3.14	$ 3.22	$ 3.30	$ 3.38	$ 3.47	$ 3.55	$ 3.64	$ 3.73	$ 3.83	$ 3.92	$ 4.02
SUBTOTAL OPERATING USES	$ 155.92	$ 159.89	$ 163.97	$ 168.16	$ 172.45	$ 176.85	$ 186.07	$ 190.92	$ 195.89	$ 200.99	$ 206.23	$ 211.61
NET (OPERATIONS)	$ 15.02	$ 15.01	$ 14.48	$ 15.29	$ 15.26	$ 14.68	$ 10.83	$ 10.61	$ 9.78	$ 8.93	$ 9.58	$ 9.28
LOCAL CAPITAL REQUIREMENT	$ (9.29)	$ (12.22)	$ (14.89)	$ (21.53)	$ (14.86)	$ 2.66	$ 6.58	$ (16.69)	$ (19.36)	$ (26.52)	$ (18.32)	$ 2.56
ENDING BALANCE (CURRENT DOLLARS)	$ 66.00	$ 68.79	$ 68.38	$ 62.15	$ 62.55	$ 79.90	$ 97.31	$ 91.22	$ 81.64	$ 64.06	$ 55.33	$ 67.17

6.0 CONCLUSION

COTA is the primary provider of public transit services in the central Ohio region. Incorporating public comments collected through a public involvement process, the LRTP is a comprehensive strategy for significantly enhancing the region's public transit system over the next 23 years.

Since 2006, service has been expanding as outlined in the 2006 LRTP. However, unexpected reductions in revenue from sales tax due to the recent economic decline caused a slowdown in expansion efforts. Despite unknown economic factors, COTA still projects service expansion to continue until 2016.

Looking at the long-term transportation needs of the community, MORPC has projected substantial increases in population and employment for the region, which will result in increased traffic congestion, decreased air quality, and, ultimately, a deterioration of regional mobility. A coordinated effort will be required at the state, regional, county, and city levels to ensure quality, long-term mobility for area residents. As such, COTA continuously works with state and local agencies to address both short and long-term transportation needs for the community.

Over the past year, COTA conducted a public involvement process to help identify transit's role in long-term transportation planning for central Ohio, and collect input regarding COTA's current long-range plans. During this process, the public identified four major elements for improving fixed-route service: improved frequency of service, increased hours of operation, expanded coverage area, and faster service. In addition, the public emphasized the need to increase service for people with disabilities, incorporate new technology to enhance rider experience, and make strategic investments to preserve future opportunities for transit modes other than traditional fixed-route bus service.

In response to public feedback during the LRTP process, COTA prepared a long-term transit plan that will increase fixed-route bus service by 20 percent between 2012 and 2016, expand demand-responsive service for persons with disabilities by 14 percent during the same time frame, incorporate ITS improvements, and set aside funding for strategic transit investments. In cooperation with ODOT, planning is underway to expand the use of express buses on freeway shoulders during congested travel times. Operating buses on freeway shoulders decreases bus travel times, increase productivity, and reduce overall freeway congestion. In its entirety, the LRTP has been designed with service improvements which will help improve regional mobility, maintain the high quality of life for central Ohio residents, and reinforce our regional economic vitality.

C. FIXED-ROUTE SERVICE EXPANSION

C.1 Northwest Quadrant

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
3	Northwest Blvd	Local	Existing	1-Wkd		X		Improve service frequency from 25 min pm peak to 20 min pm peak
3	Northwest Blvd	Local	Existing	6-Sat		X		Improve service frequency from 45 min pk & off pk/40 min late night to 30 min pk & off pk/40 min late night
10	W Broad	Local	Existing	1-Wkd			X	Deviate all buses into Casino
10	W Broad	Local	Existing	6-Sat		X		Improve service frequency from 30 min all day to 20 800a to 1000p
18	Kenny	Local	Existing	7-Sun		X		Improve service frequency from 60 min to 30 min 8a-8p between downtown & Resler & Sawmill
19	Arlington/Grandview	Local	Existing	1-Wkd		X		Improve peak frequency from 60 to 30 mins, truncate at Kingsdale
19	Arlington/Grandview	Local	Existing	1-Wkd		X	X	Add midday service at 45 min frequency and potentially realign service
55A	Avery/Perimeter	Express	New	1-Wkd				Identify/construct park & ride near Avery and Perimeter
55A	Avery/Perimeter	Express	New	1-Wkd				Add park & ride and new service, 2 trips each peak serving 730, 800 work starts. Travels via Avery, SR 161, I-270, I-70, I-670 to/from downtown Columbus

C.1 Northwest Quadrant

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
59X	Sawmill	Express	New	1-Wkd				Add park & ride and service to serve 730, 800 work starts. Travels via Sawmill Rd, I-270, SR 315, I-670 to/from Downtown Columbus
67	East Hilliard	Express	Existing	1-Wkd		X		Expand to 4 am, 4 pm trips
67X	North Hilliard	Express	New	1-Wkd			X	Add service from Avery/Cosgray to Hilliard P&R to Downtown with 2 am and 2 pm trips
81	Hudson/Ohio	Crosstown	Existing	7-Sun	X			Add service on Sundays
83	Oakland/Weber	Crosstown	Existing	1-Wkd		X		Improve to 30-min frequencies
83	Oakland/Weber	Crosstown	Existing	1-Wkd			X	Extend service to Easton via Innis Rd, Sunbury Rd, Easton Way, Morse Crossing, Morse Rd, Stelzer Rd, Easton Transit Center
83	Oakland/Weber	Crosstown	Existing	6-Sat		X		Improve to 30-min frequencies
83	Oakland/Weber	Crosstown	Existing	6-Sat			X	Extend service to Easton via Innis Rd, Sunbury Rd, Easton Way, Morse Crossing, Morse Rd, Stelzer Rd, Easton Transit Center
83	Oakland/Weber	Crosstown	Existing	7-Sun	X			Add service, Northern Lights to Kingsdale
83	Oakland/Weber	Crosstown	Existing	7-Sun			X	Extend service to Easton via Innis Rd, Sunbury Rd, Easton Way, Morse Crossing, Morse Rd, Stelzer Rd, Easton Transit Center
84	Arlington/OSU	Crosstown	Existing	1-Wkd			X	Extend service to Hilliard Park and Ride at 60 min frequency

C.1 Northwest Quadrant

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
84	Arlington/OSU	Crosstown	Existing	1-Wkd		X		Improve peak hour service frequencies from 60 to 30 min OSU to Arlington
84	Arlington/OSU	Crosstown	Existing	1-Wkd		X		Improve midday service frequencies from 60 to 30 mins OSU to Arlington

C.2 Northeast Quadrant

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
10	E Broad	Local	Existing	6-Sat		X		Improve service frequency from 30 min all day to 20 min 800a-1000p
16	E Long	Local	Existing	6-Sat		X		Improve service frequency from 40 min all day to 30 min all day
28	Gemini	Express	New	1-Wkd				Identify/construct park & ride in Polaris area
28	Gemini	Express	New	1-Wkd				Add park and ride and 2 commute trips to serve the 730, 800 am downtown work start times
39	New Albany	Express	Existing	1-Wkd		X	X	Discontinue Sunbury Loop & improve peak service levels from 2 to 3 trips
40X	Sunbury Road	Express	New	1-Wkd				Identify/construct park & ride on Sunbury north of SR 161
40X	Sunbury Road	Express	New	1-Wkd				Add park & ride and service from Sunbury/SR161 via I-270/I-670 to downtown

C.2 Northeast Quadrant

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
043X	Broad/McNaughten	Express	New	1-Wkd				Add park & ride and Broad/McNaughten Express , 2 morning, 2 afternoon trips serving the 7:30 and 8:00 a.m. work start times and the 4:30 and 5:00 p.m. work end time from E Broad/McNaughten area to downtown Columbus
44	North Reynoldsburg	Express	Existing	1-Wkd		X	X	Add park & ride at SR256 & I-70. Increase number of trips from 2 am and 2 pm to 4 am and 4 pm.
81	Hudson/Ohio	Crosstown	Existing	7-Sun	X			Add service on Sundays
83	Oakland/Weber	Crosstown	Existing	1-Wkd		X		Improve to 30-min frequencies
83	Oakland/Weber	Crosstown	Existing	1-Wkd			X	Extend service to Easton via Innis Rd, Sunbury Rd, Easton Way, Morse Crossing, Morse Rd, Stelzer Rd, Easton Transit Center
83	Oakland/Weber	Crosstown	Existing	6-Sat		X		Improve to 30-min frequencies
83	Oakland/Weber	Crosstown	Existing	6-Sat			X	Extend service to Easton via Innis Rd, Sunbury Rd, Easton Way, Morse Crossing, Morse Rd, Stelzer Rd, Easton Transit Center
83	Oakland/Weber	Crosstown	Existing	7-Sun	X			Add service, Northern Lights to Kingsdale
83	Oakland/Weber	Crosstown	Existing	7-Sun	X			Extend service to Easton via Innis Rd, Sunbury Rd, Easton Way, Morse Crossing, Morse Rd, Stelzer Rd, Easton Transit Center
87	Cassady	Crosstown	Existing	1-Wkd	X			Extend service earlier into am and later into pm to serve peak

C.2 Northeast Quadrant

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
								travel hours
87	Cassady	Crosstown	Existing	6-Sat	X			Extend service earlier into am and later into pm
87	Cassady	Crosstown	Existing	1-Wkd		X		Improve to 30 min service during peak periods
87	Cassady	Crosstown	Existing	7-Sun	X			Add 60 min service
93	Polaris Crosstown	Crosstown	New	1-Wkd				Add service between Westerville Park & Ride, Polaris & Crosswoods Park & Ride during peak periods
93	Polaris Crosstown	Crosstown	New	1-Wkd				Add midday service between Westerville Park & Ride & Polaris
94	SR 161 Crosstown	Crosstown	New	1-Wkd				Add peak hour service from SR 161/Cleveland to US 23/High St

C.3 Southeast Quadrant

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
1	Livingston	Local	Existing	1-Wkd			X	Extend from Reynoldsburg Park & Ride to SR 256/I-70, 700a-700p
10	E Broad	Local	Existing	6-Sat		X		Improve service frequency from 22 min all day to 20 min 800a-1000p
16	S High	Local	Existing	6-Sat		X		Improve service frequency from 45 min all day to 30 min all day

C.3 Southeast Quadrant

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
043X	Broad/McNaughten	Express	New	1-Wkd				Add park & ride and Broad/McNaughten Express , 2 morning, 2 afternoon trips serving the 7:30 and 8:00 a.m. work start times and the 4:30 and 5:00 p.m. work end time from E Broad/McNaughten area to downtown Columbus
043X	Broad/McNaughten	Express	New	1-Wkd				Identify and initially lease (and eventually construct) a park & ride in E Broad / McNaughten area.
44	North Reynoldsburg	Express	Existing	1-Wkd		X	X	Add park & ride at SR256 & I-70. Increase number of trips from 2 am and 2 pm to 4 am and 4 pm.
50X	South Columbus	Express	New	1-Wkd				Add express service between Rathmell and US 23 and downtown, 2 morning and 2 afternoon trips
55	Gender	Express	Existing	1-Wkd		X		Increase from 2 trips per peak to 4 trips per peak
81	Hudson/Ohio	Crosstown	Existing	7-Sun	X			Add service on Sundays
85	Brice/Gender	Crosstown	New	1-Wkd				Add peak hour service between Canal Winchester & E Broad/Fairway
87	Cassady	Crosstown	Existing	1-Wkd	X			Extend service earlier into am and later into pm to serve peak travel hours
87	Cassady	Crosstown	Existing	1-Wkd		X		Improve to 30 min service during peak periods
87	Cassady	Crosstown	Existing	6-Sat	X			Extend service earlier into am and later into pm
87	Cassady	Crosstown	Existing	7-Sun	X			Add 60 min service

C.3 Southeast Quadrant

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
89	Hamilton Road	Crosstown	Existing	1-Wkd			X	Extend service north through Gahanna to the Meijer at Hamilton & Morse at 60 min frequency
89	Hamilton Road	Crosstown	Existing	1-Wkd			X	Extend service north from Hamilton & Morse to Hamilton & SR 161 at 60 min frequency
89	Hamilton Road	Crosstown	Existing	6-Sat	X		X	Extend service south from Eastland to Homer Ohio & Hamilton 7:30a-1030p
89	Hamilton Road	Crosstown	Existing	6-Sat			X	Extend service north through Gahanna to the Meijer at Hamilton & Morse at 60 min frequency
89	Hamilton Road	Crosstown	Existing	6-Sat			X	Extend service north from Hamilton & Morse to Hamilton & SR 161 at 60 min frequency
89	Hamilton Road	Crosstown	Existing	7-Sun			X	Extend service north through Gahanna to the Meijer at Hamilton & Morse at 60 min frequency
89	Hamilton Road	Crosstown	Existing	7-Sun	X		X	Extend service south from Eastland to Homer Ohio & Hamilton 800a-900p, and extend current hours
89	Hamilton Road	Crosstown	Existing	7-Sun	X		X	Extend service south from Eastland to Homer Ohio & Hamilton 800a-900p, and extend current hours
89	Hamilton Road	Crosstown	Existing	7-Sun			X	Extend service north from Hamilton & Morse to Hamilton & SR 161 at 60 min frequency

C.4 Southwest Quadrant

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
3	W Mound	Local	Existing	1-Wkd		X		Improve service frequency from 25 min pm peak to 20 min pm
3	W Mound	Local	Existing	6-Sat		X		Improve service frequency from 45 min to 30 min /45 min late night
3	W Mound	Local	Existing	7-Sun		X		Improve service frequency from 40 min to 30 min
10	W Broad	Local	Existing	1-Wkd			X	Deviate all buses into Casino
10	W Broad	Local	Existing	6-Sat		X		Improve service frequency from 22 min all day to 20 800a to 1000p
15	Grove City	Local	Existing	1-Wkd	X			Add evening service to 10:00p line up
15	Grove City	Local	Existing	6-Sat	X			Add evening service to 10:00p line up
15	Grove City	Local	Existing	7-Sun	X			Add evening service to 9:00p line up
54	London/Groveport	Express	Existing	1-Wkd				Make strategic investment to purchase land for a park & ride near I-71 and SR 665
54	London/Groveport	Express	Existing	1-Wkd		X	X	Add new park & ride and add peak hour service, 2 trips, 730, 800 downtown work start
97	Georgesville/Phillipi	Crosstown	New	1-Wkd				Add peak-hour service between Wal-Mart and Fisher Rd
97	Georgesville/Phillipi	Crosstown	New	1-Wkd				Add service midday and later to 800p from Wal-Mart on Georgesville Rd. and Fisher Rd.

The following table is a list of unfunded service improvements, a sort of "wish list" of changes beyond the 2016 service expansion horizon. If COTA is able to expand beyond 2016 or faster than expected then select unfunded improvements in this table could be identified as "funded service improvements". Likewise, if COTA reduces its expansion plan it will be necessary to move select service improvements identified as "funded" to "unfunded".

C.5 Unfunded Improvements

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
1	Cleveland	Local	Existing	1-Wkd	X			Add 1:00 am line up
1	Cleveland	Local	Existing	1-Wkd	X			Expand service hours to Cleveland Ave & Polaris Pkwy from 700p to 1000p
1	Cleveland	Local	Existing	1-Wkd	X			Add 2:00 am line up
1	Cleveland	Local	Existing	1-Wkd	X			Add 500, 530, 600, 630 am line ups
1	Cleveland	Local	Existing	6-Sat	X			Expand service hours to Cleveland Ave & Polaris Pkwy from 700p to 1000p
1	Cleveland	Local	Existing	6-Sat	X			Add 1:00 am line up
1	Cleveland	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
1	Cleveland	Local	Existing	7-Sun	X			Add 10:00 pm line up
1	Cleveland	Local	Existing	7-Sun	X			Extend service from Westerville Park & Ride to Cleveland Ave & Polaris Pkwy, 800a-800p
1	Cleveland	Local	Existing	7-Sun	X			Add 11:00 pm line up
1	Cleveland	Local	Existing	7-Sun	X			Add 12:00 midnight line up
1	Livingston	Local	Existing	1-Wkd	X			Add 1:00 am line up
1	Livingston	Local	Existing	1-Wkd	X			Expand service to SR256 & I-70 from 700p to 1000p
1	Livingston	Local	Existing	1-Wkd	X			Add 2:00 am line up
1	Livingston	Local	Existing	1-Wkd	X			Add 500, 530, 600, 630 am line ups

C.5 Unfunded Improvements

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
1	Livingston	Local	Existing	6-Sat	X			Extend from Reynoldsburg Park & Ride to SR 256/I-70, 800a - 700p
1	Livingston	Local	Existing	6-Sat	X			Expand service to SR256 & I-70 from 700p to 1000p
1	Livingston	Local	Existing	6-Sat	X			Add 1:00 am line up
1	Livingston	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
1	Livingston	Local	Existing	7-Sun	X			Add 10:00 pm line up
1	Livingston	Local	Existing	7-Sun	X			Extend from Reynoldsburg Park & Ride to SR 256/I-70, 900a-700p
1	Livingston	Local	Existing	7-Sun	X			Add 11:00 pm line up
1	Livingston	Local	Existing	7-Sun	X			Add 12:00 midnight line up
2	E Main	Local	Existing	1-Wkd	X			Add 1:00 am line up
2	E Main	Local	Existing	1-Wkd	X			Add 2:00 am line up
2	E Main	Local	Existing	1-Wkd	X			Add 500, 530, 600, 630 am line ups
2	E Main	Local	Existing	6-Sat	X			Add 1:00 am line up
2	E Main	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
2	E Main	Local	Existing	7-Sun	X			Add 10:00 pm line up
2	E Main	Local	Existing	7-Sun	X			Add 11:00 pm line up
2	E Main	Local	Existing	7-Sun	X			Add 12:00 midnight line up
2	N High	Local	Existing	1-Wkd	X			Add 1:00 am line up
2	N High	Local	Existing	1-Wkd	X			Add 2:00 am line up
2	N High	Local	Existing	1-Wkd	X			Add 500, 530, 600, 630 am line ups

C.5 Unfunded Improvements

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
2	N High	Local	Existing	1-Wkd			X	Discontinue Colonial Hills Loop (with addition of #88)
2	N High	Local	Existing	6-Sat	X			Add 1:00 am line up
2	N High	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
2	N High	Local	Existing	7-Sun	X			Add 10:00 pm line up
2	N High	Local	Existing	7-Sun	X			Add 11:00 pm line up
2	N High	Local	Existing	7-Sun	X			Add 12:00 midnight line up
3	Northwest Blvd	Local	Existing	1-Wkd	X			Add 1:00 am line up
3	Northwest Blvd	Local	Existing	1-Wkd			X	Extend from Sawmill & I-270 area to Sawmill & Summit View
3	Northwest Blvd	Local	Existing	1-Wkd	X			Add 500, 530, 600, 630 am line ups
3	Northwest Blvd	Local	Existing	1-Wkd	X			Add 2:00 am line up
3	Northwest Blvd	Local	Existing	6-Sat			X	Extend from Kingsdale to Sawmill & I-270 area via Fishinger, Reed, Henderson, Sawmill, 60 min frequency from 700a-1000p
3	Northwest Blvd	Local	Existing	6-Sat			X	Extend from the Sawmill I-270 area to Sawmill & Summit View
3	Northwest Blvd	Local	Existing	6-Sat	X			Add 1:00 am line up
3	Northwest Blvd	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
3	Northwest Blvd	Local	Existing	7-Sun			X	Add service between downtown Columbus and Kingsdale

C.5 Unfunded Improvements

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
3	Northwest Blvd	Local	Existing	7-Sun			X	Extend from Kingsdale to Sawmill & I-270 area via Fishinger, Reed, Henderson, Sawmill, 60 min frequency from 700a-1000p
3	Northwest Blvd	Local	Existing	7-Sun			X	Extend from the Sawmill I-270 area to Sawmill & Summit View
3	Northwest Blvd	Local	Existing	7-Sun	X			Add 8:00 pm line up
3	Northwest Blvd	Local	Existing	7-Sun	X			Add 9:00 pm line up
3	Northwest Blvd	Local	Existing	7-Sun	X			Add 10:00 pm line up
3	Northwest Blvd	Local	Existing	7-Sun	X			Add 11:00 pm line up
3	Northwest Blvd	Local	Existing	7-Sun	X			Add 12:00 midnight line up
3	W Mound	Local	Existing	1-Wkd	X			Add 1:00 am line up
3	W Mound	Local	Existing	1-Wkd			X	Extend from Georgesville Wal-Mart to Hall & Galloway Rd 700a-700p
3	W Mound	Local	Existing	1-Wkd			X	Expand service to Hall & Galloway from 700p to 1000p
3	W Mound	Local	Existing	1-Wkd	X			Add 2:00 am line up
3	W Mound	Local	Existing	1-Wkd	X			Add 500, 530, 600, 630 am line ups
3	W Mound	Local	Existing	6-Sat			X	Extend from Georgesville Wal-Mart to Hall & Galloway Rd 800a-700p
3	W Mound	Local	Existing	6-Sat			X	Extend from Georgesville Wal-Mart to Hall & Galloway from 700p to 1000p
3	W Mound	Local	Existing	6-Sat	X			Add 1:00 am line up
3	W Mound	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups

C.5 Unfunded Improvements

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
3	W Mound	Local	Existing	7-Sun			X	Extend from Georgesville Wal-Mart to Hall & Galloway from 700a-700p
3	W Mound	Local	Existing	7-Sun	X			Add 10:00 pm line up
3	W Mound	Local	Existing	7-Sun	X			Add 11:00 pm line up
3	W Mound	Local	Existing	7-Sun	X			Add 12:00 midnight line up
4	Indianola	Local	Existing	1-Wkd		X		Improve service frequency from 20 min peak/35 min off peak to 12 min peak/30 off peak
4	Indianola	Local	Existing	1-Wkd	X			Add 1:00 am line up
4	Indianola	Local	Existing	1-Wkd	X			Add 2:00 am line up
4	Indianola	Local	Existing	1-Wkd	X			Add 500, 530, 600, 630 am line ups
4	Indianola	Local	Existing	6-Sat		X		Improve service frequency from 48 min to 30 min
4	Indianola	Local	Existing	6-Sat	X			Add 1:00 am line up
4	Indianola	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
4	Indianola	Local	Existing	7-Sun		X		Improve service frequency from 60 min to 30 min
4	Indianola	Local	Existing	7-Sun	X			Add 10:00 pm line up
4	Indianola	Local	Existing	7-Sun	X			Add 11:00 pm line up
4	Indianola	Local	Existing	7-Sun	X			Add 12:00 midnight line up
4	Parsons	Local	Existing	1-Wkd		X		Improve service frequency from 17 min peak/35 min off peak to 12 min peak/30 min off peak
4	Parsons	Local	Existing	1-Wkd	X			Add 1:00 am line up

C.5 Unfunded Improvements

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
4	Parsons	Local	Existing	1-Wkd	X			Add 2:00 am line up
4	Parsons	Local	Existing	1-Wkd	X			Add 500, 530, 600, 630 am line ups
4	Parsons	Local	Existing	6-Sat		X		Improve service frequency from 48 min pk/ 40 to 60 min late to 30 min pk/30 min late night
4	Parsons	Local	Existing	6-Sat	X			Add 1:00 am line up
4	Parsons	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
4	Parsons	Local	Existing	7-Sun		X		Improve service frequency from 60 min to 30 min
4	Parsons	Local	Existing	7-Sun	X			Add 10:00 pm line up
4	Parsons	Local	Existing	7-Sun	X			Add 11:00 pm line up
4	Parsons	Local	Existing	7-Sun	X			Add 12:00 midnight line up
5	W Fifth Ave	Local	Existing	1-Wkd		X		Extend evening service @ 60 min frequency to Hilliard-Rome Rd 700p-1000p
5	W Fifth Ave	Local	Existing	1-Wkd	X			Add 1:00 am line up
5	W Fifth Ave	Local	Existing	1-Wkd		X		Improve service frequency from 30 min peak/45 min off peak to 20 min peak/30 min off peak
5	W Fifth Ave	Local	Existing	1-Wkd	X			Add 500, 530, 600, 630 am line ups
5	W Fifth Ave	Local	Existing	1-Wkd	X			Add 2:00 am line up
5	W Fifth Ave	Local	Existing	6-Sat			X	Extend service to Hilliard-Rome Rd every 60 mins 700a-700p

C.5 Unfunded Improvements

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
5	W Fifth Ave	Local	Existing	6-Sat			X	Extend service to Hilliard-Rome Rd every 60 mins 700p-midnight
5	W Fifth Ave	Local	Existing	6-Sat	X			Add 1:00 am line up
5	W Fifth Ave	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
5	W Fifth Ave	Local	Existing	7-Sun		X		Improve service frequency from 60 min to 30 min
5	W Fifth Ave	Local	Existing	7-Sun			X	Extend service to Hilliard-Rome Rd every 60 mins from 900a-700p
5	W Fifth Ave	Local	Existing	7-Sun	X			Add 10:00 pm line up
5	W Fifth Ave	Local	Existing	7-Sun	X			Add 11:00 pm line up
5	W Fifth Ave	Local	Existing	7-Sun	X			Add 12:00 midnight line up
6	Mt Vernon	Local	Existing	1-Wkd	X			Add 1:00 am line up
6	Mt Vernon	Local	Existing	1-Wkd	X			Add 2:00 am line up
6	Mt Vernon	Local	Existing	1-Wkd	X			Add 500, 530, 600, 630 am line ups
6	Mt Vernon	Local	Existing	6-Sat	X			Add 1:00 am line up
6	Mt Vernon	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
6	Mt Vernon	Local	Existing	7-Sun	X			Add 10:00 pm line up
6	Mt Vernon	Local	Existing	7-Sun	X			Add 11:00 pm line up
6	Mt Vernon	Local	Existing	7-Sun	X			Add 12:00 midnight line up
6	Sullivant	Local	Existing	1-Wkd	X			Add 1:00 am line up
6	Sullivant	Local	Existing	1-Wkd	X			Add 2:00 am line up
6	Sullivant	Local	Existing	1-Wkd	X			Add 500, 530, 600, 630 am line ups
6	Sullivant	Local	Existing	6-Sat			X	Extend to W Broad St & Galloway Rd via Sullivant and Galloway Rds

C.5 Unfunded Improvements

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
6	Sullivant	Local	Existing	6-Sat	X			Add 1:00 am line up
6	Sullivant	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
6	Sullivant	Local	Existing	7-Sun			X	Extend to W Broad St & Galloway Rd via Sullivant and Galloway Rds
6	Sullivant	Local	Existing	7-Sun	X			Add 10:00 pm line up
6	Sullivant	Local	Existing	7-Sun	X			Add 11:00 pm line up
6	Sullivant	Local	Existing	7-Sun	X			Add 12:00 midnight line up
7	Neil	Local	Existing	1-Wkd	X			Add 1:00 am line up
7	Neil	Local	Existing	1-Wkd	X			Add 2:00 am line up
7	Neil	Local	Existing	1-Wkd	X			Add 500, 530, 600, 630 am line ups
7	Neil	Local	Existing	6-Sat		X		Improve service frequency from 45 min all day to 30 min all day
7	Neil	Local	Existing	6-Sat	X			Add 1:00 am line up
7	Neil	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
7	Neil	Local	Existing	7-Sun		X		Improve service frequency from 60 min to 30 min
7	Neil	Local	Existing	7-Sun	X			Add 10:00 pm line up
7	Neil	Local	Existing	7-Sun	X			Add 11:00 pm line up
7	Neil	Local	Existing	7-Sun	X			Add 12:00 midnight line up
7	Whittier	Local	Existing	1-Wkd	X			Add 1:00 am line up
7	Whittier	Local	Existing	1-Wkd	X			Add 2:00 am line up
7	Whittier	Local	Existing	1-Wkd	X			Add 500, 530, 600, 630 am line ups
7	Whittier	Local	Existing	6-Sat		X		Improve service frequency from 45 min all day to 30 min all day

C.5 Unfunded Improvements

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
7	Whittier	Local	Existing	6-Sat	X			Add 1:00 am line up
7	Whittier	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
7	Whittier	Local	Existing	7-Sun		X		Improve service frequency from 60 min to 30 min
7	Whittier	Local	Existing	7-Sun	X			Add 10:00 pm line up
7	Whittier	Local	Existing	7-Sun	X			Add 11:00 pm line up
7	Whittier	Local	Existing	7-Sun	X			Add 12:00 midnight line up
8	Frebis	Local	Existing	1-Wkd	X			Add 1:00 am line up
8	Frebis	Local	Existing	1-Wkd			X	Extend south to Rickenbacker 600a-1000p at 60 min frequency
8	Frebis	Local	Existing	1-Wkd	X			Add 500, 530, 600 & 6:30 am line ups
8	Frebis	Local	Existing	1-Wkd	X			Add 2:00 am line up
8	Frebis	Local	Existing	6-Sat	X			Add 1:00 am line up
8	Frebis	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
8	Frebis	Local	Existing	7-Sun		X		Improve service frequency from 60 min to 30 min
8	Frebis	Local	Existing	7-Sun	X			Add 10:00 pm line up
8	Frebis	Local	Existing	7-Sun	X			Add 11:00 pm line up
8	Frebis	Local	Existing	7-Sun	X			Add 12:00 midnight line up
8	Hamilton Ave	Local	Existing	1-Wkd	X			Add 1:00 am line up
8	Hamilton Ave	Local	Existing	1-Wkd	X			Add 500, 530, 600 & 6:30 am line ups
8	Hamilton Ave	Local	Existing	1-Wkd	X			Add 2:00 am line up
8	Hamilton Ave	Local	Existing	6-Sat	X			Add 1:00 am line up
8	Hamilton Ave	Local	Existing	6-Sat	X			Add 530, 600, 630 am line

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Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
								ups
8	Hamilton Ave	Local	Existing	7-Sun		X		Improve service frequency from 60 min to 30 min
8	Hamilton Ave	Local	Existing	7-Sun	X			Add 10:00 pm line up
8	Hamilton Ave	Local	Existing	7-Sun	X			Add 11:00 pm line up
8	Hamilton Ave	Local	Existing	7-Sun	X			Add 12:00 midnight line up
9	Leonard/Brentnell	Local	Existing	1-Wkd			X	Discontinue service to Northern Lights & extend service to Easton via SR-3, Innis Rd, Sunbury Rd, Easton Way
9	Leonard/Brentnell	Local	Existing	1-Wkd	X			Add 1:00 am line up
9	Leonard/Brentnell	Local	Existing	1-Wkd	X			Add 500, 530, 600 & 630 am line ups
9	Leonard/Brentnell	Local	Existing	1-Wkd	X			Add 2:00 am line up
9	Leonard/Brentnell	Local	Existing	6-Sat			X	Discontinue service to Northern Lights & extend service to Easton via SR-3, Innis Rd, Sunbury Rd, Easton Way
9	Leonard/Brentnell	Local	Existing	6-Sat		X		Improve frequency from 50 to 40 mins
9	Leonard/Brentnell	Local	Existing	6-Sat	X			Add 1:00 am line up
9	Leonard/Brentnell	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
9	Leonard/Brentnell	Local	Existing	7-Sun			X	Discontinue service to Granville Centre & extend service to Easton via SR-3, Innis Rd, Sunbury Rd, Easton Way
9	Leonard/Brentnell	Local	Existing	7-Sun	X			Add 10:00 pm line up
9	Leonard/Brentnell	Local	Existing	7-Sun	X			Add 11:00 pm line up

C.5 Unfunded Improvements

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
9	Leonard/Brentnell	Local	Existing	7-Sun	X			Add 12:00 midnight line up
10	E Broad	Local	Existing	1-Wkd	X			Add 500, 530, 600, 630 am line ups
10	E Broad	Local	Existing	1-Wkd	X			Add 1:00 am line up
10	E Broad	Local	Existing	1-Wkd	X			Add 2:00 am line up
10	E Broad	Local	Existing	6-Sat	X			Add 1:00 am line up
10	E Broad	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
10	E Broad	Local	Existing	7-Sun			X	Extend service east to Licking Co. line, service frequency every 60 min
10	E Broad	Local	Existing	7-Sun	X			Add 10:00 pm line up
10	E Broad	Local	Existing	7-Sun	X			Add 11:00 pm line up
10	E Broad	Local	Existing	7-Sun	X			Add 12:00 midnight line up
10	W Broad	Local	Existing	1-Wkd	X			Add 500, 530, 600, 630 am line ups
10	W Broad	Local	Existing	1-Wkd	X			Add 1:00 am line up
10	W Broad	Local	Existing	1-Wkd	X			Add 2:00 am line up
10	W Broad	Local	Existing	6-Sat	X			Add 1:00 am line up
10	W Broad	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
10	W Broad	Local	Existing	7-Sun	X			Add 10:00 pm line up
10	W Broad	Local	Existing	7-Sun	X			Add 11:00 pm line up
10	W Broad	Local	Existing	7-Sun	X			Add 12:00 midnight line up
11	Oak/Bryden	Local	Existing	1-Wkd	X			Add 1:00 am line up
11	Oak/Bryden	Local	Existing	1-Wkd	X			Add 500, 530, 600, 630 am line ups
11	Oak/Bryden	Local	Existing	1-Wkd	X			Add 2:00 am line up
11	Oak/Bryden	Local	Existing	6-Sat	X			Add 1:00 am line up

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Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
11	Oak/Bryden	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
11	Oak/Bryden	Local	Existing	7-Sun		X		Improve service frequency from 60 min to 30 min
11	Oak/Bryden	Local	Existing	7-Sun	X			Add 10:00 pm line up
11	Oak/Bryden	Local	Existing	7-Sun	X			Add 11:00 pm line up
11	Oak/Bryden	Local	Existing	7-Sun	X			Add 12:00 midnight line up
11	St Clair	Local	Existing	1-Wkd	X			Add 1:00 am line up
11	St Clair	Local	Existing	1-Wkd	X			Add 500, 530, 600, 630 am line ups
11	St Clair	Local	Existing	1-Wkd	X			Add 2:00 am line up
11	St Clair	Local	Existing	6-Sat	X			Add 1:00 am line up
11	St Clair	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
11	St Clair	Local	Existing	7-Sun		X		Improve service frequency from 60 min to 30 min
11	St Clair	Local	Existing	7-Sun	X			Add 10:00 pm line up
11	St Clair	Local	Existing	7-Sun	X			Add 11:00 pm line up
11	St Clair	Local	Existing	7-Sun	X			Add 12:00 midnight line up
16	E Long	Local	Existing	1-Wkd	X			Add 1:00 am line up
16	E Long	Local	Existing	1-Wkd	X			Add 5:00, 5:30, 6:00, 6:30 am line ups
16	E Long	Local	Existing	1-Wkd	X			Add 2:00 am line up
16	E Long	Local	Existing	6-Sat	X			Add 1:00 am line up
16	E Long	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
16	E Long	Local	Existing	7-Sun		X		Improve service frequency from 60 min to 30 min

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Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
16	E Long	Local	Existing	7-Sun	X			Add 10:00 pm line up
16	E Long	Local	Existing	7-Sun	X			Add 11:00 pm line up
16	E Long	Local	Existing	7-Sun	X			Add 12:00 midnight line up
16	S High	Local	Existing	1-Wkd			X	Extend service to Park & Ride at Rathmell & S High
16	S High	Local	Existing	1-Wkd	X			Add 1:00 am line up
16	S High	Local	Existing	1-Wkd	X			Add 5:00, 5:30, 6:00, 6:30 am line ups
16	S High	Local	Existing	1-Wkd	X			Add 2:00 am line up
16	S High	Local	Existing	6-Sat	X			Add 1:00 am line up
16	S High	Local	Existing	6-Sat	X			Add 530, 600, 630 am line ups
16	S High	Local	Existing	7-Sun		X		Improve service frequency from 60 min to 30 min
16	S High	Local	Existing	7-Sun	X			Add 10:00 pm line up
16	S High	Local	Existing	7-Sun	X			Add 11:00 pm line up
16	S High	Local	Existing	7-Sun	X			Add 12:00 midnight line up
17	Greenlawn/Gantz	Local	New	1-Wkd				Add Peak-Hour service at a 60-min frequency from Grove City Park & Ride, Stringtown Rd, Gantz Rd, Southpark Pl, Hardy Parkway, Brown Rd, Stimmel Rd, Harmon Ave, Greenlawn Ave, Greenfield Dr, Griggs Rd, Harmon Ave, Souder Ave, Thomas Lane, Davis Ave,
17	Greenlawn/Gantz	Local	New	1-Wkd				Add midday/evening service between Grove City Park & Ride &

C.5 Unfunded Improvements

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
								downtown
17	Greenlawn/Gantz	Local	New	1-Wkd				Improve peak-hour frequency from 60 to 30 mins
17	Greenlawn/Gantz	Local	New	6-Sat				Add service between Grove City Park & Ride & downtown
17	Greenlawn/Gantz	Local	New	7-Sun				Add service between Grove City Park & Ride & downtown
18	Kenny	Local	Existing	1-Wkd	X			Add 1:00 am line up to Sawmill/Bethel
18	Kenny	Local	Existing	1-Wkd	X			Add 2:00 am line up to Sawmill/Bethel
18	Kenny	Local	Existing	6-Sat	X			Add 1:00 am line up to Sawmill/Bethel
18	Kenny	Local	Existing	7-Sun	X			Add 10:00 pm line up to Sawmill/Bethel
18	Kenny	Local	Existing	7-Sun	X			Add 11:00 pm line up to Sawmill/Bethel
18	Kenny	Local	Existing	7-Sun	X			Add 12:00 midnight line up to Sawmill/Bethel
19	Arlington/Grandview	Local	Existing	1-Wkd	X			Add 10:00 pm line up
19	Arlington/Grandview	Local	Existing	6-Sat			X	Add service from downtown to First Community Village
19	Arlington/Grandview	Local	Existing	7-Sun			X	Add service from downtown to First Community Village
28	Gemini	Express	New	1-Wkd				Improve from 2 to 4 peak trips service a 700, 730, 800, & 830 downtown work start times, and 400, 430, 500, & 530p work

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Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
								end times
30	Smoky Row	Express	Existing	1-Wkd	X	X		Add 2 trips in peak period
32	Crosswoods	Express	New	1-Wkd				Increase from 2 to 4 trips per peak
34	Karl	Express	Existing	1-Wkd	X	X		Improve to 4 trips each peak
36	Annehurst	Express	Existing	1-Wkd	X	X		Add pm trip leaving downtown at 5:45 pm
39	New Albany	Express	Existing	1-Wkd	X	X		Improve from 3 to 4 trips each peak
40	New Albany Bus Pk.	Express	Existing	1-Wkd		X		Improve from 1 trip to 2 trips each peak
40X	Sunbury Road	Express	New	1-Wkd				Improve frequency from 2 trips to 4 trips from Sunbury/SR161 via I-270/I-670 to downtown
41	Gahanna	Express	Existing	1-Wkd	X	X		Improve to 2 to 3 peak trips
41	Gahanna	Express	Existing	1-Wkd	X	X		Improve from 3 to 4 peak trips
42X	Airport/Downtown	Express	New	1-Wkd				Add service between downtown hotels and Port Columbus Airport
42X	Airport/Downtown	Express	New	1-Wkd				Improve frequency from 60 to 30 mins
42X	Airport/Downtown	Express	New	1-Wkd				Improve frequency from 30 to 20 mins
42X	Airport/Downtown	Express	New	6-Sat				Add service between downtown hotels and Port Columbus Airport

C.5 Unfunded Improvements

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
42X	Airport/Downtown	Express	New	7-Sun				Add service between downtown hotels and Port Columbus Airport
043X	Broad/McNaughten	Express	New	1-Wkd				Improve from 2 trips to 4 trips each peak period serving the 700, 730, 800, and 830 work start times, and the 400, 430, 500, and 530 work end times
50X	South Columbus	Express	New	1-Wkd				Add new park & ride at US23/Rathmell and new service between S. High St/Rathmell Rd. and downtown via S. High, I-270, and I-71
50X	South Columbus	Express	New	1-Wkd				Improve service frequency between US23/Rathmell and downtown from 2 to 4 trips each peak period.
53X	Westwoods	Express	New	1-Wkd				Add 2 peak trips from Westwoods via I-270/I-70 serving 730, 800 downtown work start times
53X	Westwoods	Express	New	1-Wkd				Improve from 2 peak to 4 peak trips serving 700, 730, 800, 830 downtown work start times
54	London/Groveport	Express	Existing	1-Wkd	X	X		Improve from 2 peak to 4 peak trips serving 700, 730, 800, 830 downtown work start times
55A	Avery/Perimeter	Express	New	1-Wkd				Improve to 4 trips each peak, 700, 730, 800, 830, plus 2 reverse commute each peak

C.5 Unfunded Improvements

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
55X	Dublin/OSU	Express	New	1-Wkd				Add new direct service between Dublin and OSU. Location in Dublin to be determined.
55X	Dublin/OSU	Express	New	1-Wkd				Improve to 4 trips each peak, 700, 730, 800, 830, plus 2 reverse commute each peak
56	Tuttle	Express	Existing	1-Wkd	X	X		Improve from 2 to 3 trips each peak
57	Hilliard	Express	Existing	1-Wkd	X	X		Improve service from 2 to 4 trips each peak--added trips between downtown & park & ride only
59X	Sawmill	Express	New	1-Wkd				Improve service to include 700, 730, 800, 830 work starts
60	Arlington	Express	Existing	1-Wkd	X	X		Expand from 2 to 3 am and pm peak trips
64	Grove City	Express	Existing	1-Wkd	X	X		Expand to 4 am, 4 pm trips, 2 am 2 pm reverse commute trips
66	Hilliard/OSU	Express	New	1-Wkd				Improve from 2 to 4 peak trips
83	Oakland/Weber	Crosstown	Existing	1-Wkd		X		Improve service frequencies from Kingsdale to Main & Cemetery in Hilliard
85	Brice/Gender	Crosstown	New	1-Wkd				Add midday service between Canal Winchester and E. Broad/Fairway
85	Brice/Gender	Crosstown	New	1-Wkd				Improve peak frequency from 45 to 30 mins

C.5 Unfunded Improvements

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
85	Brice/Gender	Crosstown	New	6-Sat				Add service between Canal Winchester and E. Broad/Fairway
85	Brice/Gender	Crosstown	New	7-Sun				Add service between Canal Winchester and E. Broad/Fairway
88	Busch Boulevard	Crosstown	New	1-Wkd				Add service between Busch Blvd area and Graceland with an alignment using Lincoln between Sinclair and High
88	Busch Boulevard	Crosstown	New	1-Wkd				Improve peak period frequencies
89	Hamilton Road	Crosstown	Existing	1-Wkd		X		Improve frequency from 60 to 30 mins from Hamilton & Broad to SR 161
90	Hague Avenue	Crosstown	New	1-Wkd				Add service from Westbelt Business Park and Briggs Rd/US-62 area via Trabue Rd, Hague Ave, Valleyview Rd, Wilson Rd., Sullivant Ave, Hague Ave, Briggs Rd.
90	Hague Avenue	Crosstown	New	1-Wkd				Improve peak frequency from 60 to 30 mins
93	Polaris Crosstown	Crosstown	New	1-Wkd				Improve peak frequency from 60 to 30 mins
93	Polaris Crosstown	Crosstown	New	1-Wkd				Extend service earlier in the morning & later into evening
93	Polaris Crosstown	Crosstown	New	6-Sat				Add service between Westerville Park & Ride, Polaris & Crosswoods Park & Ride

C.5 Unfunded Improvements

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
93	Polaris Crosstown	Crosstown	New	7-Sun				Add service between Westerville Park & Ride, Polaris & Crosswoods Park & Ride
94	SR 161 Crosstown	Crosstown	New	1-Wkd				Extend peak hour service from US 23/High St to Dublin Hospital via SR161, High St, I-270, Sawmill, SR161, Dale Dr, SR257, Emerald Pkwy, Perimeter Rd, Hospital Dr.
94	SR 161 Crosstown	Crosstown	New	1-Wkd				Add midday service from SR 161/Cleveland to Dublin Hospital
94	SR 161 Crosstown	Crosstown	New	1-Wkd				Improve peak hour service from 60 to 30 mins
94	SR 161 Crosstown	Crosstown	New	6-Sat				Add service from SR 161/Cleveland to Dublin Hospital
94	SR 161 Crosstown	Crosstown	New	7-Sun				Add service from SR 161/Cleveland to Dublin Hospital
95	Morse/Henderson	Crosstown	Existing	1-Wkd			X	Extend service to Tuttle Mall. Discontinue Reed Rd. Service
95	Morse/Henderson	Crosstown	Existing	1-Wkd			X	Extend service to Cosgray/Britton Pkwy during peak periods
95	Morse/Henderson	Crosstown	Existing	6-Sat			X	Extend service to Tuttle Mall, discontinue service on Reed
95	Morse/Henderson	Crosstown	Existing	6-Sat			X	Extend service until 1000pm Graceland to Stoneridge
95	Morse/Henderson	Crosstown	Existing	7-Sun			X	Add Service between Graceland & Tuttle Mall

C.5 Unfunded Improvements

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
96	5th Ave	Crosstown	Existing	1-Wkd		X		Improve peak frequency from 45 to 30 mins
96	5th Ave	Crosstown	Existing	1-Wkd			X	Extend service to Mt. Carmel East Hospital
97	Georgesville/Phillipi	Crosstown	New	1-Wkd				Add peak-hour service between Wal-Mart and Fisher Rd
97	Georgesville/Phillipi	Crosstown	New	1-Wkd				Add service midday and later to 800p from Wal-Mart and Fisher Rd.
97	Georgesville/Phillipi	Crosstown	New	1-Wkd				Expand alignment to Norton Rd and Westpointe Plaza area (Giant Eagle)
97	Georgesville/Phillipi	Crosstown	New	1-Wkd				Add service midday and later to Norton Rd and Westpointe Plaza area
97	Georgesville/Phillipi	Crosstown	New	6-Sat				Add service between Wal-Mart & Westpointe Plaza area (Giant Eagle)
97	Georgesville/Phillipi	Crosstown	New	7-Sun				Add service between Wal-Mart & Westpointe Plaza area (Giant Eagle)
100	Hilliard-Rome Rd./Avery Rd.	Crosstown	New	1-Wkd				Add service between Westwoods P&R and Avery Rd/Perimeter Loop area
100	Hilliard-Rome Rd./Avery Rd.	Crosstown	New	1-Wkd				Improve peak hour frequencies from 60 to 30 min
100	Hilliard-Rome Rd./Avery Rd.	Crosstown	New	6-Sat				Add service between Westwoods P&R and Avery Rd/Perimeter Loop area

C.5 Unfunded Improvements

Line #	Line Name	Line Type	Existing or New	Service Day	Extended Hours of Operation	Improved Frequency	Modified Alignment	Description of Modification
100	Hilliard-Rome Rd./Avery Rd.	Crosstown	New	7-Sun				Add service between Westwoods P&R and Avery Rd/Perimeter Loop area