



Regional Transit Coordination Study Executive Summary



COMMUTER SERVICES
OF PENNSYLVANIA

**PARSONS
BRINCKERHOFF**

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Needs Investigation and Existing Conditions

Study Introduction

Transportation demand now stretches beyond traditional county boundaries, which is often the same boundary for its associated transit service. The purpose of the Regional Transit Coordination Study (RTCS) is to increase mobility options for the region’s residents, employers, visitors and commuters through coordinated service between separate transit agencies and Commuter Services of Pennsylvania (Commuter Services). The study looks at how to better coordinate transit services provided by the different transit agencies in the nine-county region covered by Commuter Services.
















The results of the study chart a course for coordinated regional transit service for the immediate future, and also address how the transit providers can work together to provide greater opportunities for inter-county mobility for residents, commuters, visitors and businesses in South Central Pennsylvania.

The study is sponsored by the Pennsylvania Department of Transportation (PennDOT) through the Berks Area Regional Transportation Authority (BARTA) and the nine participating counties: Adams, Berks, Cumberland, Dauphin, Franklin, Lancaster, Lebanon, Perry, and York.

Study Leadership

Members of the Susquehanna Regional Transportation Partnership (SRTP), the Board of Directors for Commuter Services, served as the Joint Study Committee (JSC), directing the study’s progress. This Board included the stakeholders whose input was required, including representatives of the transit agencies: Adams County Transit Authority (ACTA), Berks Area Regional Transportation Authority (BARTA), County of Lebanon Transit Authority (Lebanon Transit), Red Rose Transit Authority (Lancaster), York County Transportation Authority (rabbitransit), Capital Area Transit (CAT, Cumberland-Dauphin-Harrisburg); the Metropolitan Planning Organizations (MPOs): Lancaster, Lebanon, Reading Area and York MPOs, the Harrisburg Area MPO (Cumberland, Dauphin and Perry counties); and the Adams and Franklin Counties’ Rural Planning Organizations (RPOs). One board seat is also set aside for a corporate executive. The members of the JSC are presented in the following table.

RTCS Joint Study Committee

	<p>Capital Area Transit (CAT)</p> 	<p>Lebanon County Planning Department</p> 
<p>Adams County Transit Authority</p> 	<p>Franklin County Planning</p> 	<p>Tri-County Regional Planning Commission</p> 
<p>Adams County Office of Planning and Development</p> 	<p>Lancaster County Planning Commission</p> 	<p>York County Transit Authority</p> 
<p>Berks County Planning Commission</p> 	<p>Red Rose Transit Authority (Lancaster County)</p> 	<p>York County Planning Commission</p> 
<p>Berks Area Regional Transportation Authority</p> 	<p>County of Lebanon Transit</p> 	

Study Purpose

With input from the JSC as well as the first Transit Roundtable, the following purpose statement was developed to describe the need for and importance of this study:

As the current regional trends in jobs and housing continue, the need for innovative transportation solutions increases all the while Pennsylvania's transportation needs exceed the funding that is available. The resulting situation has transportation demand stretching beyond traditional county boundaries and their associated transit services and presents a challenge to fund transportation solutions to meet these mobility needs. This study seeks to identify a range of opportunities for choices and efficiency through better transit service coordination including extensions of existing service, and through greater availability of passenger amenities to support transit service such as park and rides.

SRTP member agencies and their respective counties are ready and willing to work together to implement improvements that support regional transit service to provide additional mobility options for the region's residents, employers, visitors and commuters. Through coordinated service between separate transit agencies as well as Commuter Services, a series of short-, mid-, and longer-term opportunities for regional transit service coordination were developed and will serve as a model for other coordinated transit services in Pennsylvania.

Potential benefits to be provided through regional transit coordination include:

- Increased mobility choices for residents, commuters and visitors
- Employers' ability to draw from a larger recruiting area
- Reduced congestion
- Improved air quality
- Cost savings from eliminating redundancies in service
- Enhanced quality of life

Building on local partnerships, and embodying PennDOT's Smart Transportation principles, SRTP is eager to shape regional perspectives on transit coordination through a variety of modes and solutions ranging from express bus to carpools and vanpools. The implementation of corridor solutions requires a process that looks beyond an individual county's needs and identifies a plan to address possible barriers such as organizational framework, legislation and funding, and community support.

Study Goals

The Joint Study Committee also provided input on the following goals, which were developed as statements to support the study's purpose:

1. Define and address the regional mobility needs of residents, employers, visitors and commuters throughout the nine-county study area.
2. Document gaps in existing transportation services with the aim of maximizing opportunities for seamless regional connectivity between systems efficiently and cost-effectively.
3. Facilitate the development of a regional growth rate that reflects transit supportive land uses for application in comprehensive plans.
4. Describe unmet needs, both presently and anticipated in the future, based upon expected population and employment growth.
5. Identify opportunities for route restructuring, multimodal travel and other service planning modifications to encourage regional transit trip-making and reduce barriers to cross-system connections.
6. Establish a process for coordinated and multi-agency approach for route-evaluation that includes methods for coordinating short-term operating decisions with long-term goals and objectives.
7. Produce cost estimates for operating scenarios in ways that create a more consistent approach for estimating capital and operating costs across properties.
8. Apply, where possible, Smart Transportation principles to key selected corridors.

Study Outreach

Four stakeholder groups were identified for this project and targeted to receive information and education early in the planning process in order to involve them at critical stages for public input. These stakeholders were identified with the assistance of the JSC and include large employers, additional staff from transit agencies, county commissioners and citizens at-large.

The project team built on the existing Commuter Services database to include representatives from the additional stakeholders identified above. Before any outreach was begun, a review of all recent available data collected by the transit agencies, MPOs and Commuter Services was conducted, including the market research conducted by Commuter Services in both 2007 and 2010. This information was the baseline against which results of public outreach was compared.

At the outset of the project, with the assistance of the Joint Study Committee, a formal list of project stakeholders was identified representing all nine counties of the study area. A total of 30 interviews were conducted in late summer-fall 2010. The interviewees represented a variety of interests including major employers, chambers of commerce, visitors bureaus, and economic development agencies. The purpose of these interviews was to gather critical information on the potential concerns, opinions, and issues they have about existing transit service, facilities, and the study. Information gleaned from these interviews forms the basis of the preliminary Purpose Statement and Study Goals. The specific corridors identified also provided input to the transit corridors that were proposed and examined at the first Transit Roundtable.

Reaching out to these key stakeholders helped the project team better understand the current transportation issues and needs of the counties and transit agencies in South Central Pennsylvania. The results of these interviews were summarized and used to identify potential inter-county transit corridors in the region.

After the stakeholder interviews, the first Transit Roundtable discussion was held on December 14, 2010. The purpose of this event was to involve a greater number of stakeholders in the process of providing more regional transit options. A second Transit Roundtable was held on April 11, 2011, focusing on the opportunities and barriers associated with the implementation of regional transit service.

Service Market

The corridors identified were envisioned to serve primarily commuter trips, but it was recognized that various commuter markets exist. With the concentration of service oriented toward traditional downtown locations, the corridors envisioned also explored the potential for serving newer development and employment centers on the urban fringe, providing more direct and one-seat ride opportunities than currently exist. In some limited cases, such as service in a corridor traveling to Gettysburg from Harrisburg, the potential for a tourist-based market could be a factor, especially in providing utilization for vehicles in the non-peak commuter direction or in the middle of the day.

Corridor Definitions

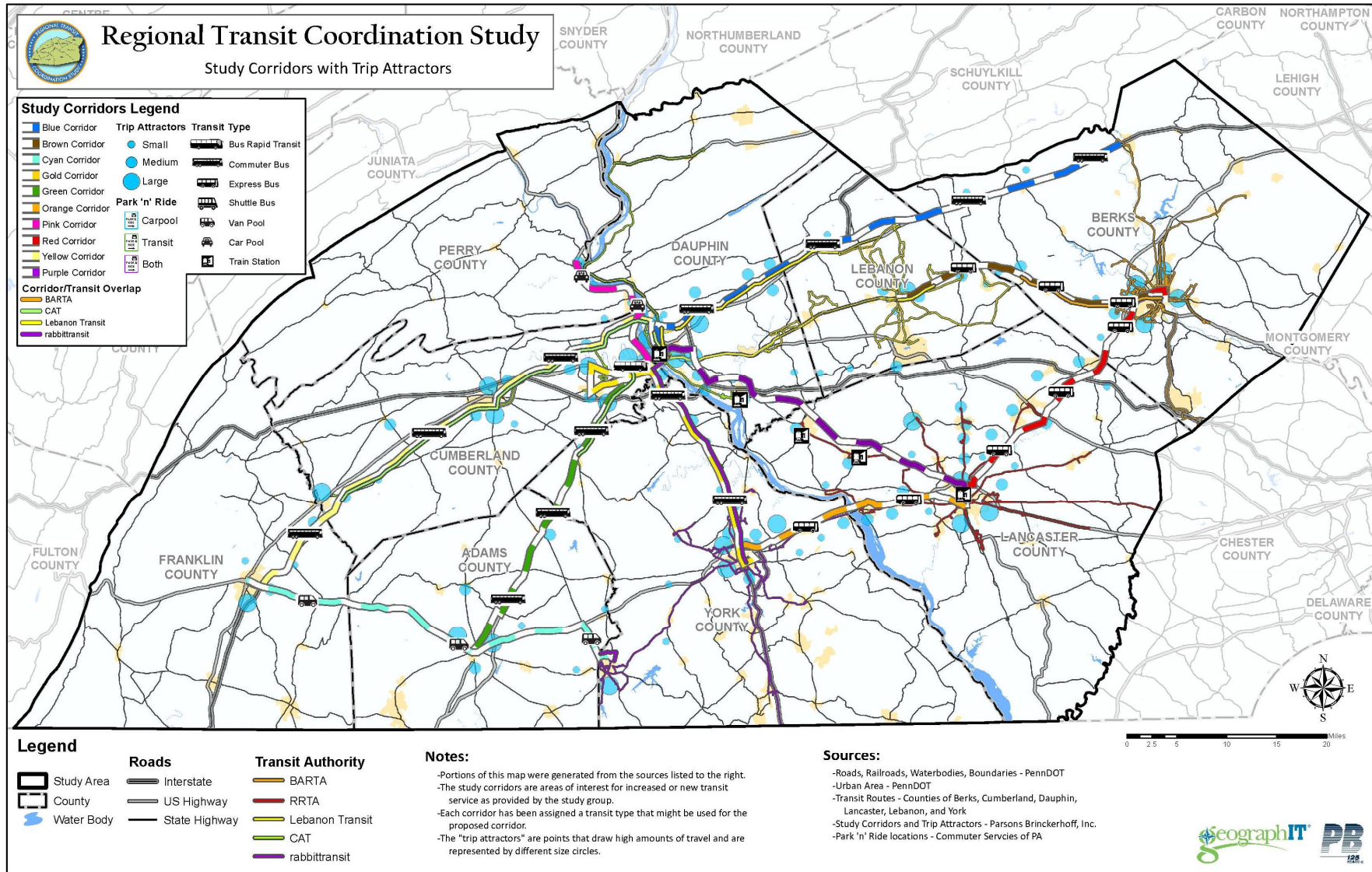
A total of eleven county travel pairings were initially identified through the travel pattern analysis and the collective feedback from the study participants. These pairings subsequently evolved into nine color-coded corridors, with the Cyan Corridor added after it was recommended

by the Joint Study Committee, and the Lebanon-Lancaster travel pairing not developing into a corridor designation. The resulting ten color-coded corridors are depicted in the following map and summarized in the table below. As these corridors were further evaluated, through suggested modifications determined from stakeholder feedback and the study team, they resulted in a finalized set of ten corridors.

Corridor Descriptions

	<u>BLUE CORRIDOR</u>	<u>ORANGE CORRIDOR</u>	<u>BROWN CORRIDOR</u>	<u>PURPLE CORRIDOR</u>	<u>GREEN CORRIDOR</u>
Counties Served	Berks, Lebanon, Dauphin	York, Lancaster	Berks, Lebanon	Lancaster, Dauphin, Lebanon	Adams, York, Cumberland
Primary Route	I-81	PA 462/US-30	US-422	PA-283	US-15/PA-74
	<u>RED CORRIDOR</u>	<u>YELLOW</u>	<u>PINK CORRIDOR</u>	<u>GOLD CORRIDOR</u>	<u>CYAN CORRIDOR</u>
Counties Served	Berks, Lancaster	Franklin, Cumberland, Dauphin	Dauphin, Perry	York, Cumberland	Adams, York
Primary Route	US-222	I-81	US-11/15	I-83/PA 581	US-30/PA-94/PA-116

Regional Corridor Map



Barriers to Transit Service Connectivity

With the ten corridors for potential regional transit service agreed upon by the JSC, the study progressed towards identifying the barriers that would challenge their implementation. Opportunities and barriers that were identified from both a transit gap analysis as well as in consideration of the ten recommended regional transit corridors were examined. These opportunities and barriers cover many areas, including institutional, regulatory, administrative and operational. Each of these areas were discussed individually with the five transit agencies involved in the study, which yielded a rich understanding of the nuances as well as the obvious challenges that each will face as regional coordination progresses.

In general, it was agreed by the five transit agencies that the development of the appropriate institutional arrangements for cooperation among transit agencies could be more challenging than the overcoming of technical issues such as joint fare collection systems, specifications for joint purchase of vehicles or components, and other “hardware” issues.

These areas were identified based on the study team’s discussions with the transit agencies as well as the research conducted on barriers identified by transit agencies around the country and the solutions employed to overcome them. The lack of available funding was overwhelmingly cited as the most significant barrier. It was assumed that with adequate funding, other barriers would be easier to overcome.

The aim of the second Transit Roundtable was to involve more stakeholders in a discussion focused on the opportunities and challenges associated with the implementation of regional transit service, specifically honing in on three areas that encompassed these barriers:

- Organizational framework
- Legislative and funding
- Community partnerships

General Barrier Types

The study team began with a general identification of barriers and lessons learned elsewhere during similar service coordination efforts. The barriers identified in this section relate to the coordination of bus service across jurisdictions or counties - they are *not* reflective of the coordination issues that would need to be addressed through a merging of agencies, and thus were not considered as part of this study. The following general considerations for regional transit service coordination were identified based on examples of coordinated transit service in other regions of the United States:

- Decision-making authority/political issues
- Sharing revenue and costs
- Branding of equipment
- Fare collection
- Service issues and delays
- “Last ½ mile”

Barriers identified by Joint Study Committee

After presenting the examples of transit system coordination in the US and discussion with the JSC, a series of barriers and other considerations were identified by the study team as those that would be of most relevance to the nine-county study area. Interviews conducted with the individual transit agencies in the study area further focused on the particular barriers that would affect their agency and/or proposed regional corridors. These barriers reflect the particular transit service concepts, i.e., the ten corridors that were recommended as part of this study. The barriers were then grouped into general areas of funding, political, geographic, and operational challenges. The table below depicts the transit agencies involved, the corridors that were recommended for each, and the other transit agencies in the region that would need to be coordinated with.

Proposed Transit Agency Corridors and Coordination

Transit Agency	Corridors	Total # of Corridors	Agencies to Coordinate with
BARTA	Blue, Brown, Red	3	LT, Red Rose
LT	Blue, Brown	2	BARTA
CAT	Blue, Purple, Yellow, Gold, Pink	6	LT, Red Rose, rabbittransit
Red Rose	Red, Purple, Orange	3	BARTA, CAT, rabbittransit
rabbittransit	Orange, Gold, Cyan, Green	3	Red Rose, CAT, ACTA

Political

Several transit agencies cautioned against formalizing what are currently informal agreements between transit agencies or other private service transportation providers. It was agreed, however, that more formalization may be needed for higher levels of coordination. Service priorities must be aligned both across the counties and with regard to existing routes serving the county so as not to “cannibalize” the existing service within a county for the service going outside a county.

Geographic

The general perception in the region is that there is limited success in non-Harrisburg CBD-focused regional routes. Regardless of whether this is real or perceived, the lack of free parking in downtown Harrisburg combined with traffic congestion at rush hour explains the success of current transit services that serve Harrisburg from outlying areas. Additionally, changes to operating charters of particular agencies may need to be considered if they do not currently include service to a particular county.

Operational

Transit agencies in the study area indicated that vehicle storage and/or use on another route within the service area would need to be resolved, but did not represent a huge concern.

Similarly, potential crowding of vehicles at bus bays or hubs would need to be considered, but is not likely to serve as a significant challenge. Additionally, a mechanism would need to be put in place to hold other transit systems accountable to performance requirements (e.g., local response to missed-pull outs on an inter-county trip).

Some of the corridors identified may be too short or lack enough congestion to support a new fixed-route operation. There were a variety of modes proposed for the corridors, from vanpool to commuter express bus, and it should be emphasized that it is anticipated that the particular modes could evolve over time as they experience growth and success. Additionally, as reverse commute potential grows, additional coordination between transit agencies may need to take place in order to serve destinations at each end of a corridor.

From the passenger's perspective, consistent information, trip planning and user interface, e.g., a single website, would be needed. Moreover, a unified fare mechanism is seen as almost more essential than a unified branding scheme. To address this need, unified fare meetings have started to be held among the agencies that provide service to downtown Harrisburg.

Solutions for Consideration in South Central Pennsylvania

Strategies and solutions to overcome these barriers were reviewed with the region's transit stakeholders as part of Transit Roundtable #2. These elements were developed based on national case studies as well as the agencies' lessons learned from previous and ongoing experience with regional transit coordination. In addition to this stakeholder input, several additional efforts were identified as a general series of steps to consider before the details of service coordination are undertaken:

- **Field observation.** An actual drive-through on the potential corridors is a useful way to observe issues that may not be readily obvious (such as traffic conditions, length of trip, potential stops, park and ride locations and their utilization).
- **“Data rich, information poor.”** Be sure to actually use the data collected, justify the cost of data collection and have a plan in place to utilize what is collected. On-board counts and origin-destination data of riders are particularly important and less emphasis should be placed on surveys of non-riders.
- **Corridor parity.** If two agencies are sharing a particular corridor, the operational challenges along it must be considered. For example, specific roadways may be routinely congested during rush hour and could result in impacts to the criteria that drive the revenue and cost sharing arrangement.
- **Corridor introduction.** A strong launch of a new service is essential to get the word out about new, regional transit services. A commitment of at least two years is typically necessary to determine whether a corridor service will be successful. Commuter Services may be able to help in this regard.
- **Public-private partnerships.** There are several examples of partnerships in South Central Pennsylvania that can be viewed as success stories in facilitating public-private partnerships. Working with employers to provide transit service to accommodate their shifts and provisions with businesses to provide space for park

and ride lots are two ways that Commuter Services has been successful in approaching businesses to provide transportation amenities of mutual benefit.

Organizational Frameworks

A variety of organizational frameworks were discussed at the second Transit Roundtable along with the strengths and weakness of each approach. It was agreed that informal arrangements represent a good starting point for regional coordination and can serve as a model for initial coordination efforts. Over time, opportunities to expand coordination within the context of the larger region are of interest, so an incremental approach to coordination may be easier than a more formalized process.

There are already examples of coordination in the region, e.g., Adams and York Counties for regional transit service, and several different transit agencies provide service to downtown Harrisburg. Despite this initial coordination, connections between transit systems, the lack of a coordinated fare structure, and a lack of common fare media will continue to be a significant issue, but there is an expectation among the transit systems in the study area that this can and will be worked out.

As the region continues to grow and develop into one large metropolitan area, the sharing of transit resources will become more of an opportunity as well as a challenge. Potentially an umbrella-type agency could then serve to address institutional issues, e.g., SRTP. An umbrella agency is seen as a valuable structure for planning and capital programming that would likely lead to consistency of approach for routes or services that provide regional connectivity. As a facilitator for regional transit coordination, SRTP could also assist with the “look and feel” of transit service from the passenger’s perspective.

There is definite interest in continuing to work with PennDOT to encourage them to play a substantial role in helping regions coordinate transit service. Oversight will be needed to manage the sharing of funds and demonstrate the value of regional transit coordination to local counties. Additionally, political will is needed to help county or city-based systems look beyond their geographic boundaries. A big challenge for existing transit agencies is to provide additional service to counties where there is not currently public transit service. PennDOT can help drive these efficiencies and assist with the political process.

Legislation and Funding

The desire to provide input on the best ways to help fund regional transit cannot be overemphasized. While there are currently no new demonstration projects being awarded, the mechanism for their execution is still in place and these remain a likely source for funding future regional transit coordination. PennDOT supports regional coordination as a way to identify potential cost savings, e.g., administrative services and operational coordination. Potentially, any savings from this coordination could be used to provide additional regional service. Consideration of capital funds needed for new vehicles, fare collection systems or other expenditures will also need to be addressed and is seen as more of a challenge than operating funds.

The importance of local transit and its benefits needs to continue to be shared with local elected officials. Control of the funding for this service will be with the local governments and legislation will need to reflect local interests, i.e., what they are willing to support with funding. A local tax is not likely to be on the table given the prevailing political realities. The role of the County Commissioners in regional transit coordination will need to be further defined. It will be the responsibility of the transit agencies to provide options for the local governments to choose from and then subsequently fund.

At present, Congestion Mitigation Air Quality (CMAQ) and state demonstration grant funding are available for pilot regional transit coordination service, but there is no long-term funding source. It is anticipated that the State's transportation funding bill will be a comprehensive transportation funding package and include all modes, including rail freight, airports, highways and transit. The current window for this legislation to be developed is fall of 2011. In any legislation there will likely be some performance measures in place to evaluate the service.

Community Partnerships

Employers throughout the United States have been partnering with transportation providers to encourage employees to use alternative means of transportation to get to work beyond a single-occupant vehicle. There are several ways that employers have been promoting the use of existing transportation services including:

- Covering the cost of transit passes/providing pre-tax transit benefits
- Providing information on the available options of transit
- Offering shuttle service to nearby transit connections

The potential for public-private partnerships (P3s) will continue to be an important relationship between businesses and transit agencies and it is essential to educate businesses on "what's in it for them." These benefits include increased access to a larger geographic area from which to draw employees, and reduced employee absenteeism and tardiness. P3s are one way to advance additional park and-ride locations, which are a key ingredient to the success of regional transit coordination in the study area. For example, park and rides at shopping malls are often seen as win/win situations between the transit agencies and the malls because the parking lots are rarely full and the transit users often shop before or after work.

Commuter Services has numerous existing programs in place with the region's employers. These include vanpools to Letterkenny Army Depot, carpools to Hershey Foods, and the Emergency Ride Home Program from East Penn Manufacturing in conjunction with BARTA service to the facility.

Partnerships with local government on the linkages between transit and land use are also invaluable to facilitate regional transit coordination. Education on local ordinances to encourage transit-friendliness includes planning concepts such as:

- Locating buildings close to the road vs. behind large parking lots
- Sidewalks connecting to the building
- Bus pull-offs in a location convenient to the building

- Turning radii to accommodate buses
- Increasing density to make transit a more viable choice.

Regional Transit Service Concepts and Evaluation

An evaluation model was developed to objectively assess the identified bus corridors to develop initial service concepts for the short-, mid-, and long- term across the nine-county study region. This evaluation model was designed to reflect the transportation needs of South Central Pennsylvania while remaining applicable to other counties or regions that wish to assess their transit coordination needs.

The evaluation methodology included on-going and recently-completed long-range planning efforts of the transit agencies involved, as well as the current and projected local demographics, land use and policy factors. The measures and criteria were developed to be used as a replicable tool that can be applied in subsequent, periodic route evaluations by the various transit agencies. The measures and standards are aligned with the overall purpose statement and supporting objectives for the development of transit programs and projects within South Central Pennsylvania.

The “sketch-level” tool developed for this task combines broad policy with objective criteria to help guide the decision-making process to prioritize the most appropriate locations and intensities of coordinated transit service. The intent of this prioritization process is to provide guidance as to which projects make the most sense in light of limited future funding resources.

Evaluation Criteria

In order to determine the priority of which corridors could be implemented first, the study team developed a series of evaluation criteria against which all corridors could be objectively measured. These criteria were developed based on several considerations. Most importantly, the criteria were aligned with the study’s goals and purpose statement. The criteria were developed such that the corridors could be evaluated relative to each other qualitatively while not subject to the rigors of a travel demand model or other quantitative means. The criteria were established with full concurrence of the JSC.

The resulting list of 12 criteria was used to compare the corridors. These criteria were designed to be mutually exclusive and to minimize overlap on what is being evaluated. The list below summarizes the evaluation criteria used:

- Number of non-single occupant vehicle commuters
- Job density
- Population density
- Connects trip origins and destinations
- Corridor serves zero-car households
- Ability to create public-private partnerships
- Incentives to use transit
- Potential for future population growth

- Availability and capacity of existing park and ride locations
- Provides for transit connections
- Ease of implementation
- Ability to expand service

A variety of scenarios were evaluated with different weights assigned to criteria considered strategically important to the study. In each case, the same four corridors consistently scored in the top tier of each evaluation scenario, which was an indication of their readiness to be considered for short-term implementation. These were the Orange, Gold, Brown and Red corridors, with the results from the preferred scenario depicted on the table on the following page.

Three tiers of corridors evolved from this analysis. The first tier of corridors is comprised of those that could be considered for implementation in the shorter-term (i.e., the next three years); the middle tier in the mid-term (within five years); and the lowest tier in the longer-term (within 20 years). Of course, a transit agency or multiple transit agencies could together advance a corridor that was not in the first tier sooner than the time frame or tier assigned to it, but the scoring of the corridors provides a rough guide for implementation.

Preferred Evaluation Scenario Results

	Number of non-single occupant vehicle commuters	Job density	Population Density	Connects trip origins and destinations	Corridor serves zero car households	Ability to create public-private partnerships	Incentives to use transit	Potential for future population growth	Availability and capacity of existing P&R locations	Provides for transit connections	Ease of implementation	Ability to expand service
Weight	1.00	1.00	1.00	1.00	1.00	1.00	4.00	4.00	1.00	1.00	4.00	1.00
Brown	Medium	Medium	Medium	To a large extent	To a large extent	High	High	High	Medium	To a large extent	High	Yes
Gold	Medium	High	High	To a large extent	To a medium extent	Medium	Medium	High	High	To a large extent	High	Yes
Orange	Medium	High	High	To a large extent	To a large extent	High	Medium	Medium	High	To a large extent	High	Yes
Red	Medium	Medium	High	To a large extent	To a large extent	Medium	Medium	High	High	To a large extent	Medium	Yes
Purple	Medium	High	Medium	To a medium extent	To a large extent	High	High	Medium	Medium	To a medium extent	Medium	Yes
Blue	Medium	Low	Low	To a medium extent	To a medium extent	Medium	High	Medium	Medium	To a large extent	Medium	Yes
Green	Medium	Low	Low	To a medium extent	To a lesser extent	Medium	Low	High	Medium	To a lesser extent	Medium	Yes
Yellow	High	Low	Low	To a medium extent	To a lesser extent	Medium	Medium	Medium	High	To a medium extent	Low	Yes
Pink	High	Low	Low	To a medium extent	To a lesser extent	Medium	Low	Low	High	To a medium extent	Medium	Yes
Cyan	High	Low	Low	To a medium extent	To a medium extent	Medium	Low	Low	Low	To a medium extent	Low	Yes

Implementation Plan

Following regional consensus on corridors to pursue for short-term implementation, the following steps were identified to initiate for each corridor identified:

- **Pre-Implementation Planning** – identifying where the corridor and the counties it traverses fits within the generalized models for establishing new service.
- **Inventory of Existing Resources** – taking stock of the resources (organizational, institutional) already on hand that contribute to existing corridor transit service and what role, if any, these resources may be able to contribute to newly envisioned services.
- **Initial Service Planning** – the first step in coordinated cooperation among transit providers and counties and in developing an as equitable as possible service plan to shape the future agreements needed to operate the service and shared cost/revenue.
- **Integration Steps** – determining how to integrate services, with some examples including shared operations, common branding, and interchangeable fare mechanisms being implemented prior to starting service. The operating approaches reviewed and discussed during among stakeholders during this project included:
 - Direct Purchase of Transit Services
 - Coordination Agreement
 - Joint Powers Agreement
 - Umbrella Agency
 - Creation of New Transit Entity
- **Service Launch Planning** – occurring in parallel with Integration Steps, establishing detailed subsidy impact and the ability to formulate the necessary agreements, as well as securing a funding commitment to launch service.
- **Performance/Market Monitoring** – establishing specific and measurable objectives regarding performance of the new service to be recorded during the demonstration period.
- **Timing and Type of Service Upgrades** – two approaches: incorporating newly expanded service into an already established schedule, furthering the level of service integration; or, if ridership demand is sufficient, providing a higher level of service.
- **Maintenance/Adjustment of Service** – frequent adjustment of service based upon rider and community needs.

The development of a pilot demonstration project in the US 422 Corridor (identified in this study as the Brown Corridor) provides more than an instructional guidance on implementation steps for the two agencies that share this route. The approach outlined is also intended to establish the general framework for initiating service in any of the corridors that were ranked in this study, illustrating how to establish, monitor, and progressively modify transit service concepts to enhance mobility options for inter-county commuters.

The selection of the US 422 corridor between Reading and Lebanon represents a short-term implementation timeline insomuch as both counties have existing fixed-route transit operations operating in relative close proximity to one another, and there has been an expressed interest and willingness of establishing a connection between transit agencies. This corridor further demonstrates the implications in establishing service that is not destined to the Harrisburg CBD, currently the region’s most populous and concentrated transit hub.

The current Womelsdorf commuter-oriented service, with inbound service directed towards the Reading, PA central business district (outbound in the PM) represents the best building block for and operational model that expands service. A total of three distinct approaches were developed to represent: (1) an extension of service to Lebanon, (2) a peak direction only overlay of service, and (3) finally an express service option. These options were primarily used to test different assumptions and to present implementation strategies for the design of inter-county services.

A sample schedule for initial service was prepared and is depicted in the figure on the following page. This schedule also enabled estimates of annual service hours and associated costs to be developed. The following inputs were calculated to determine the costs for this service:

- Determine total new service hours
- Annualize Costs
- Estimate Revenue

Initial Demonstration Project Cost Estimation

INITIAL SERVICE	
WEEKDAY Service Hours:	10.5
Total Annual Service Hours:	2677.5
Total Annual Cost Est.: \$	192,780
TOTAL NEW SERVICE HOURS:	2677.5
TOTAL NEW ANNUAL OPERATING COST EST.: \$	192,780
Est. Fare Recovery (@ 25%): \$	67,473
EST. NEW ANNUAL OPERATING SUBSIDY: \$	125,307
Vehicles Required:	3
Vehicle Type:	30' Bus
EST. VEHICLE COST (if purchased new): \$	900,000

SKETCH SCHEDULE - INITIAL SERVICE

RUN	EASTBOUND									
	LEBANON COUNTY					BERKS COUNTY				
	7th & Willow	15th Av. & King	County Fair (Myerstown)	Womelsdorf	Wernersville State Hospital	Phoebe Berks Village	Sinking Springs	Penn Av. & Woodside	5th Av. & Penn Av.	8th & Cherry
LT 1	5:15 AM	5:24 AM	5:39 AM	5:57 AM						
BARTA 1				6:00 AM	6:15 AM		6:25 AM	6:30 AM	6:40 AM	7:00 AM
LT 2	5:45 AM	5:54 AM	6:09 AM	6:27 AM						
BARTA 2				6:30 AM	6:45 AM		6:55 AM	7:00 AM	7:10 AM	7:30 AM
LT 3	6:15 AM	6:24 AM	6:39 AM	6:57 AM						
BARTA 2				7:00 AM	7:15 AM		7:25 AM	7:30 AM	7:40 AM	8:00 AM
BARTA 3				7:30 AM	7:45 AM		7:55 AM	8:00 AM	8:10 AM	8:30 AM
BARTA 4				8:00 AM	8:15 AM		8:25 AM	8:30 AM	8:40 AM	9:00 AM
BARTA 5				8:30 AM	8:45 AM		8:55 AM	9:00 AM	9:10 AM	9:30 AM
BARTA 6				11:00 AM	11:15 AM		11:25 AM	11:30 AM	11:40 AM	12:00 PM
LT 4	12:15 PM	12:24 PM	12:39 PM	12:57 PM						
BARTA 7				1:00 PM	1:15 PM		1:25 PM	1:30 PM	1:40 PM	2:00 PM
BARTA 8				3:00 PM	3:15 PM		3:25 PM	3:30 PM	3:40 PM	4:00 PM
BARTA 9				4:30 PM	4:45 PM		4:55 PM	5:00 PM	5:10 PM	5:30 PM
BARTA 10				5:00 PM	5:15 PM		5:25 PM	5:30 PM	5:40 PM	6:00 PM
LT 5	4:45 PM	4:54 PM	5:09 PM	5:27 PM						
BARTA 11				5:30 PM	5:45 PM		5:55 PM	6:00 PM	6:10 PM	6:30 PM
LT 6	5:15 AM	5:24 AM	5:39 AM	5:57 AM						
BARTA 12				6:00 PM	6:15 PM		6:25 PM	6:30 PM	6:40 PM	7:00 PM
LT 7	5:45 PM	5:54 PM	6:09 PM	6:27 PM						
BARTA 13				6:30 PM	6:45 PM		6:55 PM	7:00 PM	7:10 PM	7:30 PM
BARTA 14				7:00 PM	7:15 PM		7:25 PM	7:30 PM	7:40 PM	8:00 PM

RUN	WESTBOUND									
	BERKS COUNTY					LEBANON COUNTY				
	8th & Cherry	5th Av. & Penn Av.	Penn Av. & Woodside	Sinking Springs	Phoebe Berks Village	Wernersville State Hospital	Womelsdorf	County Fair (Myerstown)	15th Av. & King	7th & Willow
LT 1	5:00 AM	5:10 AM	5:15 AM	5:20 AM	5:25 AM	5:45 AM	6:00 AM			
BARTA 1	5:30 AM	5:40 AM	5:45 AM	5:50 AM	5:55 AM	6:15 AM	6:30 AM	6:03 AM	6:21 AM	6:45 AM
LT 2								6:33 AM	6:51 AM	7:15 AM
BARTA 2	6:00 AM	6:10 AM	6:15 AM	6:20 AM	6:25 AM	6:45 AM	7:00 AM			
LT 3								7:03 AM	7:21 AM	7:45 AM
BARTA 3	6:30 AM	6:40 AM	6:45 AM	6:50 AM	6:55 AM	7:15 AM	7:30 AM			
BARTA 4	7:00 AM	7:10 AM	7:15 AM	7:20 AM	7:25 AM	7:45 AM	8:00 AM			
BARTA 5	7:30 AM	7:40 AM	7:45 AM	7:50 AM	7:55 AM	8:15 AM	8:30 AM			
BARTA 6	10:00 AM	10:10 AM	10:15 AM	10:20 AM	10:25 AM	10:45 AM	11:00 AM			
BARTA 7	12:00 PM	12:10 PM	12:15 PM	12:20 PM	12:25 PM	12:45 PM	1:00 PM			
LT 4								1:03 PM	1:21 PM	1:45 PM
BARTA 8	2:00 PM	2:10 PM	2:15 PM	2:20 PM	2:25 PM	2:45 PM	3:00 PM			
BARTA 9	3:30 PM	3:40 PM	3:45 PM	3:50 PM	3:55 PM	4:15 PM	4:30 PM			
BARTA 10	4:00 PM	4:10 PM	4:15 PM	4:20 PM	4:25 PM	4:45 PM	5:00 PM			
BARTA 11	4:30 PM	4:40 PM	4:45 PM	4:50 PM	4:55 PM	5:15 PM	5:30 PM			
LT 5								5:33 PM	5:51 PM	6:15 PM

Guiding Policy

The final element of the study was to identify the guidelines to create new policy to guide regional coordinated transit service planning, implementation, and funding in a manner that allows for future analysis and greater coordination of transit services in South Central Pennsylvania. This policy will not only guide the implementation of the recommendations identified as part of this project for South Central Pennsylvania; it will also be transferrable to other regions of the Commonwealth seeking to implement similar types of improvements. The policy has been developed consistent with PennDOT's latest guidance on service implementation and mobility enhancements.

The methodology described throughout the study lays the groundwork for identifying the elements critical to successful regional transit coordination in the Commonwealth. Underscoring the corridor prioritization process is its ease of implementation, capturing that the start-up time for service will vary based on the conditions in each corridor. For example, in counties that currently do not operate any transit service, additional steps will be required to allocate capital funding, as the capital requirements for vehicles, facilities or other infrastructure would not likely be in place.

Policy Inputs

The policy development process is tied directly to the outputs from the other tasks in the study effort, specifically those related to opportunities and barriers, and implementation. The policy must also be part of a larger regional mobility strategy comprised of a broader set of transportation improvements that seek to upgrade the entire multimodal network. These pieces of the larger system include:

- Roadway facilities
- Intermodal access and connections
- Transfer facilities
- Land use
- Site design
- Contracting arrangements
- People using the transportation system

Current regional trends in jobs and housing require thoughtful consideration of the impacts that land use decisions have on the transportation system and intensify the need to develop innovative solutions that provide mobility choices. Thus, transportation policy must reflect the important link between transportation and land use and encourage decision makers to make informed decisions on land use that will impact residents, employers, visitors and commuters traveling to and through the region.

As typical in policy development, language should reflect a balance between stakeholder needs and community concerns. With the participation of the MPOs and RPOs in the study area as members of the JSC, as well as significant involvement of the affected transit agencies throughout this effort, it is evident there is strong support for identifying and implementing

relevant land use policies that can be incorporated into regional transit coordination. These policies can also be used to demonstrate how land use and transportation linkages inform the broader transit planning process.

Also as discussed in length at the second Transit Roundtable, there are several legislative issues that need to be addressed in order to develop a potential state funding program for regional transit coordination. Potentially new legislation would authorize a separate funding source for regional transit coordination. It is recommended that this funding program not compete with local, (i.e., constituent-supported) funding and be in addition to current demonstration programs.

In light of the emphasis on Pennsylvania's transportation financing challenges by Governor Corbett's Transportation Funding Advisory Committee, the opportunity exists to introduce language for regional transportation coordination through the fall of 2011. This could be done with funding included within one of the categories in Act 44 which could be set aside for planning, operating, and capital expenditures for regional transit demonstration projects. As elected officials and others work to develop such legislation, the results contained in this study can serve as the basis for this language and serve as a toolkit for decision makers. In the short term, the goal is to demonstrate the value of transit service coordination as a mobility enhancement as well as a potential tool for cost savings through reducing redundancies in service.

In the long term, regional transit coordination should be an essential part of the state's formula funding package. As funding sources are identified and secured, it is anticipated that additional demonstration projects can be advanced. Over time, as cost savings and/or greater service efficiencies become apparent, ideally additional funding would be made available to spur other regional transit coordination projects. Regardless of where the funding resides, regional connections should be a part of the Commonwealth's transportation funding package.

For this study, it is recommended that the SRTP serve in an institutional leadership role to provide cooperation among the various transit agencies in the region. SRTP could also participate in regional service planning and development of common standards to evaluate poor performing routes and prepare Transit Development Plans. This "umbrella" type of leadership model could be used elsewhere in the Commonwealth as a new entity coordinating the efforts among the participating transit operators and planning partners.

In addition to establishing a dedicated funding source for regional transit coordination, there are several additional advocacy steps recommended for development of a successful, sustainable mobility coordination effort. Under the leadership of SRTP, a forum is established for iterative and collaborative decision-making on regional transit service coordination. Entities to be included in this process include the various chambers of commerce, transit agencies, MPOs/RPOs and PennDOT. Together these players can evaluate the potential corridors, examine the need for the service through market and other research, and work to identify ways to address the investment requirements from federal, state and local funding partners.

It is important to emphasize that mobility solutions can be achieved through a variety of other means beyond traditional bus service. Working with travel demand management (TDM) service

providers - in this region, Commuter Services, other options for commuting are explored and encouraged, such as carpools and vanpools.

Partnerships with other agencies will also need to be explored and considered in order to realize maximum funding opportunities for regional transit service. Agencies such as the Department of Community and Economic Development (DCED) and Department of Environmental Protection (DEP) are two examples of state entities that could embrace the anticipated benefits of regional transit coordination including air quality, congestion reduction, and supporting employers by providing mobility choices for their employees.

Throughout the process, the regional decision makers should be kept informed of the development of each demonstration corridor; continuing the transit roundtables is one way of offering this outreach. The ultimate decision to implement service on a corridor should be based upon regionally agreed upon goals. The service should not simply favor the easiest service to implement, but rather the best candidates for success in terms of ridership, targeted expansion, the right level of investment, and ever higher and more sophisticated levels of cooperation among all regional stakeholders.

SRTP's current role as an umbrella agency allows them to provide direction and framework for prioritized coordination agreements with a strong combination of regional perspective and local provision of transit expertise. This role is particularly important for counties that currently do not have transit service in that the implementation of regional corridors can follow a selection process that looks beyond individual needs. This format also allows access to transit planning knowledge for participating counties without a transit service provider to represent their interests.

The establishment of a state program in support of regional transit coordination initiatives would require regions to submit candidate corridors for selection from a limited funding source. A funding application would need to be prepared based on the completion of all previous steps in this implementation process. A demonstration of community support and demand for the service is essential, along with consideration of longer-term funding to maintain the service. The definition of service performance targets, specifically in terms of ridership and farebox recovery should be estimated. During the demonstration period, a system for periodic review of service performance and adjustments should be specified.

Building on the concept that a demonstration project program could serve as the basis for funding regional transit service coordination, it is anticipated that corridor demonstration grant funding could be initiated for up to two demonstration projects every three years, with funding indexed to inflation. Funding would be competitively awarded, with grants three years in duration to allow for a sufficient amount of time to successfully rollout the new service. The first year could serve as a basic test of the regional corridor service based on market research evaluations of what type of service is needed. From there, up to two additional years could be used for the full implementation of the service. This time frame would allow the organizing agencies sufficient time to properly investigate the implications of providing and potentially expanding the service.

To encourage regions around the Commonwealth to participate in this program, diversity in applications could be promoted through a program that is “region neutral,” (i.e., two corridors in the same area of the state would not be selected in the same funding cycle), as well as allowing for passage of a certain amount of time (e.g., six years or two cycles) before selection of another corridor in the same region.

It is also anticipated that written plans for regional transit service coordination will need to be made part of a transit agency’s annual work program in order to continually provide appropriate guidance for decision making. In addition, regional transit considerations should be made part of the MPO/RPO Long Range Transportation Plans (LRTPs) and all corridor improvement studies in order to plan for transit-oriented development and improvements such as park and ride facilities and easier entrance/exit for express bus service.

Throughout this process, it is anticipated that PennDOT would serve in an oversight role and participate in forums to share knowledge for regionalization opportunities. As an example, the Transit Roundtables conducted as part of this study are recommended to be conducted as regular events, coordinated with the submission of regional transit coordination applications to reevaluate corridors and potentially analyze other promising corridors for consideration in the next application cycle. Regular forums also provide the opportunity to review planning assumptions and identify any needed improvements to the current regional service.