Improving Transit Integration Among Multiple Providers, Volume I: Transit Integration Manual

DETAILS

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TRANSIT COOPERATIVE RESEARCH PROGRAM

TCRP REPORT 173

Improving Transit Integration Among Multiple Providers

Volume I: Transit Integration Manual

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TRANSIT COOPERATIVE RESEARCH PROGRAM

The nation's growth and the need to meet mobility, environmental, and energy objectives place demands on public transit systems. Current systems, some of which are old and in need of upgrading, must expand service area, increase service frequency, and improve efficiency to serve these demands. Research is necessary to solve operating problems, to adapt appropriate new technologies from other industries, and to introduce innovations into the transit industry. The Transit Cooperative Research Program (TCRP) serves as one of the principal means by which the transit industry can develop innovative near-term solutions to meet demands placed on it.

The need for TCRP was originally identified in *TRB Special Report 213—Research for Public Transit: New Directions,* published in 1987 and based on a study sponsored by the Urban Mass Transportation Administration—now the Federal Transit Administration (FTA). A report by the American Public Transportation Association (APTA), Transportation 2000, also recognized the need for local, problem-solving research. TCRP, modeled after the longstanding and successful National Cooperative Highway Research Program, undertakes research and other technical activities in response to the needs of transit service providers. The scope of TCRP includes a variety of transit research fields including planning, service configuration, equipment, facilities, operations, human resources, maintenance, policy, and administrative practices.

TCRP was established under FTA sponsorship in July 1992. Proposed by the U.S. Department of Transportation, TCRP was authorized as part of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). On May 13, 1992, a memorandum agreement outlining TCRP operating procedures was executed by the three cooperating organizations: FTA, the National Academies, acting through the Transportation Research Board (TRB); and the Transit Development Corporation, Inc. (TDC), a nonprofit educational and research organization established by APTA. TDC is responsible for forming the independent governing board, designated as the TCRP Oversight and Project Selection (TOPS) Committee.

Research problem statements for TCRP are solicited periodically but may be submitted to TRB by anyone at any time. It is the responsibility of the TOPS Committee to formulate the research program by identifying the highest priority projects. As part of the evaluation, the TOPS Committee defines funding levels and expected products.

Once selected, each project is assigned to an expert panel, appointed by the Transportation Research Board. The panels prepare project statements (requests for proposals), select contractors, and provide technical guidance and counsel throughout the life of the project. The process for developing research problem statements and selecting research agencies has been used by TRB in managing cooperative research programs since 1962. As in other TRB activities, TCRP project panels serve voluntarily without compensation.

Because research cannot have the desired impact if products fail to reach the intended audience, special emphasis is placed on disseminating TCRP results to the intended end users of the research: transit agencies, service providers, and suppliers. TRB provides a series of research reports, syntheses of transit practice, and other supporting material developed by TCRP research. APTA will arrange for workshops, training aids, field visits, and other activities to ensure that results are implemented by urban and rural transit industry practitioners.

The TCRP provides a forum where transit agencies can cooperatively address common operational problems. The TCRP results support and complement other ongoing transit research and training programs.

TCRP REPORT 173, VOLUME I

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FOREWORD

By Lawrence D. Goldstein
Staff Officer
Transportation Research Board

TCRP Report 173: Improving Transit Integration Among Multiple Providers presents a comprehensive set of guidelines and procedures to assist transit agencies in evaluating, planning, and implementing steps to integrate transit services in areas with multiple transit providers. The report comprises two volumes: the Transit Integration Manual and the Research Report. Together, these documents can help guide the process of transit service integration by (1) showing the benefits of integration; (2) illustrating the range of potential types of integration activities; and (3) describing procedures necessary to carry out integration efforts, including tips for success.

This report will be of interest to transit operators, metropolitan planning organizations, and others interested in the coordination and integration of transit services to improve customer service in areas with multiple transit providers.

In many transit service regions, individual travel needs often extend beyond the service area of a single public transportation agency. As a result, a high percentage of public transit riders in these service areas use systems that interface with at least one other public transportation provider. These conditions occur not only in larger metropolitan areas but also in smaller communities; yet, full coordination of operations and services to meet these travel needs and service delivery challenges is often the exception.

Under TCRP Project H-49, Nelson\Nygaard was tasked (1) to identify and document the motivations, benefits, and barriers to public transportation coordination and integration that facilitate seamless travel in areas with multiple transit service providers and (2) to provide guidance on how to integrate and coordinate delivery of transit services in areas with multiple transit providers.

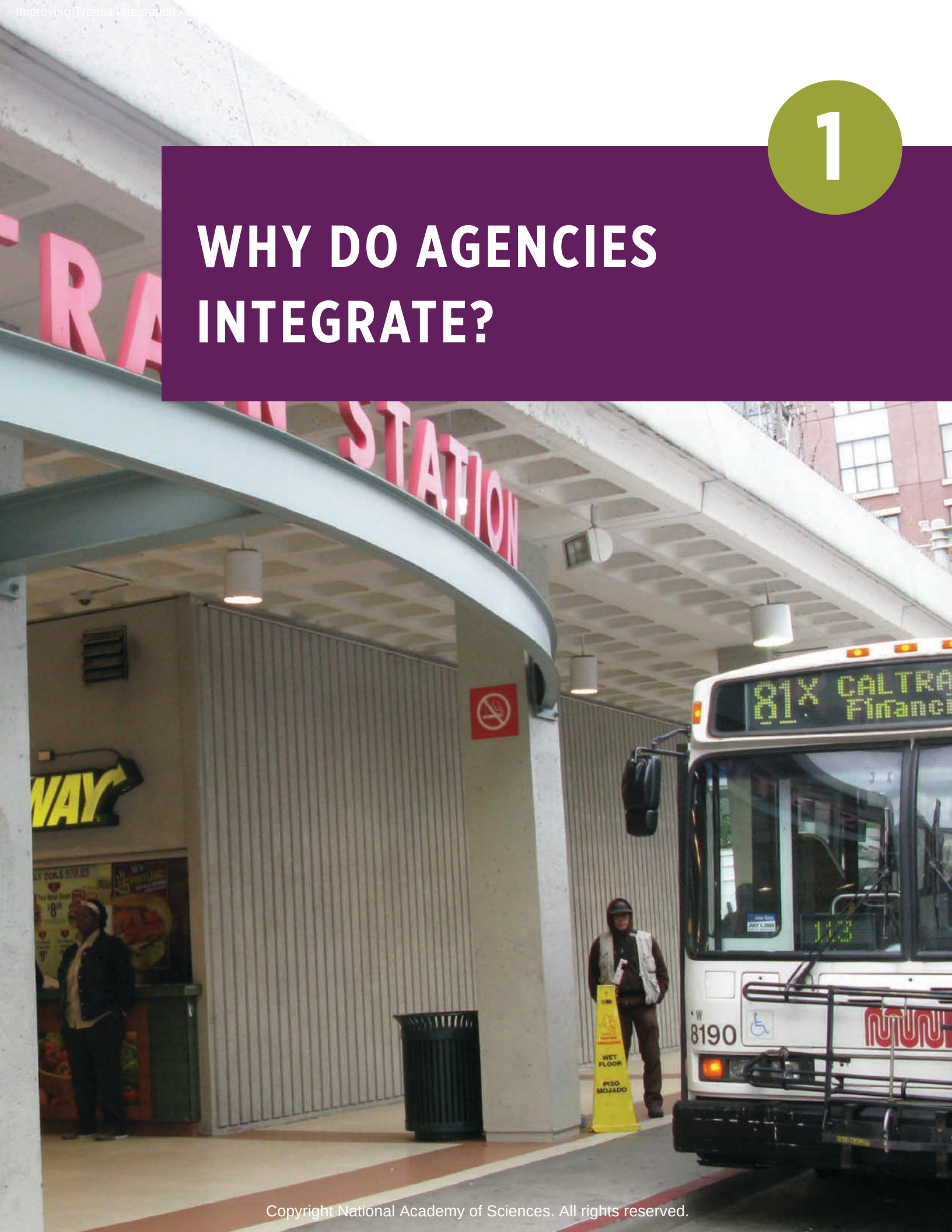
The Transit Integration Manual describes a range of possible integration activities, potential benefits of integration, and related management responsibilities for efficient delivery of integrated transit services. The Research Report reviews the steps used to prepare the Manual and, in a set of appendices, provides detailed case studies and summarizes supporting literature that served as a background for the research project. The appendices also include suggested guidance on overall evaluation of transit integration activities.

By reviewing and evaluating lessons learned from past efforts, this report provides guidance to assist agencies in getting started and increase their chances of success in providing fully integrated transit service in areas with multiple transit providers.

CONTENTS

1

WHY DO AGENCIES INTEGRATE?



INTRODUCTION: OVERVIEW OF THIS MANUAL

Transit agencies integrate for a significant number of reasons, but the most common include the desire to improve the customer experience, accomplish more from an investment than a single agency could accomplish on its own, and reduce expenditures by eliminating duplication and improving efficiencies.

This Transit Integration Manual is Volume I of *TCRP Report 173: Improving Transit Integration Among Multiple Providers*. Volume II: Research Report provides a significant body of knowledge about transit agency motivations for integrating, as well as challenges, and outcomes of integration efforts. The purpose of this Manual is to provide guidance to transit agencies; planning organizations; local, regional and state governments; and the array of organizations that are impacted by transit service or have a stake in the provision of transit service, based on the research presented in *TCRP Report 173, Volume II*.

The research shows that transit integration among multiple transit providers is not necessarily easy, but it is successfully practiced in regions around North America and around the world and yields significant benefits in the communities where it occurs. These anticipated benefits have led some regions to work toward integration of services to create a more seamless system in terms of how riders pay for fares, transfer between routes, and access information about what is available. Indeed, most transit riders do not think of travel in terms of jurisdictional boundaries or agency ownership, but in terms of origins and destinations. Successful integration can create a network that feels unified to the rider.

WHY INTEGRATE?

Some of the top reasons identified by agencies that have integrated include:

- Reduce costs
- Improve service efficiency
- Expand service area
- Increase ridership
- Eliminate redundancies
- Offer better customer information
- Increase political and public support for transit
- Provide seamless services
- Expand scope of services
- Maximize capital investments

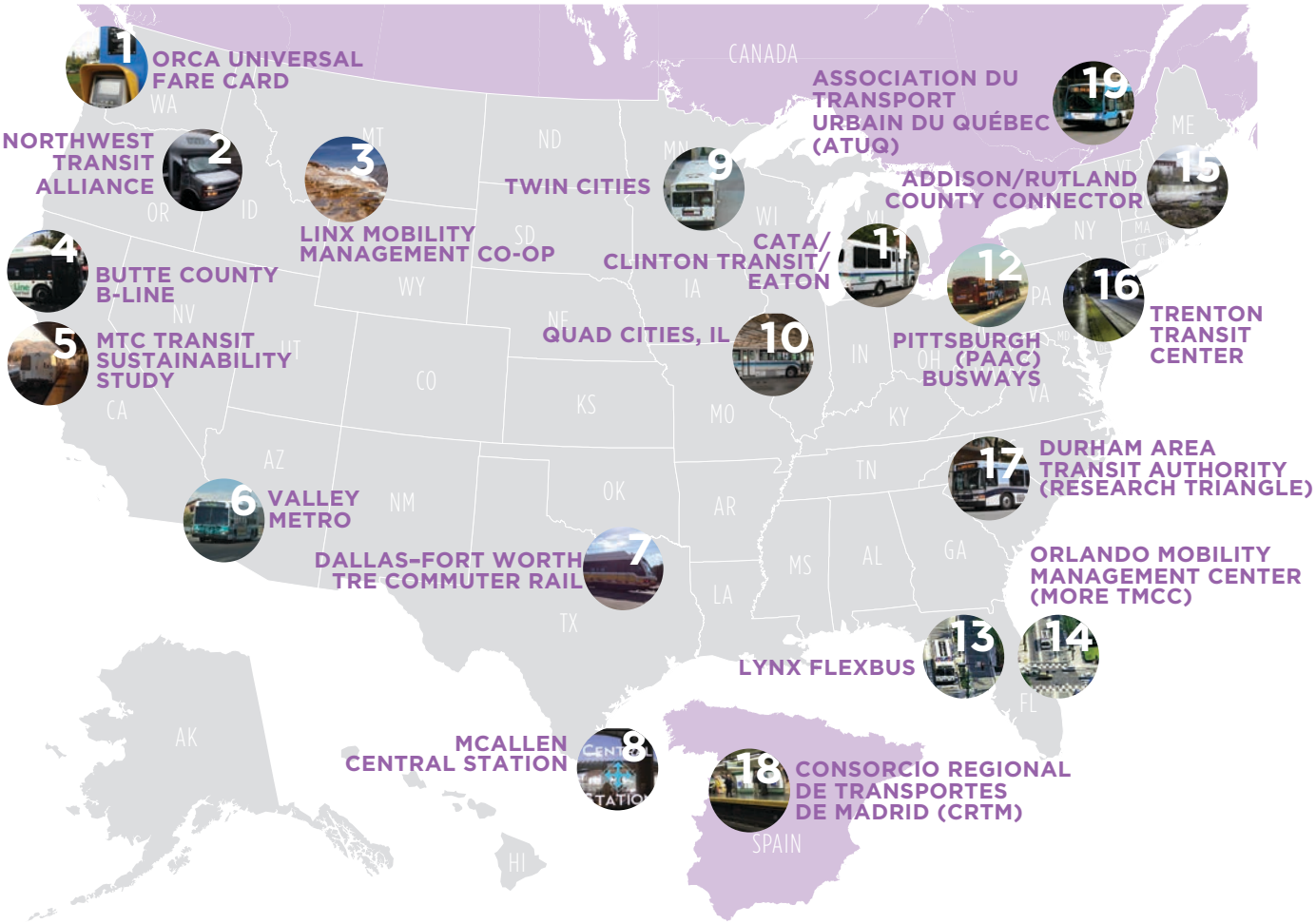
INTEGRATION IN ACTION: EXAMPLES

To help the reader understand how the issues discussed in this Manual have been considered and addressed in other communities, 19 examples of integration efforts are identified. These examples illustrate the experience of agencies that have sought to better coordinate their services, work cooperatively on planning or capital projects, and reduce duplicate efforts. The examples are presented in the appendix and referenced throughout this Manual.

The integration experience in each of these regions varies significantly. A few of the successes grew out of informal collaboration on a wide range of topics; most were more purposeful and meant to develop a unified fare payment program, a regional brand, consolidated public information, a regionalized transit network, a multi-operator intermodal center, or a fully consolidated transit operation.

In each of these example communities, mapped in the figure below, integration benefits consumers and agencies alike. For example, consumers no longer pay separate or additional fares to different providers or walk from one agency's transit center to another in Butte County, California, where several local and regional agencies consolidated as a single transit operation. Downtown Minneapolis is no longer clogged with buses from multiple providers that stop at a mix of bus stops and operate without regard to each other's schedule. Instead, buses follow well-choreographed operating procedures on bus-only streets, using shared stops and a regional public information system. A patchwork of uniquely funded and administered transit services in the Phoenix region operate as if they were a single, unified transit operation under the Valley Metro banner.

Locations of Integration Examples



See the appendix for information about each of these examples. Numbers correspond to the order of the examples in the appendix.

USING CHAPTER 2 OF THIS MANUAL

This Manual functions not as a prescriptive approach for integrating transit systems or elements of transit programs, but instead as a guide for understanding the array of issues that arise in a transit coordination effort. In no two communities will the issues—or the solutions—be the same. Chapter 2 provides the bulk of this guidance.

The sections of Chapter 2 are as follows:

- **Types of Integration Activities** enumerates the various components of transit integration projects/programs. These are effectively the most common projects that agencies undertake. Agencies considering integrating transit services or programs are encouraged to review these activities and determine which, if any, are appropriate in their region.
- **Benefits of Integration in the Community** provides a summary of the primary types of benefits that are derived from integration efforts, based on the experience of an array of integrated transit programs and services. Benefits are categorized as being either valuable for the consumer or for the agency, and many of the most successful integration efforts will offer benefits for both groups.
- **Challenges** offers a summary of the issues that tend to arise most often in integration planning efforts. Being mindful of these potential challenges at the beginning of an integration process can help participating parties develop strategies to build consensus and work around obstacles that other integration efforts have encountered. These challenges are referenced in later sections of this Manual as they apply to potential pitfalls that surface in the planning process.
- **Elements of an Effective Transit Integration Effort** highlights the key characteristics of the most successful integration projects, based on the research findings. Because "one size" does not "fit all" in the realm of transit system integration, examples of processes from a few select integration efforts are included. This section also describes the importance of setting goals, having a project leader/champion, and having an oversight committee.

  Because many integration efforts come about through a study or evaluation process, this section also includes a set of tools that are commonly used to advance integration as part of a process. These tools include useful analyses, maps, and resources for understanding the implications of decisions made during the integration planning process. The section also discusses other important considerations regarding communication and awareness of sensitivities that arise in an integration planning process.
- **Managing Integrated Transit Programs and Services** provides some guidance, based on research findings, for ensuring that ongoing integration is effective. A number of tools are beneficial for administering, overseeing, and evaluating integrated services or programs. These are discussed in this section.

FOR MORE INFO

Users of this Manual are encouraged to review Volume II of *TCRP Report 173: Improving Transit Integration Among Multiple Providers* for additional information and research findings related to this topic.

CHALLENGES

Look for this box throughout this Manual, referencing common challenges that occur during the integration process.

KEY POINT

Cost reduction is often the impetus for working toward integration. Many transit agencies have found, however, that integrating transit systems, programs, and services does not necessarily result in cost savings.

IMPORTANCE OF UNDERSTANDING BENEFITS, COSTS AND PROCESS BEFORE PROCEEDING

The research presented in Volume II of *TCRP Report 173: Improving Transit Integration Among Multiple Providers* emphasizes that integration is a process. No two agencies can announce they are integrating without an understanding of characteristics of their services, their staffing, their needs, and the benefits they hope to achieve. This point cannot be overemphasized: successful transit integration requires effort on the part of individuals at all participating agencies.

While benefits of integration can be significant, they cannot always be quantified. Quantifiable benefits like ridership growth, improved performance, reduced passenger wait times between transfers, lower operating costs, or an improved vehicle spare ratio are only part of the picture. Qualitative benefits include a superior experience for passengers, residents' improved access to regional locations, better customer information, better interagency relationships, and increased public support for transit. As discussed in this Manual, agencies should establish goals for the integration process to be able to gauge which benefits are most important.

Cost savings is a benefit often assumed to be an outcome of a transit integration effort. Many agencies, however, have not realized cost savings by integrating transit services. In fact, integration of transit services, systems or programs can lead to increased costs. Some agencies enjoy cost savings; other agencies, to provide additional service, opt to reinvest what they would otherwise save by integrating services.

2

GUIDANCE ON TRANSIT SYSTEM INTEGRATION

TYPES OF INTEGRATION ACTIVITIES

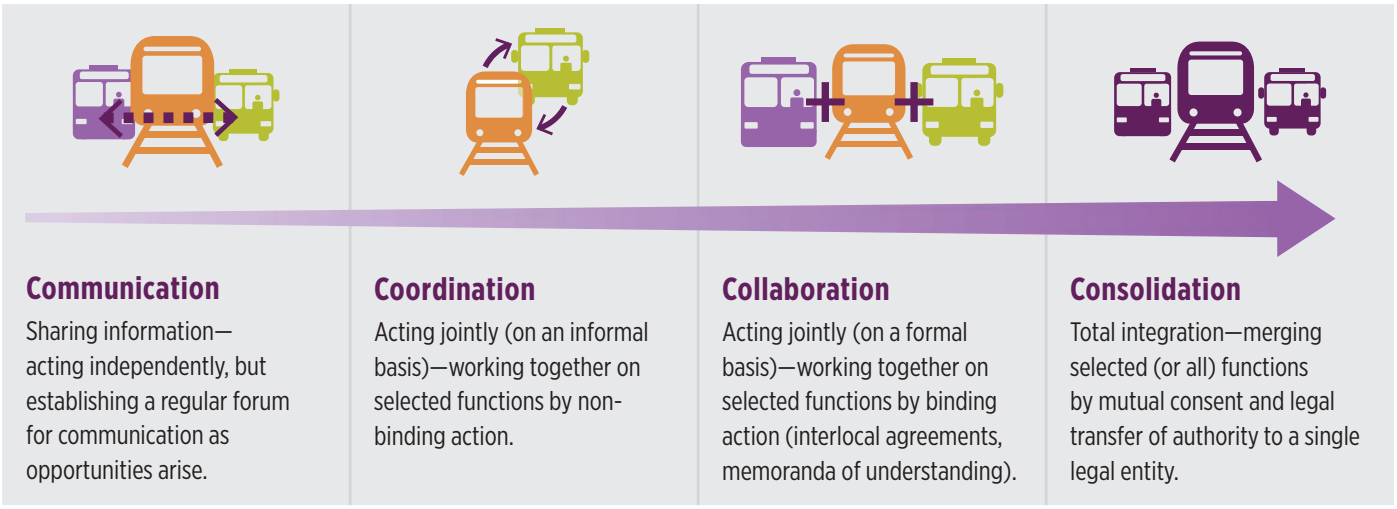
How do transit organizations collaborate? Successful integration is a result of agencies and organizations working together on specific projects and activities. These activities range from planning to marketing and from maintenance to capital projects.

Some activities are complex, requiring systems and procedures for managing shared capital equipment or facilities, or involve merging or consolidating programs. **Other activities are informal** and can be done on a case-by-case basis.

Some activities represent customer-oriented focus areas: (1) services, (2) fares, or (3) marketing/customer service and information. **Other activities primarily benefit the agency and are deemed agency-oriented focus areas:** (1) operations, maintenance and assets and (2) administration/procurement.

Typically, the most complex forms of integration require formal collaborative agreements, while more informal integration activities can be achieved through shared communication between staff or via standing committees.

Continuum of Integration



Adapted and modified from North Carolina Department of Transportation (NCDOT), KFH Group, Inc. 2012. Statewide Regionalization Study Final Report. As requested in Session Law 2011-145, Section 28.21.

Costs for various integration activities vary and are generally a function of the level of integration required and how formalized the effort is. Only minimal financial commitment is required when two or more agencies work together as part of a joint technical committee or agree to set consistent fares; developing a regional fare card/fare reimbursement system, building new passenger facilities, or consolidating operations require a much more significant financial commitment.

The matrix that begins on page 11 identifies 25 of the most common activities undertaken by transit agencies that work together to integrate at least some facets of their service. The matrix is organized based on the complexity of implementing each activity, from least to most complex, with general assumptions regarding complexity based on the experience of agencies that have been engaged in these types of integration activities. Assumptions are made about the level of financial commitment required for each of the integration activities based on an individual agency's own financial resources. Specific ranges of costs for each activity are not included because costs vary significantly based on the size of the agencies integrating services.

Transit vehicles from urban and suburban providers follow an integrated operating procedure in downtown Minneapolis, Minnesota.

List of Common Integration Activities

Complexity	Activity	Definition	Focus of Activity	Type of Integration Necessary to Facilitate Activity	Financial Commitment	Examples (see Appendix)
●○○○○	Joint Technical Committees	Representatives from multiple agencies work together to address issues of regional importance. Common technical committees include those that focus on capital investments in regional rail, grant writing and procurement, marketing, service planning, and funding allocation.	Agency Oriented: Administration/ Procurement	 Communication	Low	6. VALLEY METRO 17. RESEARCH TRIANGLE
●●○○○	Joint Bus/ Equipment Purchases	More than one transit provider participates in a vehicle/equipment purchase program. Volume purchases may allow for more favorable pricing, additional amenity, and the development of a consistent regional fleet or software platform (may also allow for shared service contracts or joint maintenance). See "Joint Maintenance" on page 12.	Agency Oriented: Operations, Maintenance and Assets	 Coordination	Medium-High	9. TWIN CITIES 11. CATA/ CLINTON TRANSIT/ EATON 19. ATUQ
●●○○○	Coordinated Service Schedules or Operations	Two or more transit agencies coordinate schedules and operations along major, often congested, corridors to allow for more effective service. Schedules of multiple providers may be offset to reduce bunching at shared bus stops (and reduce delay). Multiple providers may share in the provision of bus stops/ shelters, signage, and information tools for passengers.	Customer Oriented: Services	 Coordination	Low-Medium	9. TWIN CITIES 12. PAAC BUSWAYS
●●○○○	Joint Training	Two or more transit agencies share training programs for drivers, dispatchers, maintenance staff, operations staff, or administrative staff. Typically, staff from one agency will participate in a training program sponsored by another agency, or agencies will pool resources to purchase specialized training programs.	Agency Oriented: Administration/ Procurement	 Coordination	Low	17. RESEARCH TRIANGLE 19. ATUQ

Complexity	Activity	Definition	Focus of Activity	Type of Integration Necessary to Facilitate Activity	Financial Commitment	Examples (see Appendix)
●●○○○	Joint Maintenance	One transit agency provides maintenance for other agencies, or multiple agencies contract for maintenance services from a single service provider. Often, one of the larger transit agencies in a region provides affordable vehicle maintenance services for smaller agencies that do not have an in-house vehicle maintenance program.	Agency Oriented: Operations, Maintenance and Assets	 Collaboration	Medium-High	17. RESEARCH TRIANGLE
●●○○○	Joint Marketing and Rider Information Tools	Two or more transit agencies work together to market transit services or programs. Common information tools developed jointly include regional transit maps, transit schedules/brochures, a trip planning website, or a central telephone information number (See "Central Call Center for Multiple Providers" on page 14). Marketing efforts may include transit awareness ridership campaigns, shared bus stops, or employer pass programs.	Customer Oriented: Marketing/ Customer Service and Information	 Coordination	Low-Medium	1. ORCA UNIVERSAL FARE CARD 2. NORTHWEST TRANSIT ALLIANCE
●●○○○	Regional Planning	Long- and short-term planning projects are undertaken by a lead agency with participation and buy-in from partner agencies. In some cases, multiple agencies work together on projects of regional interest and benefit.	Agency Oriented: Administration/ Procurement	 Coordination	Low	3. LINX MOBILITY MANAGEMENT CO-OP 9. TWIN CITIES 18. CRTM
●●○○○	Shared Service Standards and Guidelines	Regional service standards adopted by two or more agencies allow transit providers to strive for consistent provision and quality of service. They can help reduce competition among providers when standards are developed for specific types of operating environments. Common standards and guidelines address route headways, stop spacing, passenger loads, vehicle assignment, operating procedures at shared facilities, and public information.	Agency Oriented: Administration/ Procurement	 Coordination	Low	6. VALLEY METRO 5. MTC TRANSIT SUSTAINABILITY PROJECT 19. ATUQ

Complexity	Activity	Definition	Focus of Activity	Type of Integration Necessary to Facilitate Activity	Financial Commitment	Examples (see Appendix)
●●●○○	Regional Fare	Agencies establish a consistent fare that is valid for regional travel on one or more transit providers. Persons paying a regional fare or using a regional pass are entitled to travel from their origin to their destination using different transit providers, but without paying an additional fare for each boarding. Commonly, agencies where the fare/pass is used are fully or partially reimbursed by the agency collecting the fare.	Customer Oriented: Fares	 Collaboration	Low-Medium	1. ORCA UNIVERSAL FARE CARD 10. QUAD CITIES 19. ATUQ
●●●○○	Regional Fare Policies and Free Transfers Between Operators	Agencies establish a fare policy that allows for travel on more than one carrier, allowing for transfers to be used on routes operated by a partner agency. See also "Regional Fare" above.	Customer Oriented: Fares	 Collaboration	Medium	1. ORCA UNIVERSAL FARE CARD 10. QUAD CITIES 15. ADDISON/ RUTLAND COUNTY CONNECTOR
●●●○○	Jointly Funded or Operated Route	A regional route funded by or operated by more than one transit provider. Typically, two transit agencies that have a mutual interest in providing inter-jurisdictional service either take turns operating the route or share the cost of operating the service, with one of the two agencies paying the other to operate the route or both agencies contracting with another provider to operate the route.	Customer Oriented: Services	 Collaboration	Low	7. DALLAS–FORT WORTH TRE COMMUTER RAIL 15. ADDISON/ RUTLAND COUNTY CONNECTOR

Complexity	Activity	Definition	Focus of Activity	Type of Integration Necessary to Facilitate Activity	Financial Commitment	Examples (see Appendix)
●●●○○	Central Call Center for Multiple Providers	A single call center provides any number of services for more than one transit provider. Common services provided by central call centers include one or more of the following: route/schedule information, fare information, trip planning, demand-response trip reservations/scheduling, and paratransit eligibility information or application processing.	Customer Oriented: Marketing/ Customer Service and Information	 Collaboration	Medium	14. MORE TMCC 17. RESEARCH TRIANGLE
●●●○○	Integrated Fare System	Two or more agencies assess common fares for similar types of services and may develop shared transfer policies. See also "Centralized Fare Revenue Collection and Distribution" and "Regional Fare Media" on page 15.	Customer Oriented: Fares	 Collaboration	Low–Medium	1. ORCA UNIVERSAL FARE CARD 6. VALLEY METRO
●●●◐○	Common Technologies Shared by Transit Providers	Two or more transit agencies share a scheduling/dispatching platform, an automated vehicle location (AVL) system, or customer information program for real-time arrival/departure information. Sharing common technologies may also allow for trip scheduling across providers or the commingling of riders from different programs.	Agency Oriented: Operations, Maintenance and Assets	 Collaboration	Medium–High	13. LYNX FLEXBUS
●●●◐○	Integrated Passenger Information System	Using common technologies, two or more transit providers offer point-to-point trip planning and/or real-time departure/arrival information via a common customer information platform. Technologies allow for this information to be shared by telephone (voice or text message), via the Internet (web pages or mobile applications), and via installed electronic signage at bus stops.	Customer Oriented: Marketing/ Customer Service and Information	 Collaboration	Medium–High	9. TWIN CITIES 13. LYNX FLEXBUS 17. RESEARCH TRIANGLE

Complexity	Activity	Definition	Focus of Activity	Type of Integration Necessary to Facilitate Activity	Financial Commitment	Examples (see Appendix)
●●●●○	Centralized Fare Revenue Collection and Distribution	Agencies work together to collect fares, typically using a single fare mechanism. Agencies are afforded their share of the regional fare revenues collected based on ridership and transit use. Often, one of the largest transit agencies or a regional planning agency is responsible for managing the collection and distribution of fare revenues.	Customer Oriented: Fares	 Collaboration	Medium–High	1. ORCA UNIVERSAL FARE CARD 4. BUTTE COUNTY B-LINE
●●●●○	Passenger Facilities	A single transit passenger facility provides a hub for transfers among services operated by different transit providers. Examples include downtown and suburban rail stations served by buses, urban bus transit centers, and small city transfer points served by regional and rural transit providers. By pooling resources to develop a hub jointly used by multiple providers, these facilities often have comfortable waiting areas, information kiosks and other amenities.	Agency Oriented: Operations, Maintenance and Assets	 Collaboration	Medium–High	16. TRENTON TRANSIT CENTER 8. MCALLEN CENTRAL STATION
●●●●○	Regional Fare Media	Agencies adopt a single fare card or pricing mechanism that can be used for travel on two or more transit providers. Smart cards are the most common regional fare media in both large and small urban areas, but tickets, passes, and punch cards that can be used on more than one provider are available in some regions.	Customer Oriented: Fares	 Collaboration	High	1. ORCA UNIVERSAL FARE CARD 19. ATUQ

Complexity	Activity	Definition	Focus of Activity	Type of Integration Necessary to Facilitate Activity	Financial Commitment	Examples (see Appendix)
●●●●○	Regional Transit Fleet	A transit vehicle fleet is owned by one agency or contract provider but used by more than one provider. In some instances, vehicle titles are held by one agency while vehicles are operated by others; in other cases, vehicles from the regionally owned fleet are leased to various providers. Typically, the owner of the fleet is responsible for major maintenance.	Agency Oriented: Operations, Maintenance and Assets	 Collaboration	High	9. TWIN CITIES
●●●●○	Regionalization of Paratransit Service	A regional paratransit service operates across jurisdictions. Small and/or localized fixed-route transit operators do not provide their own ADA-complementary paratransit service, but in some cases they may contract for that service with a regional provider/mobility manager.	Customer Oriented: Services	 Collaboration	Medium–High	4. BUTTE COUNTY B-LINE 17. RESEARCH TRIANGLE
●●●●○	Regionalized Transit Routes	Agencies work together to provide inter-jurisdictional transit connections between existing urban, suburban, and/or rural transit operations. A regionalized transit network "connects the dots" between jurisdictions, allowing people to travel beyond their local service area.	Customer Oriented: Services	 Collaboration	Medium–High	2. NORTHWEST TRANSIT ALLIANCE 6. VALLEY METRO 11. CATA/ CLINTON TRANSIT/EATON
●●●●○	Unified Brand	Two or more agencies adopt a shared brand identity (e.g., logo or color scheme) or a branding approach that includes a consistent application of a regional identifier to vehicles, stops, websites, informational materials, etc.	Customer Oriented: Marketing/ Customer Service and Information	 Collaboration	High	2. NORTHWEST TRANSIT ALLIANCE 6. VALLEY METRO
●●●●◔	Shared Administrative Services	Two or more agencies share administrative functions. Commonly shared services include financial/ accounting, grant writing, contracting, compliance, and human resources.	Agency Oriented: Administration/ Procurement	 Collaboration  Consolidation	Medium–High	4. BUTTE COUNTY B-LINE 18. CRTM

Complexity	Activity	Definition	Focus of Activity	Type of Integration Necessary to Facilitate Activity	Financial Commitment	Examples (see Appendix)
●●●●●	Consolidation of Transit Providers	Two or more transit agencies combine their operations as a single provider. Consolidation typically requires a single policy board and administrative structure. Staffing, operations, funding, and the routing structure are combined into one seamless transit operation.	Agency Oriented: Operations, Maintenance and Assets	 Consolidation	High	4. BUTTE COUNTY B-LINE
●●●●●	Contractual Merger	Typically, one or more agencies are absorbed by a larger transit agency. See also "Consolidation of Transit Providers" above.	Agency Oriented: Operations, Maintenance and Assets	 Consolidation	High	4. BUTTE COUNTY B-LINE 17. RESEARCH TRIANGLE

CONCLUSION

- Transit agencies opt to integrate to tackle specific needs that might be most effectively addressed by working with other agencies that have common interests.
- The benefits of integrating are derived from successful accomplishment of these activities.
- Often, agencies will work informally to undertake less complex activities at first. As they measure achievement and establish a good working relationship with other agencies, they undertake more and more complex activities.

QUESTIONS FOR CONSIDERATION

- In which of these integration activities is/are your agency currently engaged?
- Based on the benefits your organization seeks to achieve through integration, which integration activities may be most appealing?
- Which other agencies or organizations might be interested in these same activities?
- Which of the more complex integration activities would you envision your agency undertaking within a few years? Which, if any, of the less complex integration activities do you think your agency should undertake before working on a more complex activity?
- What do you think are the major barriers to undertaking some of these integration activities? What can your agency do to reduce these barriers?

BENEFITS OF INTEGRATION IN THE COMMUNITY

Many real and substantive benefits result from integration. This is particularly true for customers, but benefits also accrue to transit agencies and external stakeholders, such as community downtowns and Main Streets. Integration efforts are a testament that the benefits are worthwhile, outweighing the potential difficulties and costs of getting projects up and running.

This section describes the benefits of undertaking integration activities, followed by examples from the research.

KEY POINT

Two key beneficiaries are identified in transit integration projects: (1) consumers and (2) participating agencies and organizations.

What is to be Gained for the Customer?

Improved Customer Service/Seamlessness

In undertaking collaborative projects, better customer service is the most likely outcome. Improvements for the rider can begin with better information before the trip and move to positive changes made to the trip itself.

- **INFORMATION** — Informational media, both online and offline, about transit schedules, fares, transfers, and wayfinding, such that customers can easily see where and how to make an inter-operator connection. Basic ways of providing information across systems are sharing paper maps and schedules; including links to other agencies' websites; and making real-time data available to third parties like regional trip planning websites, smart phone app developers, and Google.

RESEARCH TRIANGLE
A Regional Call Center assists passengers in planning trips across multiple transit agencies in five cities. Costs are shared by the call volume per city.

A public outreach event in the Research Triangle.

- **FARES** — Pricing structure, payment system, and ticket media, allowing customers to pay a single fare on multiple systems and/or allowing customers to use a single ticket for multiple operators. Fare distribution is a "back office" reconciliation among participating operators.

ORCA
The electronic ORCA smart card can be used by passengers on seven public transit operators in four counties. Passengers can load a stored cash value and a single monthly pass for unlimited rides and seamless transfers on any provider.

- **ROUTES** — Consolidated or coordinated service across agency or jurisdictional boundaries, providing customers seamless service.

NORTHWEST TRANSIT ALLIANCE
Five transit providers operate and market routes under a single brand and coordinate routes, schedules, and transfer policies.

- **TRANSFERS** — Seamless transfers between operators, minimizing travel time for the customer.

CATA/CLINTON TRANSIT/EATON
Clinton Transit carries its general public riders six miles to the county border for timed transfers to a CATA fixed-route or para-transit bus for the longer trip into Lansing.

- **FACILITIES/AMENITIES** — Waiting areas and equipment upgrades that make the customer more comfortable.

MCALLEN CENTRAL STATION
At one facility, passengers can board or transfer to local and regional buses and international buses from Mexico.

Passengers wait inside McAllen Central Station.

Increased Transportation Availability/Increased Ridership

Customers benefit when more transit is accessible and available, increasing their mobility options. The community at large, as well as transit agencies, benefits when this availability results in increased ridership.

- **SERVICE AREA** — Expanding travel opportunities for riders in a geographic area by unifying the communities or territory available by public transit.

LINX MOBILITY MANAGEMENT
Linx is a transportation cooperative that increases transit access for customers in the vast Yellowstone area by providing connections to existing public transit, human service transportation, and private carriers.

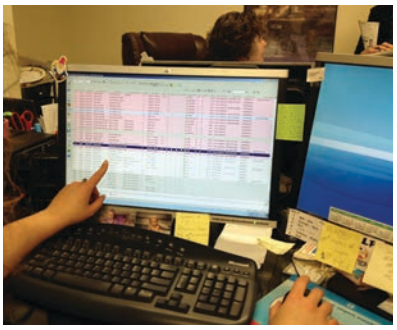
- **SERVICE HOURS/SERVICE SPAN** — Collectively increasing the span of hours that service is available to better accommodate customers' needs.

QUAD CITIES
Created by three transit systems serving four cities in two states, The Loop is a riverfront circulator operating weekend evenings and on Sundays to serve residents and tourists visiting sites and activities by the water.

- **UNDUPLICATED SERVICE** — Eliminating redundant services provided by more than one operator so customers can more clearly understand the transit system available to them, potentially increasing ridership and lowering overall transit agencies' costs.

MORE TMCC

By calling the regional 211 One-Call, One-Click mobility management scheduling system, people unserved by fixed routes, senior citizens, people with disabilities, economically disadvantaged citizens, veterans, and Medicare and Medicaid recipients can schedule their travel. Any of three public transit providers, six human service agencies, and veterans' services can provide the scheduled travel.



A dispatch/mobility management center

What is to be Gained for Participating Agencies/ Organizations?

Cost-Effectiveness Improvements

Transit agencies are always on the lookout for ways to reduce costs in order to use the cost savings to improve service. By highlighting collaborative efforts, they are also better positioned to attract funding.

- **COST SAVINGS** — Coordinating resources so that the overall cost to each of the participating agencies is reduced.

ORCA

Cost savings resulted from a decreased number of fare media to produce, account for, and train operators to recognize; less fraud; and fewer cash purchases, which simplified cash handling and accounting.

- **SHARED COSTS** — Splitting the costs of a project or service, so that each agency realizes savings by not paying separately.

VALLEY METRO

The City of Tempe expects to save several million dollars in a joint contract with Valley Metro through shared staffing, fuel costs, attracting greater competition for the provider contract, and shared bus facilities.

- **BUYING POWER** — Joining together on purchases to realize discounts by buying in bulk.

ATUQ

The Association du Transport Urbain du Québec (Urban Transit Association of Quebec, or ATUQ), a nine-member association of bus operators realized savings averaging 15% through group purchasing of buses, tires, and gasoline.

KEY POINT

Buying power from integration includes joint procurement of vehicles and equipment, as well as insurance, staff training programs, operations contracts, and marketing tools.

- **ACCESS TO FUNDING** — Recognition of integration efforts by funding organizations and political leadership.

NORTHWEST TRANSIT ALLIANCE

Five regional transit agencies submitted a successful application for a grant from the U.S. Department of Energy to "reduce dependence on fossil fuels and promote community livability." The resulting Northwest Transit Alliance coordinated existing service and created a Connector.

Buses from different agencies meet in Woodburn, Oregon.

KEY POINT

Integrating facilities does not always mean building new facilities. Most transit integration projects rely on the shared use of one or more facilities to allow passengers to transfer between services. Integration can help facilitate multimodalism at existing facilities.

Economic Development/Facilities Development

Transit facilities can benefit the community at large by their presence. By concentrating activity from passengers, transit facilities can benefit the surrounding businesses and gain their support. Joint purchase and use of equipment can foster regional initiatives among transit providers.

- **SCALE OF DEVELOPMENT** — Size advantages from facilities that serve multiple providers and can spur economic development.

TRENTON TRANSIT CENTER

Amtrak and NJ Transit renovated the Trenton Transit Center, one of the busiest train stations in the U.S. The renovation is spurring transit-oriented development around the Center.

- **REGIONALISM** — Facilities or projects that spark collective efforts by transit agencies to act regionally instead of individually.

RESEARCH TRIANGLE

A regional fare instrument became possible when electronic fareboxes for all of the buses were jointly purchased. Next Bus technology, AVL systems, and global positioning systems (GPS) make real-time information available to riders and lower demand on the Regional Call Center.

Relationships Among Organizations

To achieve the benefits outlined in this section, some type of ongoing relationship among the participants must be designed in order to sustain integration achievements and react to changing circumstances. The quality of these relationships spills over into the reputation and support participants can expect from the public and political leaders.

B-Line buses in downtown Chico, California, operate as part of a consolidated countywide transit system.

- **GOVERNANCE** — Collaborative methods of working together on integration.

BUTTE COUNTY B-LINE

Six participating jurisdictions agreed to have the Butte County Association of Governments be responsible for governance and administration of the consolidated transit operation. This agency was seen as the most neutral party and its board had representation from all jurisdictions in Butte County.

- **PUBLIC AND POLITICAL SUPPORT** — Encouragement, trust, backing, and even new funding resulting from successful integration efforts undertaken by multiple transit providers that are recognized as beneficial by the business community, legislators, riders, and voters.

VALLEY METRO

The population's willingness to invest in transit infrastructure and services through a 2004 tax measure demonstrates support for a regional system and trust in Valley Metro.

CONCLUSION

- Transit agencies see numerous benefits for the consumer when they integrate services or programs. These include improved customer service/seamlessness with regard to fares, routes, transfers, facilities, and information. Benefits also can include a larger service area, longer service hours and more service on the road.
- Agencies benefit from integration by sharing costs, improving their buying power and getting better access to funding. Integration can also improve relationships among organizations in terms of governance and political and public support.

QUESTIONS FOR CONSIDERATION

- Which agencies in your region are or might be receptive to improved transit integration?
- What integration project would be the most beneficial to customers? The easiest to initiate (e.g., fares, shared routes, joint purchases, etc.)?
- Who in your organization can initiate the discussion with neighboring agencies or within a regional body? Who else should be involved at the outset?
- What other people or organizations in the community could be your allies? How might you persuade them to become involved?

CHALLENGES

The challenges associated with carrying out a coordinated multi-agency effort cannot be understated; projects require time, patience, and commitment as agencies resolve many important details associated with facilitating successful long-term collaboration. Ultimately, the proliferation of efforts going on nationwide, as documented in this Manual, is a testament to the fact that these efforts are worthwhile and that the benefits described in the preceding section ("Benefits of Integration in the Community") outweigh the potential difficulties and costs of getting projects up and running. Nevertheless, transit agencies should be prepared to face one or more of the challenges discussed in this section and think ahead of how the challenges might be addressed.

CHALLENGES

All transit agencies face some challenges when integrating services or programs. The integration process is about addressing those challenges to achieve the desired benefits.

Appropriate Leadership

Strong local leadership is necessary to sustain an integration effort. Leadership also needs to be involved for the long term, because integration rarely happens quickly. On the other hand, a domineering leader that is not inclusive of others' needs will cause integration efforts to flounder.

The initiator can be anyone, such as a staff member, an elected official, a community member or an organization. The initiator can be the champion or may need to find a champion with the political or organizational power to move the integration effort forward. However, it is also important to have a structure that will sustain the project over time, because those involved may change jobs, move, or retire. Another obstacle can occur if a newly elected official wants to overturn a predecessor's initiative or simply needs a lengthy education before lending support. To meet these challenges and help keep the integration effort on track, the effort must have a well-designed process with enthusiastic external partners.

RESEARCH TRIANGLE STRATEGIES: SHARE LEADERSHIP; ALTER THE APPROACH

When an attempt to consolidate seven transit agencies in the Research Triangle failed, the mayors of the four largest cities formed the Seamless Public Transportation Service Project, with subcommittees working on nine coordination areas. Because the subcommittees were required by the mayors to report quarterly over a five-year period, the projects were kept on track and accomplished many of the elements that consolidation would have addressed.

Accepting Incremental Progress

Research has shown that, in many cases, coordination efforts were most successful when they evolved gradually over time. Patience among the participants and commitment to improving the passenger experience is essential. Agencies often were not ready to commit to full integration efforts at the start. Potential partners came to the

Individuals at a public meeting identify their priorities and provide comments.

table with different priorities, different workloads or different cultures. By working together over time, staff and leaders built trust, established a step-by-step track record of success, and came to understand—and "buy in" to—the benefits of integration. When integration among multiple transit providers is pursued, perhaps the old adage, "If at first you don't succeed, try, try again" applies.

BUTTE COUNTY B-LINE STRATEGY: WAIT FOR THE RIGHT TIMING

One city in Butte County resisted consolidation. Partial implementation of some elements of consolidation had already taken place when turnover on the city council occurred. By this time, the rest of the council was comfortable with full consolidation.

Lack of Trust Among Stakeholders

Developing trust among the integration partners is directly related to accepting incremental progress. Including all key stakeholders and giving them decision-making power in the process can be essential to success. Further, stakeholders must have equal access to the process, information and project leadership. Meeting stakeholders on their own "turf," both physically and metaphorically, builds trust that partners' needs, interests and limitations are understood. Having established processes or methods to solve problems that are transparent, inclusive and effective gives stakeholders and policymakers confidence that, as problems arise, there are systems in place to balance competing interests.

A broader decision-making group can have the effect of slowing a project down, but many integration efforts could not have been accomplished without this more "grassroots" approach. In particular, thinking broadly about partnerships—law enforcement, firefighters, retailers, nonprofit organizations, the business community—can avoid problems later in implementation and can build advocates if controversy arises. Where some agencies have moved quickly but skepticism and lack of trust has remained, integration has been more challenging.

MCALLEN CENTRAL STATION STRATEGY: CHANGE THE DYNAMICS

A top-down process was used in the early stages of project development for Central Station. Because the process was largely led by the City of McAllen in English, the international bus operators from Mexico felt left out. This created a problem, since the Station's financial plan depended on these operators renting bus slips and counter space. A bilingual Mexican American was given authority to negotiate with the Mexican bus operators and a common contract was developed for all operators, regardless of size and country of origin.

Loss of Local Control

Fear of the loss of local control is one of the chief tests integration efforts will encounter. Therefore, one of the biggest challenges for coordination projects is balancing local control with regional interests. This is another reason why building trust among the participants is essential for successful integration. Stakeholders need to determine the baseline components of a coordinated process that cannot be sacrificed. Beyond these baseline components, flexibility can be granted to ensure participants that they can retain some local identity and are not being entirely subsumed into the regional process. Some areas where flexibility might be granted include agreeing on minimum performance standards, developing cooperative agreements instead of top-down mandates, negotiating formulas to prioritize projects, and creating subcommittees to determine local vs. regional details of joint projects. Flexibility can ensure that issues that are primarily local in nature remain in the purview of the local agencies. This is important for long-term working relationships among the stakeholders involved in collaborative efforts.

Along with the real or perceived loss of local control comes the question of accountability. If a passenger is dissatisfied with a service characteristic, local elected officials may be seen as responsible, even if that responsibility has been transferred to a regional agency. Determining the composition of regionalized policy boards and participation by local representatives was noted in several case studies as important milestones in integration efforts.

CRTM STRATEGY: SEPARATE LOCAL AND REGIONAL FUNCTIONS

As the population of Madrid spread from the central city to towns on the periphery, the lack of coordination between Madrid's multiple transportation systems became increasingly apparent. All the transit operators that form part of the Consorcio Regional de Transportes de Madrid (Madrid Regional Transportation Consortium, or CRTM) maintain autonomous management of their operations, but cede control over planning of service to CRTM, which is responsible for the physical, administrative and fare structure integration of the regional system.

Passengers enter the Moncloa Bus and Metro Station in Madrid.

KEY POINT

Nearly all advanced transit integration projects require the sharing of costs.

Revenue and Cost Sharing

Even with a shared interest in improving integration, transit agencies face the delicate issue of how to equitably allocate costs and revenues so that every agency believes it is getting and paying its fair share. Beyond equity, there are issues of competition for the same pots of money and the difficulty of sharing locally generated funds across jurisdictional boundaries.

The research found that agencies use a variety of formal models to address issues around sharing revenues and costs. Some of the models include:

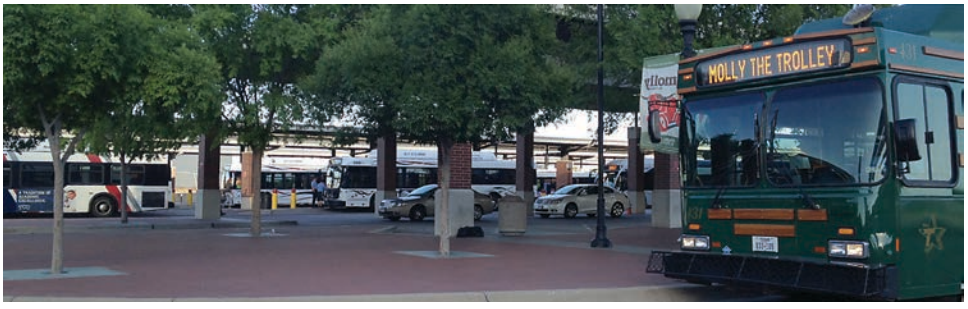
- A cost-sharing model based on population and service hours within a jurisdiction.
- A regional equity model that allocates a certain number of service hours and miles based on financial contributions from each area.
- A model based on the level of service that was in place when the model was prepared, which distributes funds according to the amount of transit service each agency historically provided.

Where fares are generated across jurisdictional boundaries, some agencies distribute revenue based on the proportional share of a trip taken by a rider. Others share the operation of a route, so one agency receives the revenue of a trip it provides, while a partner agency receives the revenue of a like trip it provides. Another agency may contract for service with a partner agency and pay for service the partner agency provides within its jurisdiction. Any of these methods typically requires a legal document to ensure that taxpayer-provided funds in one jurisdiction are being fairly appropriated to benefit the community in which the funds are generated.

Competition for the same funding sources should be addressed in the integration process itself. That is, through incrementally developing trust in the process and the integration partners, agencies must conclude that ceding local control benefits them and their customers, thereby agreeing to share funding for a greater good rather than competing against each other.

DALLAS–FORT WORTH STRATEGY: KEEP IT SIMPLE

Three transit agencies have set identical fares for regional tickets on the Trinity Railway Express (TRE), a 35-mile commuter rail line linking downtown Dallas and downtown Fort Worth. Each system keeps the revenue generated from regional tickets sold in their respective service areas.



Buses queue outside the Intermodal Transportation Center, the TRE train stop in downtown Fort Worth, Texas.

Determining the Costs is Not Easy

Many transportation agencies are asked whether the benefits of decisions they make regarding integration are worth the costs associated with the project. Caution should be exercised not to oversell cost savings and to be transparent to the public and partners about costs. For example:

- Up-front capital costs to implement integration may be high, but ongoing operating costs may be lower.
- One agency might count staff time to integrate as a special cost whereas another agency may consider implementation within the scope of staff's duties.
- Forgone societal costs can be difficult to quantify. As an example, a transit agency might be challenged if it maintained — without hard numbers — that increased transit service in partnership with another operator would improve a community's mobility and make widening of an existing freeway unnecessary.

RESEARCH TRIANGLE STRATEGIES: SERVE THE CUSTOMER BETTER

When real-time information was available to passengers, cities saved on customer call volumes at the Regional Call Center, but there was an increase in staff to manage the real-time data, slightly increasing the overall costs.

CHALLENGES

Higher Costs: While cost reduction is often a driving influence during the early decision-making phase of an integration process, agencies should be prepared for the fact that integration might actually increase costs. If higher levels of service result, costs might be more than the status quo. Offsetting this, of course, are the many benefits to the customer.

Dissimilar Business and Operations Practices

Integration efforts require delving into the challenging and complex territory of differing operational practices, business practices and values/goals; agencies must engage in negotiations to align their differences as well as determine what aspects may be able to remain independent. For example, there may be disparities in service hours, vehicle types and fuels, union versus non-union workforces, and fares. The primary missions of the participating organizations—mobility vs. equity vs. congestion mitigation—may not be the same. The level of funding and size of the organizations might vary considerably.

Overcoming these disparities starts with reviewing and then agreeing on the many benefits that integration can bring to the participants. Strategies to come to agreement can include finding a neutral party to oversee the negotiation, such as a metropolitan planning organization (MPO), regional public transportation authority (RPTA) or council of governments (COG). The neutral party can be the keeper of project records and remind stakeholders of the benefits of integration when challenges arise. The largest transit agency can take on project management responsibilities, easing the burden of participation by agencies with small and often overburdened staff. It is particularly valuable for the leadership to identify funds to help cover planning and implementation costs. If the stakeholders are all committed to the goal of improved service for customers, ways to overcome the dissimilar practices will be found.

KEY POINT

A number of decision-making tools can help agencies determine the effectiveness of their current practices and compare them with those of other potential partner agencies.
See page 43 for a list of tools.

ORCA STRATEGY: DEVELOP A STRUCTURE THAT WORKS FOR ALL PARTICIPANTS

The seven agencies involved in the ORCA smart card vary in size from a 50-bus fleet to a more than 1,500-bus fleet and include ferry, light rail and commuter rail operators; they range from urban operators in dense downtown Seattle to more rural outlying communities. An interlocal agreement established a joint board composed of the general manager or chief executive officer from each of the agencies to make policy decisions; a regional team as the central point to manage overall project implementation; and a site managers' group to coordinate regional decision-making and manage implementation details within their specific agencies.

Passengers board and alight a bus in Seattle, Washington.

Disagreement on Strategies/Solutions

Disagreement is to be expected when taking on the challenges of integration. Those involved must strike a delicate balance between accommodating local political demands and unique needs versus the group's commitment to the benefits of regional goals. Therefore, at the outset, it is important to set up processes and/or governance bodies to work through the disagreements.

If the participants all have representation on an existing regional body, such as a MPO, RPTA or COG, and if that body is considered fair by all participants, then the process of integration can be undertaken under its umbrella. Another possibility is setting up a separate body or committee with rules on how decisions will be made—i.e., weighted voting, consensus, majority rule, arbitration panel, etc.

ORCA STRATEGY: USE A CONSENSUS PROCESS

Giving every agency an equal vote regardless of size and using a consensus-based decision-making process were fundamental to ORCA's success. It removed the power dynamic inherent in agency size and created a level playing field for small agencies and large agencies to work together. Larger agencies gave up the control that their size normally would leverage. Smaller agencies had to take just as much responsibility for their decisions as the larger agencies. However, this consensus process was slow and challenging, especially among such disparate operators. Nonetheless, a level playing field among all operators was critical to getting and keeping all seven agencies at the negotiating table. It provided a foundation to develop the necessary trust and respect between agency staff.

CONCLUSION

- In the process of working toward achieving the benefits, challenges can surface: Common challenges include a lack of leadership or leadership being too strong (and there is lack of consensus), trying to accomplish too much at one time, and a lack of trust among stakeholders/historic distrust.
- A loss of local control is often noted as a barrier to integration in some communities.
- Other challenges faced by agencies that integrate services include the potential for higher costs (or at least no cost savings) and the need to share locally generated funds across jurisdictional boundaries, especially when there is competition for the same funding sources.
- Integration can be very complex (different systems, policies and agency cultures) and there can be disagreement on strategies or solutions.

QUESTIONS FOR CONSIDERATION

- Which do you think might be the major challenges in your region?
- How much of a barrier do you think cost or revenue sharing would be? Do you have other examples of cost or revenue sharing in the region that might serve as a model for transit?
- What methods do you think would work to overcome challenges or problems?
- What happens if a key partner(s) withdraws from the project?

ELEMENTS OF AN EFFECTIVE TRANSIT INTEGRATION EFFORT

McAllen leadership represents a cross section of the old and new—older staff with the trust and support of elected officials and the business community as well as young, non-white, passionate, thinking-outside-the-box individuals who embody the "new face of the United States." This combination of energy, openness to new ideas, and widespread support has resulted in a quality product that benefits the local community and traveling public.

Process: How to Get a Project Started

The most common first question in an integration effort is: How do we get started?

No single process can be followed for all types of integration efforts. The first step is to identify and convene partners to participate in the effort. Sometimes, efforts start with an initial study to explore transit integration activities and their feasibility. Other efforts begin when one or more participants identifies a funding source or applies for a grant to get the project off the ground. From there, the processes diverge depending on the types of integration efforts being undertaken; several common "ingredients" for success emerged from the research.

Three successful transit integration efforts, along with the major steps and milestones in their processes, are summarized on the following pages. Common elements between these and other case studies and profiles are discussed afterward.

Integration Process Examples

Full case studies of these three examples can be found in Volume II.

EVOLUTION OF MCALLEN CENTRAL STATION — Demand for passenger travel in McAllen has grown significantly in the past several decades, including local, inter-jurisdictional and cross-border travel to and from major Mexican cities. Developing a central station was deemed essential to making local transit service effective and the City recognized a dire need for a centralized inter-jurisdictional and regional bus hub. Prior to Central Station, almost all of the inter-jurisdictional bus companies operated from independent pick-up and drop-off locations. As a result, bus operations downtown were uncoordinated, with bus traffic on multiple parallel streets; transfers between services were confusing, often entailing walking many blocks; and passenger facilities were minimal and/or unsafe, lacking waiting areas or public restrooms.

Timeline for the Evolution of McAllen Central Station

EARLY 1990s

PROCESS/INPUT

- Population and economic growth
- Efforts to raise local funds for public infrastructure projects begin

MILESTONES

- Two tax initiative efforts posed to voters prove unsuccessful

1994 1995

PROCESS/INPUT

- City of McAllen partners with local advocacy group with strong community connections
- Public transportation (both services and a physical hub/station) added as key component of tax measure

MILESTONES

- Tax initiative passes
- Includes funding for local transit services and central public transit facility (hub for local, inter-jurisdictional and regional bus service)

1996

PROCESS/INPUT

- City commissions feasibility study to better understand ramifications of new transit service

MILESTONES

- Transit Feasibility Study completed

1997

PROCESS/INPUT

- Partnership with Valley Metro, a division of the Lower Rio Grande Development Council, created to operate local transit service
- Planning for Central Station begins

MILESTONES

- Local transit service starts in the City of McAllen
- City of McAllen begins work on Central Station

LATE 1990s

PROCESS/INPUT

- Stakeholder group forms; process gradually evolves to be more inclusive, culturally sensitive, and multi-lingual
- Contentious process to decide location of Central Station divides community. Options are (a) in central business district to support downtown businesses or (b) near I-83 on/off ramp by convention center and proposed new shopping complex

MILESTONES

- Mexican bus operators agree to sign contracts for space at station
- Planned location of station changed to support long-term vibrancy and economic viability of downtown
- Dynamic, young, passionate leadership hired for Central Station and Metro McAllen

2001

PROCESS/INPUT

- Final construction

MILESTONES

- Central Station opens to the public

2005

PROCESS/INPUT

- Budget shortfalls require the City to examine operating costs and contracting relationship with transit provider

MILESTONES

- City brings transit service operations "in house" and rebrands as McAllen Metro

KEY POINTS

- Transit Consolidation Policy Committee representatives included technical staff and/or management from each of the jurisdictions and two policy-level representatives (a City Council member from Chico and a representative from the County Board of Supervisors).

CONSOLIDATING TRANSIT SERVICES IN BUTTE COUNTY, CALIFORNIA — In the fall of 1999, representatives from the County of Butte, along with its cities, towns and transit agencies, began a study process, spearheaded by the Butte County Association of Governments (BCAG), to explore opportunities to consolidate at least several of the seven transit services operating within Butte County. Some coordination efforts were already in place: the City of Oroville and Town of Paradise were purchasing administrative services for their transit operations from the County; all transit services were provided by a single contractor; and transfers between the inter-jurisdictional Butte County Transit and Oroville Area Transit System were coordinated. An earlier study had recommended fare coordination but had identified consolidation as a strategy for overall cost savings. A subsequent study identified cost savings of almost $140,000 annually if administrative functions were transferred to BCAG.

A coordination technical committee was established at the beginning of the study process. Committee representatives met regularly over nearly a two-year period to review a range of options and build consensus on a series of issues: service parameters, a funding plan, board representation, who would administer the service, and ultimately a route structure to replace the existing mix of services. Through a complex negotiation process, the participating transit operators and jurisdictions evaluated a number of cost-sharing options and decided to adopt a new formula that considered both population and ridership characteristics. In 2004, after several years of successfully coordinating services under a single administrative function, the jurisdictions agreed to formally consolidate the services as a single transit operation. Although only limited cost savings had been realized, transit operators appreciated the ease with which the services continued to function and policymakers were becoming comfortable with the efficiently coordinated services.

Timeline for Consolidating Transit Services in Butte County, California

OCTOBER 1999

PROCESS/INPUT
- Review similarities and differences among existing services
- Conduct peer review and present to the coordination technical committee

MILESTONES
- Consensus on study process

DECEMBER 1999

PROCESS/INPUT
- Conduct stakeholder interviews
- Develop study goals with coordination technical committee

MILESTONES
- Final study goals and objectives

EARLY MARCH 2000

PROCESS/INPUT

- Review preliminary organizational models and administrative costs with coordination technical committee

MILESTONES

- Narrow to two alternatives: (1) full consolidation or (2) consolidation without smallest city (Gridley) participating
- Recommend BCAG as lead agency

LATE MARCH 2000

PROCESS/INPUT

- Assess policy board options with coordination technical committee
- Calculate potential cost savings with BCAG as lead agency and discuss with coordination technical committee

MILESTONES

- Narrow policy board to three alternatives: (1) current BCAG board, (2) new board based on population, or (3) new board based on transit expenditures
- Consensus on structuring consolidated system as a joint powers agency

AUGUST 2000

PROCESS/INPUT

- Calculate transit service expenditures, projected operating and capital costs and review with coordination technical committee

MILESTONES

- Agree to consolidation without Gridley
- Agree to BCAG policy board with super-majority vote
- Accept cost assumptions and agree to cost-sharing formula based on a combination of factors
- Agree to proceed with consolidation

2001

PROCESS/INPUT

- Elected officials in Chico agree to administrative consolidation but opt not to proceed with full consolidation

MILESTONES

- BCAG begins administration of all participating transit operations but they remain separate operations

2003 2004

PROCESS/INPUT

- Chico passes resolution supporting full consolidation of transit systems
- Consolidated service plan developed and refined with input from coordination technical committee
- New system name and logo developed and refined with input from coordination technical committee
- Implementation plan developed

MILESTONES

- BCAG implements plan for consolidation of transit services

2005

PROCESS/INPUT

- Consolidated operations plan approved
- Vehicles branded with new logo
- New bus stop signs placed throughout county
- New informational materials and maps developed and printed

MILESTONES

- Fully consolidated system implemented

EVOLUTION OF THE ORCA UNIVERSAL FARE CARD — Fare integration efforts in the Puget Sound region have taken place gradually over four decades and are still evolving. The development of the Regional Fare Coordination System, which was eventually branded as "ORCA: One Regional Card for All," took approximately 12 years to implement from the earliest feasibility studies in 1997 to its launch in April 2009. The depth of coordination and time required for implementation was far greater than initially anticipated.

The phased approach and gradual evolution of the process was critical to the ultimate success of ORCA. Activities that occurred as early as the 1970s laid the groundwork for ORCA's success. Through working together over many years, agencies gradually became more open minded and were able to overcome preconceived notions and to trust in the benefits beyond their agencies' narrow interests.

Above: ORCA card reader

Right: Puget Sound Regional Passenger Ferry

Timeline for the Evolution of the ORCA Universal Fare Card

1970s 1980s

PROCESS/INPUT

- Agencies develop a variety of agreements for the most common transfer patterns; no consistent regional policy exists (>300 pass types exist)

MILESTONES

- Ad hoc, bi-lateral transfer agreements established between some regional providers

1996

PROCESS/INPUT

- Increasing pressure from community, state and local officials and transit leaders for a seamless, universal approach to transit fares
- Sound Move is developed; mandates regional fare integration

MILESTONES

- Voters in three counties pass Sound Move, the ten-year regional transit system plan
- Includes a uniform, single-ticket fare system and integrated fare policy for all public transit operators; creates dedicated funding source

1997 1998

PROCESS/INPUT

- Five bus-based transit systems begin discussions to establish regional fare structure

MILESTONES

- Feasibility study to implement an integrated regional fare structure

1997 1999

PROCESS/INPUT

- Develop revenue reconciliation agreement for multi-agency pass
- Align definitions for fare types (e.g. senior, youth) across agencies
- Agree on regionally consistent transfer privileges

MILESTONES

- Regional Puget Pass created (monthly pass used for unlimited travel on bus-based transit systems in Puget Sound region)
- Inter-agency transfer policy approved

1999

PROCESS/INPUT

- Seven agencies collaborate and hire consultants to prepare a complex request for proposals (RFP) to develop smart card to allow for transit use to be precisely tracked, ensuring more certainty around revenue sharing

MILESTONES

- Smart card RFP released
- Two additional operators opted to participate in the regional fare system

2003

PROCESS/INPUT

- Procurement process is suspended for over a year due to the passage of a voter initiative (I-695) that severely reduced or eliminated funding for all bus agencies in the region

MILESTONES

- Notice to proceed issued to contractor

2009

PROCESS/INPUT

- Years of detailed negotiations to modify the business practices of seven different agencies to agree upon regionally consistent financial, customer service and operating procedures

MILESTONES

- ORCA officially "goes live"

Elements for Success

Three common elements that are desirable to have in place to initiate and carry forward an integration planning process are each described below. They are:

1. Oversight Board or Committee
2. Project Leader/Champion
3. Formal Goal-Setting Process and Consensus on a Specific Outcome

A discussion of decision-making support tools that were drawn from the research follows afterward.

KEY POINTS

Including a diversity of stakeholders in the decision-making and oversight body ensures:

- ✓ Projects are not dominated by a single interest or stakeholder group.
- ✓ The needs and perspectives of a broader range of users are included in project design.
- ✓ A large base of support sustains the project through challenges.

MCALLEN CENTRAL STATION

In the early stages of this project, the stakeholder group was small; some people felt excluded. This small group wanted to locate the terminal by the freeway. When the stakeholder group was expanded, the process became more complex but there was consensus to locate the station downtown.

Oversight Board or Committee

DEFINITION — In most cases of success, stakeholders build inclusive and representative boards or committees that are trusted by stakeholders to guide the process. This most often includes representatives from all the transit agencies, counties, cities, businesses, and/or other organizations that would be affected by any type of integration effort. The most successful groups enjoy a collaborative working relationship where everyone has an equal voice in the process.

WHY IS THIS IMPORTANT? — Bottom-up, inclusive integration processes yield longer lasting results than more centralized or top-down approaches. Ensuring everyone a seat at the table is important to build trust and respect among partners, an essential task for achieving full buy-in from all agencies. When all affected parties are brought into the process and able to develop their own understanding of the benefits, they can articulate those benefits to their communities and to the riders they serve.

Stakeholders work to achieve consensus on a planning study.

Integration processes require negotiation and consensus building. They necessitate not only agreeing on goals and overarching strategies, but also sorting through

detailed business practices and reviewing a wide array of operations issues that may be affected by integration.

WHEN IN THE PROCESS MUST THIS BE UNDERTAKEN? — It is best if integration processes start with a broadly inclusive oversight body that has a decision-making role throughout the process. However, the composition and role of this body should be reevaluated as the project evolves (1) to ensure that all the appropriate stakeholders are at the table and (2) to evaluate whether the specific responsibilities associated with planning or implementing unique elements of an integration effort can be carried forward by a smaller group or subcommittee. Sometimes it is not necessary to involve every stakeholder in every decision; creating subcommittees or delegating certain responsibilities can streamline and speed up the process.

Project Leader/Champion

DEFINITION — A project leader or champion is critical to the success of an integration effort. This individual or organization must provide strong local leadership and be committed to the value of integration for their community.

Leadership can take the form of an individual, a group of individuals or an organization. Some features of successful leadership are:

1. Strong commitment to regionalism and the benefits of integrating transit functions.
2. Project leadership without taking on all the decision-making responsibilities.
3. Flexibility and willingness to change directions if stakeholders are resistant, while keeping focused on the ultimate goal of better service for transit customers.
4. A degree of humility to put greater goals before their own.

This last point is particularly important if leadership comes from a large agency. There is often distrust that such an entity will use the power inherent in its size to dictate outcomes advantageous to constituents. Large agencies must put themselves on an equal footing with smaller agencies in order to build the trust that will get everyone to the table and keep them there throughout the negotiations.

WHY IS THIS IMPORTANT? — A strong and vocal project champion serves two key roles:

1. Getting projects off the ground: At the start of projects, advocates for the benefits of integration to generate support, gets stakeholders to the table and attracts funding. Sometimes provides some financial backing, seed money or financial guarantees necessary to launch the planning effort.

CHALLENGES

- Loss of local control
- Lack of trust among stakeholders/historic distrust

KEY POINT

An individual, alliance, or organization with a strong commitment to integration is one of the most common factors found in efforts that are carried forward from ideas to action.

ORCA

As the largest participating agency, King County Metro had a strong interest in access to the passenger usage data that would be generated through ORCA's fare payment program. By offering funding for the program, Metro committed to advancing ORCA. Likewise, in the early stages of developing the Puget Pass, King County Metro's General Manager committed to the need for the agency to absorb a potential revenue loss from the implementation of a regional pass; after this, other agencies made similar commitments.

2. Sustaining challenges: Serves as the "cheerleader" to keep the ball rolling and remind stakeholders of the benefits of regionalization when challenges arise.

CHALLENGES

- Lack of leadership or leadership is too strong
- Lack of trust among stakeholders/historic distrust

WHEN IN THE PROCESS MUST THIS BE UNDERTAKEN? — Leadership must be sustained over the life of the integration effort. Integration rarely happens quickly; challenges arise and consensus must be built around contentious issues. A strong leader or champion who can keep the group focused on the importance and benefits of the greater goal, even during difficult/contentious moments, is crucial.

ROLE OF A REGIONAL AGENCY

Regional bodies (regional transportation planning agencies, MPOs, or regional public transit agencies) are a logical leader and convener of integration activities in many places because:

1. They often already have a board or technical committees with broad representation which can serve as an established forum to discuss integration.
2. They often have access to funding and can sometimes provide the financial backing for the project.
3. They may have more flexibility with staffing that allows them to provide administrative support, including project management and record keeping for an integration project.
4. They often already have "regional coordination" as part of their mission and may have significant influence over administration, financing, and planning of transit services at the smaller providers.

Despite these natural advantages, a regional agency is not always the best leader or convener for such efforts.

Existing perceptions of the regional body by other stakeholders, its relationships with other agencies, and the attitude and approach of the regional agency in undertaking the project are critical to determining long-term success of an integration effort. Some regional agencies may not be viewed as working in the best interests of the various participating agencies, may not have staff skilled enough to facilitate an equitable process, or may be seen as coercive—trying to push through the regional agency's integration agenda without support from participating agencies. Whichever organization "houses" and leads the effort, it must convey the ability to balance the political demands and service needs of different localities with a commitment to achieve benefits for the entire region.

Formal Goal-Setting Process and Consensus on a Specific Outcome

DEFINITION — Setting goals and documenting anticipated outcomes at the outset of an integration process—costs, savings, ridership gains, etc.—is another necessary element for integration to work.

Agencies often begin an integration effort with an intuitive understanding of the changes or improvements they seek to achieve, but have not necessarily articulated specifically what success would look like. Getting consensus around goals and objectives—and putting them down on paper and formally agreeing to them—is a crucial first step for any integration effort. All partners should be able to articulate with some degree of consistency why the integration effort is being undertaken.

Transit integration goals can come from a variety of sources, including an agency's mission, its governing board, oversight agencies, management, input from the public, and/or legislative mandates. While some goals might be somewhat general—"improve transit"—they should be accompanied by objectives and performance measures detailing what constitutes the desired improvement. Objectives and performance measures may be specific and quantitative in terms of clarity, but some may also be qualitative.

WHICH GOAL IS MOST CRITICAL TO MEET IN THE SHORT TERM VERSUS LONGER TERM? — Establishing a priority ranking of goals can be helpful. Determining how goals can be weighted differently requires discussion among the decision makers as to which goals are more important than others. In this way, discussions about the trade-offs begin early in the project development process and can provide an avenue for early buy-in and understanding of the project benefits and costs.

Although goals will vary across different types of integration efforts, goals related to customer benefits should be present in all integration efforts. This means that any move toward improving transit integration among multiple transit providers must address why changes to the status quo will benefit transit passengers. Further, maintaining the common focus on improving the quality of the customer experience can help ease friction among operators and get partners through challenging negotiations.

KEY POINT

Goals are often supported with performance measures so participants may assess whether the integration effort is considered successful. Some goals set by regulatory agencies or legislative mandates may come with specific metrics to evaluate a project's success.

BUTTE COUNTY B-LINE

When the transit agencies sought to consolidate services, they developed a comprehensive set of goals and ways to measure success in achieving those goals. They focused on setting goals related to the integration process (e.g., to realize cost efficiencies, improve the quality of transit service, and develop an equitable funding plan).

COST-BENEFIT ANALYSES

Many agencies consider cost effectiveness as a primary factor in the inauguration of integration efforts and base their goals on reducing costs.

One of the challenges of transit service integration is that many important outcomes cannot be monetized. Indeed, some type of cost-benefit analysis can be valuable to encourage decision makers to have their agencies participate in an integration process, but the research from this effort shows, perhaps surprisingly, that a cost-benefit analysis was rarely the basis for moving forward with a transit integration effort. In many cases, a qualitative analysis that allowed decision makers to understand the overall benefits of a project was more important than any type of formal cost-benefit analysis. In fact, a full monetized cost-benefit analysis was not undertaken in any of the examples analyzed for this research and representatives from almost all agencies indicated they did not consider one necessary.

Should your agency undertake a cost-benefit analysis? While this depends on the expectations and needs in your community, research suggests that the most important touchstone is to define what success would look like at the start of the integration effort and check back on these goals during the project.

See also Identifying Project Costs on page 50.

WHY IS THIS IMPORTANT? — Achieving consensus around a formal set of desired outcomes is important for several reasons:

1. Integration is difficult, time consuming, and resource intensive to get underway. If expected benefits are clear and transparent to all partners involved, an incentive exists to participate and can help build political and public support for a project. At least a general understanding of the anticipated benefits, both qualitative and quantitative, of the project will be necessary to convince partners to get involved initially and to sustain support and involvement from all the partners throughout the process. An understanding of expected costs, both direct and indirect, is also useful so agencies understand the commitment they are making.

2. The goals reflect the priorities of its stakeholders and help agencies stay focused on the purpose of the integration effort. Getting buy-in from all partners on a single, unified set of goals is particularly important when consolidating more than one agency's functions because agencies may have conflicting reasons for undertaking integration. The goal-setting process gets all agencies to understand and feel ownership over the effort.

3. Setting goals and checking the project's progress against them periodically helps participants determine whether to stay the course or to make adjustments mid-stream to improve project outcomes.

4. Policymakers and the public may want to know whether the project, after implementation, met its goals and achieved the expected outcomes.

5. Cost savings is one of the often hoped-for benefits of integration. However, the research shows that cost savings were not often realized, at least in the short term. Defining a full, broad set of anticipated outcomes helps justify the project beyond cost considerations alone.

WHEN IN THE PROCESS MUST THIS BE UNDERTAKEN? — Goal setting should be done at the start of any integration effort. Goals can be revisited throughout to make mid-course corrections. They are critical in order to conduct a post-implementation evaluation.

CHALLENGES

- Finding no cost savings when integrating
- Integration results in higher costs
- Disagreement on strategies or solutions

Decision-Making Tools

Although much of the coordination or integration effort is about individuals working with one another on issues that are of mutual importance, having concrete analytical and planning tools (e.g., spreadsheets, calculations, and maps) can be very useful in helping stakeholders achieve consensus. A discussion about how to share costs can go in circles without examples of what the funding commitments might be under various cost-sharing scenarios. Likewise, knowing the capital resources that participating agencies can bring to an integration effort allows agencies to build consensus based on tangible resources rather than hypotheticals.

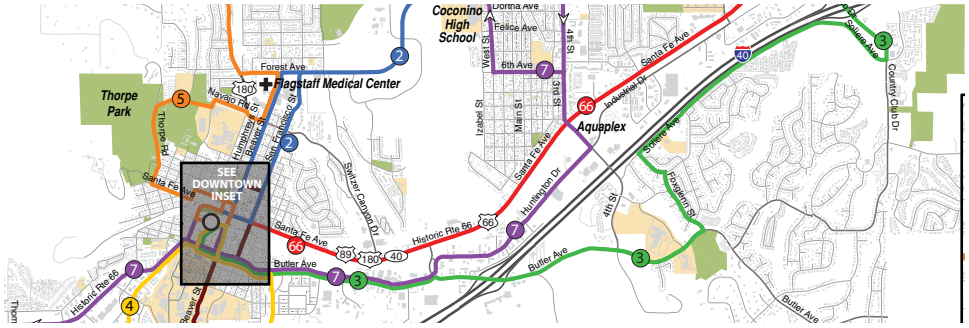
Evaluate Best Practices

It is useful to conduct a peer review or best practices analysis before embarking on a coordination effort. Many agencies have found that their circumstances or characteristics are not unique: other agencies have grappled with the same issues. A best practices analysis can help an agency understand what can easily be accomplished and what might be too challenging within a short period of time. Evaluating best practices usually requires the collection of data from agencies of a similar size and with similar geographic or demographic characteristics to the agencies seeking to integrate their services. Although quantitative data collected from a best practices review can be useful, qualitative data can be equally useful: advice from agency directors and other individuals who were involved in an integration process can provide useful guidance.

Inventory Resources

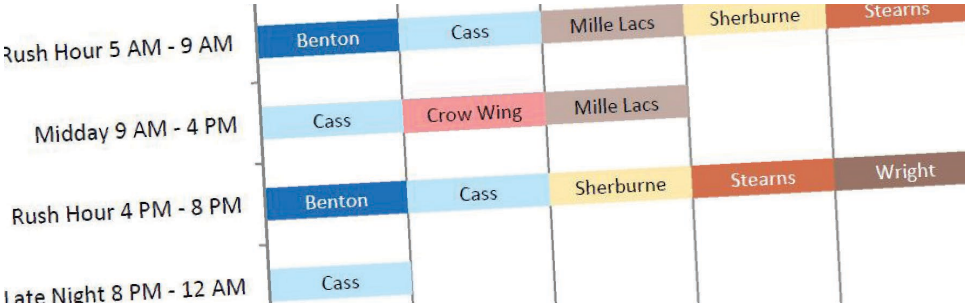
Making sure that an agency understands its existing resources—capital resources, vehicles, software, facilities, staffing, etc.—can be a particularly important piece of the decision-making process. For example, getting a handle on which of the agencies seeking to integrate have large vehicles versus small vehicles can help frame how a fleet can be coordinated; what types of software programs or packages are currently being used by the majority of agencies can define the best ways to jointly dispatch services or share operating information. Agencies may find that there are many more spare vehicles in their region than they imagined or that various software packages or other tools are not compatible with one another. Getting all this information up front is especially important to understand how to prioritize the available resources and to better understand potential costs for integrating services.

Map Existing Services



A picture of the existing service network that includes all transportation providers is an invaluable resource for determining how an integrated network might look. Only when routes or service areas are mapped can decision makers see where they overlap, where transfer hubs may be located in proximity to one another, or how service operators' routes could be modified to work together. A map of the services provided by all participating agencies shows how equitably services are distributed.

Compare Operating Schedules for Compatibility



Transit agencies that have worked to integrate their services have indicated that understanding operating schedules of the various partners is an important step in the process. A simple table that shows start and end times, service hours and days, and headways of the various services that are available allows decision makers to see how different the services they seek to integrate may actually be. It can also lead to discussions about whether service spans need to be standardized (to allow for connections between services), whether one agency's headways should be modified to match connecting services, or whether a regional policy regarding service days should be considered.

Assess Existing Operating Costs

n		12.4%	8.4%	10.2%		
hange	$204,767	$231,480	$272,617	$381,646.00	$430,045.00	$48
l		13.0%	17.8%	40.0%	12.7%	
hange						
HICLE SERVICE HOURS						
icle Service Hours	66,859	66,928	67,006	67,297	67,383	
Change		0.1%	0.1%	0.4%	0.1%	
an	46285	46,307	46,307	46,383	43,717	
Change		0.0%	0.0%	0.2%	-5.7%	
			20,699	20,914	23,667	

A concern often voiced about integrating services is that there will not be operating cost savings. By understanding the existing operating costs of all of the potential partners early in the process, decision makers can determine whether integration might result in potential cost savings. The most useful tool for assessing existing operating costs is often knowledge of the fully allocated hourly operating cost for each provider. The cost should account for all administrative costs as well as any contracted operating costs, maintenance, marketing, and any other administrative support services that may be a function of the participating organizations. When agencies find that one of the potential partners has operating costs that are below market or much higher than the costs of services elsewhere in the region, decision makers can determine if these agencies might be excluded from or have a more limited role in the integration process. It is important to enumerate all of the elements that are included in the operating costs so that similar cost structures can be compared across agencies.

Identify Available Funds

		pass; regional fares also avail.			
Persons with disabilities that meet American with Disabilities Act (ADA) paratransit eligibility criteria	All trip purposes	$3.25 each way	370,822 one-way trips FY2012	$9,101,000 annually (FY2012)	FTA Section 5307, 1/2 cent sales tax from participating cities
N/A	All trip purposes	$2.50 within Tarrant County, $5.00 beyond Tarrant County	2,300,000 on-way trips FY2012	$61,000,000 annually (FY2012)	Section 5307, 1/2 cent sales tax from participating cities
	Social, medical, shopping,	Free	995 round trips FY2012 (all trips	$98,000 annually (entire operating budget of the	Grants and donations, contribution from 19-faith based orgs., civic orgs., and other non-governmenta

Different agencies may have access to different funding sources. By understanding the funding sources that are used within a region, agencies can see where there may be gaps in their existing funds and understand how they might be able to leverage additional funds using sources that are accessed by partner agencies. A spreadsheet that shows the potential participating agencies and includes a list of all of their funding sources can be used to cross-reference the sources used and those underutilized.

Identify Administrative Responsibilities

When agencies seek to integrate their services, it is important for individuals at one agency to communicate with persons with similar responsibilities at another agency. It is also possible that if administrative responsibilities are to be coordinated or consolidated, an understanding should exist of what those responsibilities are and whether there are any duplicate responsibilities. For example, a few small agencies that all have individuals who spend a significant portion of their time doing travel training, marketing, or grant writing may provide an opportunity for coordination that allows one agency to undertake one or more of these types of responsibilities on behalf of other agencies.

Evaluate Oversight Alternatives

A challenge that often arises in an integration effort is the concern about a loss of local control. By understanding oversight alternatives, agencies can determine what

will be the best framework for oversight of an integrated effort, whether it is a small-scale effort or a major endeavor. For small-scale coordination efforts, the existing oversight bodies at the participating agencies may each maintain responsibility for their agency's role in the effort. For large-scale efforts that require significant coordination or consolidation, often a new policy board or oversight body is created to ensure decision making is responsive to all participants. Evaluating oversight alternatives also means determining whether or not the policy body would include elected officials or appointed individuals, representation based on population or cost share, or any number of other factors.

Develop a Coordinated Service Plan

It is easy for stakeholders to discuss the merits of integrating transportation operations. More challenging is to understand the impacts to the specific services or facilities. A coordinated service and facility plan provides a model, taking the vision from conceptual to practical. It provides a way to assess where routes might be consolidated, where services might be eliminated or realigned, and how the integration effort might change the overall scope of services provided within a region. Development of a coordinated service plan also allows potential partners to assess the capital resources that will be needed to integrate, as well as understand impacts to existing transit operations.

Conduct Legal/Policy Review

Before finalizing an integration plan, most agencies undertake a legal review. An attorney reviews existing contracts, agency commitments, and board policies so agencies are assured that the integration efforts will not encounter any technical or legal barriers. For example, one agency may have a contract with its drivers that would be voided in an integration effort and would require renegotiation. Another agency's insurance policies may not cover operations outside of a specific jurisdiction that may be required under an integrated effort. Many legal or contractual obligations can be easily addressed, but it is better to know about them early in the process rather than too late, when last-minute modifications can derail an otherwise successful plan.

Develop a Marketing Concept

Even before the integration effort is finalized, it is useful for all players to understand how it will be presented to the public and key stakeholders. Marketing is very personal for some agencies that like to have their name or brand on the bus or facility. Sometimes, when services are integrated, agencies feel a loss of identity as a regional brand is developed. Building consensus on the look and feel of a brand or service name can help bring all players to the table and ensure a smooth transition from locally provided services to coordinated services that might result from the integration process. Working together can also instill a sense of pride for participants seeking to showcase a new cooperative effort.

Evaluate Cost- and Revenue-Sharing Alternatives

One of the most challenging but vital elements of a integration process is a formula and/or approach to sharing costs or revenues. For decision makers to have the information they need to ratify an alternative that best meets the needs of the integration effort, it is useful to develop different cost- and revenue-sharing alternatives based on a range of different factors or formulas. For example, many cost-sharing formulas are based on population (contributions are based on share of population in a service area or jurisdiction); others are based on ridership, densities, property tax revenues, or the proportion of the population meeting certain demographic thresholds. It is important to understand cost commitments early in the integration process to have a realistic understanding of what financial impacts might exist.

COST SHARING AND REVENUE SHARING

The role of cost and revenue sharing is significant in the following ways:

- Agreed upon formulas are proxies for quantifying the real or perceived benefits realized by participating jurisdictions. By negotiating a cost- or revenue-sharing formula that is deemed to be fair and equitable, each participant is acknowledging a benefit from the shared cost or by sharing revenue. It often reflects the fact that they are willing to give up a share of revenue that they might have otherwise received or that they are willing to pay more due to the overall benefits from the integration project.
- Significant efforts are expended to arrive at and implement a fair cost- or revenue-sharing agreement. Staff time, legal services, accounting procedures, and reporting mechanisms to develop and maintain the agreements result in a cost to the integration project.
- Negotiations for cost- and revenue-sharing agreements influence the level of cooperation among jurisdictions to achieve integration. The results of the cost- and revenue-sharing negotiations can strain the partnerships needed for integration and may ultimately cause partners to "opt out" of the project. The agreement is a key element of the success or failure of an integration project.

COST- AND REVENUE-SHARING EXAMPLES

ORCA

Fare revenues and operating costs for ORCA are shared by the seven participating agencies that use the smart card system. In the case where more than one transit agency is used for a trip (a linked trip), the fare revenue returned to each agency is proportional to the fare of the two trips. Operating costs are shared using a formula based on each agency's share of ORCA trips.

BUTTE COUNTY B-LINE

A cost-sharing formula for fixed-route services is based on a jurisdiction's population (50%) and total service hours within that jurisdiction (50%). For paratransit services, the formula is based on a jurisdiction's population (50%) and total boardings (ridership) within that jurisdiction (50%).

VALLEY METRO

The basis of the formula is to distribute sales tax revenues by jurisdiction to achieve equity. Over time the formula has been refined to account for multi-jurisdictional routes and projects by allocating tax revenues on a sub-regional rather than on a jurisdictional basis.

TWIN CITIES

Transit agencies use a cost-sharing formula based on historic service levels. Many stakeholders would like to renegotiate the formula to be deemed more equitable but also believe it would be too challenging. The history of these negotiations has colored the interagency relationships and affects the coordination efforts.

Further Considerations for Integration Planning

While decision-making tools are concrete planning or financial documents and analyses, successful integration planning also requires the reliance on good judgment, sensitivity to real and perceived losses of control, and a set of communications protocols to establish an enduring and collaborative forum for negotiation. In addition, understanding project costs and evaluating success are further considerations for integration efforts.

Identifying Project Costs

Identifying costs associated with an integration project is an important component of a rigorous evaluation. Like benefits, project costs are likely to be varied and may be easy or difficult to quantify. Costs may include dedicated staff salaries and benefits, part-time staff assignments, technical consultants, IT infrastructure and equipment, vehicles, outreach, and marketing.

Understanding the "hidden" or indirect costs and benefits is crucial to a robust project evaluation and is often overlooked by agencies that may be analyzing only a specific element of the integration effort or may not be reviewing the benefits accruing to other parts of their operation or to other agencies. For example, agencies looking to coordinate service operations may review only bus operations costs or savings, while ignoring ancillary changes in administration that may result. By not counting all of the costs (or savings), an agency might inappropriately register anticipated or realized project outcomes. This can be the case for agencies that are contemplating very complex integration efforts in "unchartered territory" and are unfamiliar with the magnitude of change that occurs.

Measuring and Evaluating Success

Project evaluation is a useful and effective tool to demonstrate the value of an integration effort to decision makers, funding agencies, and the public. However, whether to conduct an evaluation is dependent on factors such as an agency's time compared to other pressing staff duties, the individual community's interest in evaluation, and the perceived success of the results. Indeed, the research shows that many agencies, including those that completed integration efforts they deemed successful, did not conduct a post-implementation evaluation.

This section discusses what kind of performance measures could be developed at the outset of a project. These measures will be useful to check the progress of the implementation efforts and can be used later if an agency determines it will want or need a post-implementation evaluation.

Evaluation can involve both qualitative and quantitative metrics, as shown in the table on the next page.

Evaluating Success: Sample Measures

Quantitative	Qualitative
Ridership Changes • Passengers per hour or per trip • Per capita ridership • Total ridership • Changes in transfer rates • Percentage of ridership using new fare media	Ridership Perception • Satisfaction • Perceived value • Access to fare media • Ease of use: transfers, fare media, service • Cleanliness
General Revenue or Cost Changes • Change in cost per hour, per rider, per mile, per trip • Cash handling expenses • Ticket vending costs—printing, distribution, collection • Administrative cost savings	General Perception • Political support • Enhanced inter-agency or regional coordination • More effective use of facilities • Local control • Community benefits—open space, public use lands and amenities
Service Performance • Dwell time changes • Service frequency changes • Percentage of population with access to new service • Deadhead miles/hours changes • Accident/incident/fatality rates • Changes in vehicle utilization (peak-to-base or spare ratio)	Service Performance Perception • Elimination of duplicate service • Simplified route structure • Simplified fare system • Perceived safety • Improved customer service
Other • Changes to property value • Equitable cost-sharing formula	Other • Marketing opportunities

KEY POINT

- For quantitative metrics (such as cost per hour or passenger per hour), data can be found in standard management tools including budgets, expenditure reports, ridership counts, farebox collections, passenger surveys, and other reports. They are usually for a fixed and certain point in time, such as "annual farebox revenue for 2014."
- Qualitative data may be based on observational information from surveys and/or interviews or by assigning industry value to specific elements.

CONCLUSION

- Getting a project started usually requires participation from an oversight board, group or committee. Consensus must be achieved on a specific outcome, and a formal goal-setting process led by a project leader or champion can help make a process successful.
- Any number of decision-making tools can help project leaders facilitate the process and give participants the ability to make informed decisions.
- Considerations for integration planning include the need to establish specific roles and responsibilities; build trust; take incremental steps; and establish appropriate time frames, cost parameters and evaluation procedures.

QUESTIONS FOR CONSIDERATION

- Who might be an appropriate champion for an effort involving your agency?
- What agency already has the trust of stakeholders in the community? Is there historic distrust amongst partners that will need to be addressed?
- Is there an agency that already has a board with representatives from key jurisdictions and/or transit agencies that should be involved?
- Are the desired outcomes of undertaking transit integration well defined? If not, why do you want to undertake a transit integration effort? This exercise is a critical first step to setting goals.
- Is there funding available that could be used to do an initial study?
- Are there any initial collaborative steps that could be taken between agencies in the short term that could be used to build trust toward larger and more substantial integration activities?
- Several of the decision-making tools require technical expertise/staffing. Who can undertake these?

The busways in Pittsburgh, Pennsylvania, provide access to downtown for several transit operators.

MANAGING INTEGRATED TRANSIT PROGRAMS AND SERVICES

Although the process to achieve integration is complex and takes a commitment of time from all participants, several tools help agencies manage ongoing integrated activities. This section reviews those tools that have been beneficial to agencies that have successfully accomplished many aspects of coordination and integration. These include the following:

1. Agreements
2. Committees
3. Technologies
4. Operating procedures
5. Consultants
6. Monitoring and reporting
7. Funding integration costs
8. Evaluation

Agreements

Because the process of integration can occur over a long period of time—from months to decades—it is important early in the process to memorialize the mission and goals the participants have agreed upon. Once an integration effort is planned to be carried forward, a formal agreement can be essential, especially when multi-jurisdictional funding is involved. Agreements can range from MOUs, which document a common line of action but are not necessarily legally enforceable, to more formal interlocal agreements, which are contracts that allow government agencies in the region to share a portion of their budget for mutually beneficial services. Another type of interlocal agreement is a reciprocal agreement, a contract where the parties assist each other in achieving their mutual goals. Nearly all successfully integrated efforts have signed contracts, MOUs or interlocal agreements that specify terms, responsibilities, and outcomes of their efforts.

MORE TMCC

The MORE TMCC project in Central Florida uses reciprocal agreements to develop a web-based scheduling system shared by LYNX, Polk County Transit, United Way of Central Florida, Veterans Administration, and Orange County.

Joint powers authorities (JPAs) are formed through agreements by two or more of the participating agencies to share certain powers that transcend those of the original agencies. A JPA is distinct from its member agencies and has a separate board of directors. A type of JPA is an RPTA.

VALLEY METRO

In Maricopa County, Arizona, Valley Metro is the 16-member RPTA creating a regional transit system by knitting together existing services and infrastructure.

Committees

Having individuals from the various organizations or other stakeholder agencies on standing committees can allow a representative group of people to wrestle with knotty issues that arise on a periodic basis and come up with alternatives to solve the issues without requiring a significant overhaul of the overall integrated service. Committees can also tackle special projects that integrated service efforts may work on from time to time, moving implementation forward by bringing together people with technical skills and knowledge of how each participating agency would be affected, thus providing an ad hoc forum for expanding integration.

NORTHWEST TRANSIT ALLIANCE

The North by Northwest CONNECTOR website includes a "one-stop shop" for schedule and fare information, a regional transit trip planner, and a "track our performance" feature.

Technologies

Image Source: Jason McHuff

Technology cannot by itself effect integration, but it can support and facilitate ongoing integrated service efforts. Scheduling and dispatching software, intelligent transportation systems (ITS), integrated communications systems, GPS tracking—many types of technology are now available to assist in coordinating independent transit systems. Technology can be the tool to move coordination from an idea to an integrated system.

Operating Procedures

Working through the dissimilar business and operational practices of multiple transit agencies collaborating as part of an integrated program or service can be challenging. Setting up operational procedures can help the participants "speak the same language" and develop protocols to be used by participating agencies in terms of collecting revenues, dispatching vehicles, sharing a transit facility, or monitoring a maintenance program. Procedures might be developed by a committee with representatives from participating agencies or could be assigned to a specific staff person or persons to develop on behalf of the integrated program. Procedures should be kept in a central repository or electronic database and be available to all participants.

DALLAS–FORT WORTH TRE COMMUTER RAIL

In the Dallas–Fort Worth area, the three largest agencies established identical fares and procedures for transfers for regional services.

Consultants

Another tool for working through the dissimilar business and operational procedures is the use of consultants. Transit agency staff are often consumed with the duties of their everyday jobs and do not have the additional time to devote to gathering information and presenting options. Consultants can be viewed as neutral, representing the interests of all of the participating agencies, and can sometimes quickly and effectively develop proposals designed to meet the needs of all parties. Even early in the integration planning process, consultants are often used to research the practices of peer agencies and recommend alternative approaches for the participants to consider. Consultants can develop a consolidation plan, including a timeline and an evaluation of governance options. Consultants can also design a request for proposals

TWIN CITIES

Not all consultants add cost to the process: professional resources are also available, such as the American Public Transportation Association (APTA) that advised the Met Council in the Twin Cities about a vehicle replacement schedule for over-the-road coaches.

and negotiate the final elements of a contract with a vendor. By hiring consultants, participants will have extra "staff" resources to help them through the many steps and details of an integration process. Consultants with needed technical skills can also help neutralize the negotiation process.

Monitoring and Reporting

An integrated service operation or facility will require ongoing monitoring and reporting to help sustain trust in the ability of the participating agencies to work together. This involves timely reports to participating agencies on a program's budget, as well as regular reports both to participants and the public on incremental progress in managing the various integration components. Financial considerations and fiscal rigor should be a part of managing any project, especially one that incorporates resources from multiple agencies.

MCALLEN CENTRAL STATION

One of the reasons that the Central Station project in McAllen, Texas, was successful was that the project's costs and benefits were communicated clearly and efficiently to the city's manager and elected officials, earning their ongoing support. McAllen's transit department developed multi-year budgets to track progress toward a longer-term program that also spans political terms of office.

Funding Integration Costs

While cost savings may be the ultimate result of an integrated service or program, even collaborating with other agencies costs time and money. Costs my be reduced if they are shared, but there will likely be existing staff costs for time spent in committees, in refining operating procedures, and in ongoing monitoring and reporting.

There may be legal fees for developing agreements and costs to hire consultants. Technology can require significant investment for the purchase, installation, and maintenance of equipment, and for ongoing training in its use. To cover some of the inevitable costs, several different funding sources were used by the various agencies/efforts that were profiled in this research project:

- Voter-approved sales tax
  - 1. ORCA UNIVERSAL FARE CARD
  - 6. VALLEY METRO
  - 8. MCALLEN CENTRAL STATION
- Property taxes
  - 9. TWIN CITIES
  - 11. CATA/CLINTON TRANSIT/EATON
- Motor vehicle sales tax
  - 9. TWIN CITIES
- State funds/grants
  - 1. ORCA UNIVERSAL FARE CARD
  - 4. BUTTE COUNTY B-LINE
  - 13. LYNX FLEXBUS
  - 14. MORE TMCC
  - 15. ADDISON/RUTLAND COUNTY CONNECTOR
  - 17. RESEARCH TRIANGLE
- Federal funds/grants
  - 1. ORCA UNIVERSAL FARE CARD
  - 3. LINX MOBILITY MANAGEMENT CO-OP
  - 14. MORE TMCC
- Transportation cooperative with pooled funding
  - 3. LINX MOBILITY MANAGEMENT CO-OP
- Membership association dues
  - 19. ATUQ
- Membership assessment on operations
  - 18. CRTM
- Private sector donations
  - 1. ORCA UNIVERSAL FARE CARD

Specific grant programs mentioned in the research:

- Veterans Transportation and Community Living Initiative grant — 14. MORE TMCC
- Iowa Clean Air Attainment Program grant, a reallocation of federal Congestion Mitigation and Air Quality Improvement (CMAQ) Program funds — 10. QUAD CITIES
- Clean Fuels, Michigan state grant — 11. CATA/CLINTON TRANSIT/EATON
- Clean Commute Options, funded by CMAQ Program — 11. CATA/CLINTON TRANSIT/EATON
- U.S. Department of Energy — 2. NORTHWEST TRANSIT ALLIANCE

Funding and fees for integration can also come from efficiencies developed during the process:

- Consolidating back office functions — 6. VALLEY METRO
- Consolidating contracts — 6. VALLEY METRO
- Bringing operations in-house — 8. MCALLEN CENTRAL STATION
- Merging administration — 4. BUTTE COUNTY B-LINE; 6. VALLEY METRO; 17. RESEARCH TRIANGLE
- Fleet procurement and maintenance — 9. TWIN CITIES; 19. ATUQ
- Administrative fees levied for use of Pittsburgh, Pennsylvania, busways — 12. PAAC BUSWAYS
- Fees for counter and bus space — 8. MCALLEN CENTRAL STATION

Many successful transportation programs are operated using an array of different funding sources.

Evaluation

Transportation agencies are often asked whether the benefits of the decisions they make regarding integration or improvement are worth the costs associated with the program or service. One size does not necessarily fit all when analyzing both costs and benefits, especially within a complex integrated environment. However, even when cost is not the most important reason for undertaking an integration effort, measuring the success of a project can help agencies strengthen the public's trust that funds are being used effectively. Examples of evaluation tools include:

- An assessment of the overall goals established at the start of the integration planning effort and the ability of the agencies to achieve those goals through the implementation of the integrated service or program.
- Monitoring of the number of phone calls for service information, the types of questions posed to customer service representatives, behavioral changes in the use of websites, or other trip planning tools.
- Analysis of data reflecting costs, productivity, or other performance indicators before and after the integration effort.
- Surveys, focus groups, or interviews with transit users to determine how effective they believe the integrated effort was.
- Follow-up meetings with key stakeholders (elected officials, partner organizations, and other interested parties) to assess their impressions of the coordinated effort.
- An evaluation of census and/or other regional commuter or transit user data to assess any changes/impacts based on the integrated service or program.

CONCLUSION

- Based on the research findings, several tools are available to help integrated services and programs organize their structure and manage their activities. These include formal coordinating committees or boards.
- Most formalized integration efforts include MOUs, interlocal agreements, JPAs, etc.
- Technologies can be especially valuable for managing services and programs that include participation of multiple transit agencies. Software programs can allow for decentralized scheduling/dispatch. Information from multiple data sources can be combined for operations staff and consumers.

QUESTIONS FOR CONSIDERATION

- Once an integrated effort is up and running, what types of committees or agreements in your region must be modified?
- What types of technologies will be most useful to facilitate integration among the transit operators in your region?
- What funding sources or institutions might be available to jump-start the costs of an integration effort? What types of sources that are currently used might be expanded once an integrated effort is put into place?
- Assume integration is carried forward in your region. What would success look like one year from now? Five years? Ten years or more?
- Does your agency have any effective monitoring procedures or programs that could easily be adapted to assess the effectiveness of a multi-agency or consolidated effort?

3

NEXT STEPS

SUMMARY

Based on the research findings and the unique experiences of agencies that have successfully integrated at least some of their services, no single "right" way exists to integrate transit operations, programs, facilities, or services. Each integration effort is a process, and each process is unique, with players in one region having very different goals and issues—and personalities—than those in another region. Thus, it is important to understand the common characteristics of successful integration efforts, knowing that the unique elements of each region will dictate how an integration process ultimately plays out.

The lessons presented in this Manual confirm a number of experiences from transit agencies that have integrated services or programs. Successful integration examples rely on several key factors.

Commitment

Participating agencies and their representatives need to accept various responsibilities for advancing transit system integration. An agency that only partially or infrequently participates in a collaborative effort becomes an obstacle for the other agencies working together because decisions that affect all partners cannot be confirmed. Success comes from agencies that are committed to the process and are interested in taking on responsibilities to reach common goals.

Perseverance

In very few cases does successful transit integration happen swiftly. Most integration efforts take place over a long period of time—sometimes several years. Ongoing contact though formal committees, meetings with elected officials, and informal communication among staff from participating agencies helps participants persevere because they see even modest achievements building an incremental case for further integration.

Trust

Integration partners must trust one another. Trust can be foiled by a lack of participation, perceptions of past performance, personalities, and inconsistencies in one or more agencies' approaches to providing service, meeting customer needs, or following through on commitments. Building trust by working incrementally on modest-sized projects and then expanding integration activities has proven fruitful for many successful collaborative efforts.

KEY POINT

Each community that undertakes transit system integration must follow a locally developed integration process, based on community needs and characteristics.

Connection

An individual who is familiar with all aspects of a transit operation and may have a historic perspective on why things are done one way or another usually has a personal stake in his or her own operation. Successful integration efforts capitalize on this experience and commitment, by ensuring these individuals, their organizations and their leadership—as well as the community in general—have a role in shaping policies, programs and the "image" of an integrated transit service or program.

Acceptance

Participating agencies and the individuals that represent them are open to change because they see the benefits that can be achieved by working together. Integration depends on participants considering different ways to fund projects, operate services, share revenues, and jointly make decisions.

Creativity

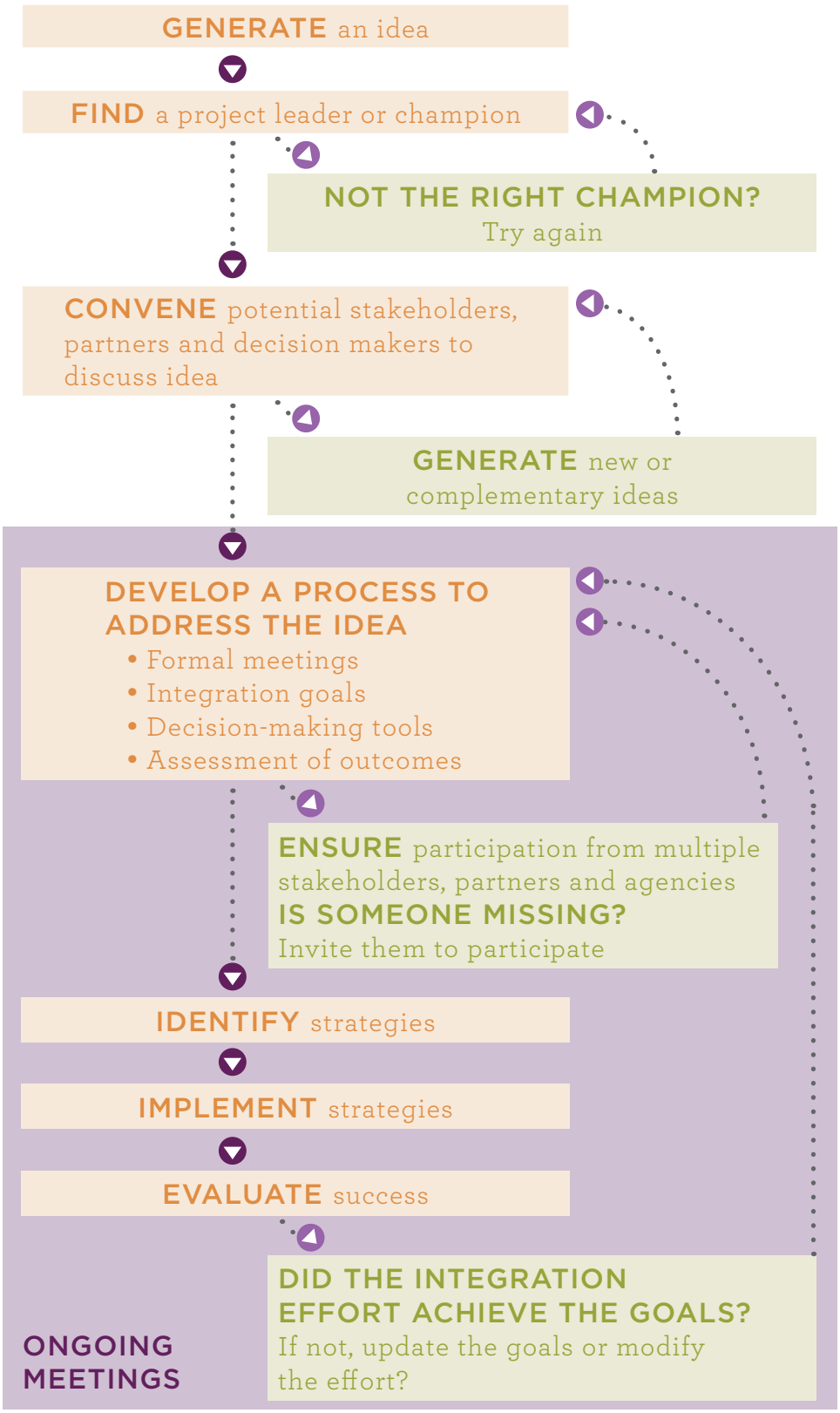
Original thinking fuels successful integration efforts. Integrating services or programs allows participating agencies flexibility to share new ideas and test innovative tools that might be too difficult to do within a single agency. Pioneering mobility management centers, joint marketing campaigns, and resourceful financing efforts have been achieved though integrated planning efforts.

HOW TO GET STARTED

In integration, there are no proprietary ideas. A great idea about a new opportunity is meant to be shared. The more people within and outside an organization who embrace it, build upon it, and promote it, the better the chances are it will come to fruition. Ideas can be generated by staff at a single transit agency or at the regional MPO. Elected officials generate ideas, as do bus drivers, riders, and staff from human service agencies and economic development departments. Some ideas exist only in policy documents or legislation to integrate and regionalize service, waiting for a project leader or champion to encourage discussion about how to implement them.

The graphic on the next page is meant to synthesize the practices of agencies that have successfully integrated services or programs, offering a conceptual approach for moving an idea from one or more individuals or organizations to reality.

Conceptual Process



MEASURING SUCCESS

Success can be defined in so many different ways. For some agencies, simply beginning the process of communicating with other agencies about topics of common interest is a significant achievement. For others, full consolidation might be a goal; anything short of that might be considered a setback. As emphasized in this Manual, establishing realistic goals for the integration process is one of the most vital elements for determining success.

The research shows that it is common for transit agencies to implement significant organizational changes without necessarily revisiting their decisions or the outcomes of the integration process. Once they have initiated the process, it may seem too complicated to go back and make changes or to review goals that are no longer relevant. By its very nature, transit integration is a coming together of agencies to determine a mutually acceptable course of action. Even if a comprehensive assessment of the effort cannot be conducted, agencies often undertake a formal or informal "lessons learned" process where they report back on the integration efforts as a way to highlight the positive impacts and explain how any negative outcomes occurred.

Based on the information collected from the agencies profiled in this Manual, those that have entered into an integration effort have deemed at least some elements of it to be successful, regardless of whether data is available to quantitatively or qualitatively support that success. The information-sharing benefits derived from working with other agencies is often enough for some agencies to claim success.

R

RESOURCES

AGENCY RESOURCE LIST

ORCA Universal Fare Card

King County Metro
ORCA Operations Manager
206-477-5900

Sound Transit
ORCA Regional Program Administrator
206-398-5000, www.orcacard.com

Northwest Transit Alliance

Connector Alliance Chair or Administrator
503-366-0159, www.nworegontransit.org

Linx Mobility Management Co-op

General Manager
877-454-5469, www.linx.coop

Butte County B-Line

Butte County Association of Governments
Executive Director
530-879-2468, www.bcag.org

MTC Transit Sustainability Project

Metropolitan Transportation Commission
Planning
510-817-5700, www.mtc.ca.gov/planning/tsp

Valley Metro

Director of Planning and Development
602-253-5000, www.valleymetro.org

Dallas–Fort Worth TRE Commuter Rail

Dallas Area Rapid Transit (DART)
Planning Director
214-749-3278, www.dart.org

Fort Worth Transportation Authority (The T)
Planning Director
817-215-8600, www.the-t.com

Denton County Transportation Authority (DCTA)
Planning Director
940-243-0077, www.dcta.net

McAllen Central Station

McAllen Metro, Director
(956) 681-3510, www.mcallen.net/metro

Twin Cities

Metro Transit
Director of Service Development; Planning, Operations, Marketing and Finance Staff
612-373-3333, www.metrotransit.org

Metropolitan Council
Management Team
651-602-1000, www.metrocouncil.org

Minnesota Valley Transit Authority
Planning Staff
(952) 882-7500, www.mvta.com

Plymouth Metrolink
Transit Manager
763-509-5052, www.plymouthmn.gov/index.aspx?page=235

Prior Lake
City Manager
952-447-9815, www.cityofpriorlake.com/transit.php

SmartLink Transit
Administrator
952-496-8341, www.smartlinktransit.com

Southwest Transit
CEO and Planning Staff
952-974-3101, www.swtransit.org

Quad Cities

Metrolink General Manager
309-786-2705, www.gogreenmetro.com

CATA/Clinton Transit/Eaton

CATA Assistant Executive Director
517-394-1151, www.cata.org

Pittsburgh (PAAC) Busways

Port Authority of Allegheny County
Manager of Long Range Planning
412-442-2000, www.portauthority.org

LYNX

Senior ITS Manager
407-841-2279, www.golynx.com

Orlando Mobility Management Center/MORE TMCC

Senior ITS Manager
407-841-2279, www.golynx.com

Addison/Rutland County Connector

Marble Valley Regional Transit District
General Manager
802-773-3244, www.thebus.com

Addison County Transit Resources
Executive Director
802-773-3244, www.actr-vt.org

Trenton Transit Center

New Jersey Transit
Chief Planner
973-491-7000, www.njtransit.com

Research Triangle

City of Durham Transportation Director
919- 560-4366, www.gotriangle.org

Consorcio Regional de Transportes de Madrid (CRTM)

Planning and Studies Section (Área de Estudios y Planificación)
(+011) (34) 91 580 42 60, www.crtm.es

Association du Transport Urbain du Québec (ATUQ)

Research Director
514-280-4640, www.atuq.com

PAST STUDIES ON INTEGRATION AND COORDINATION FROM LITERATURE REVIEW

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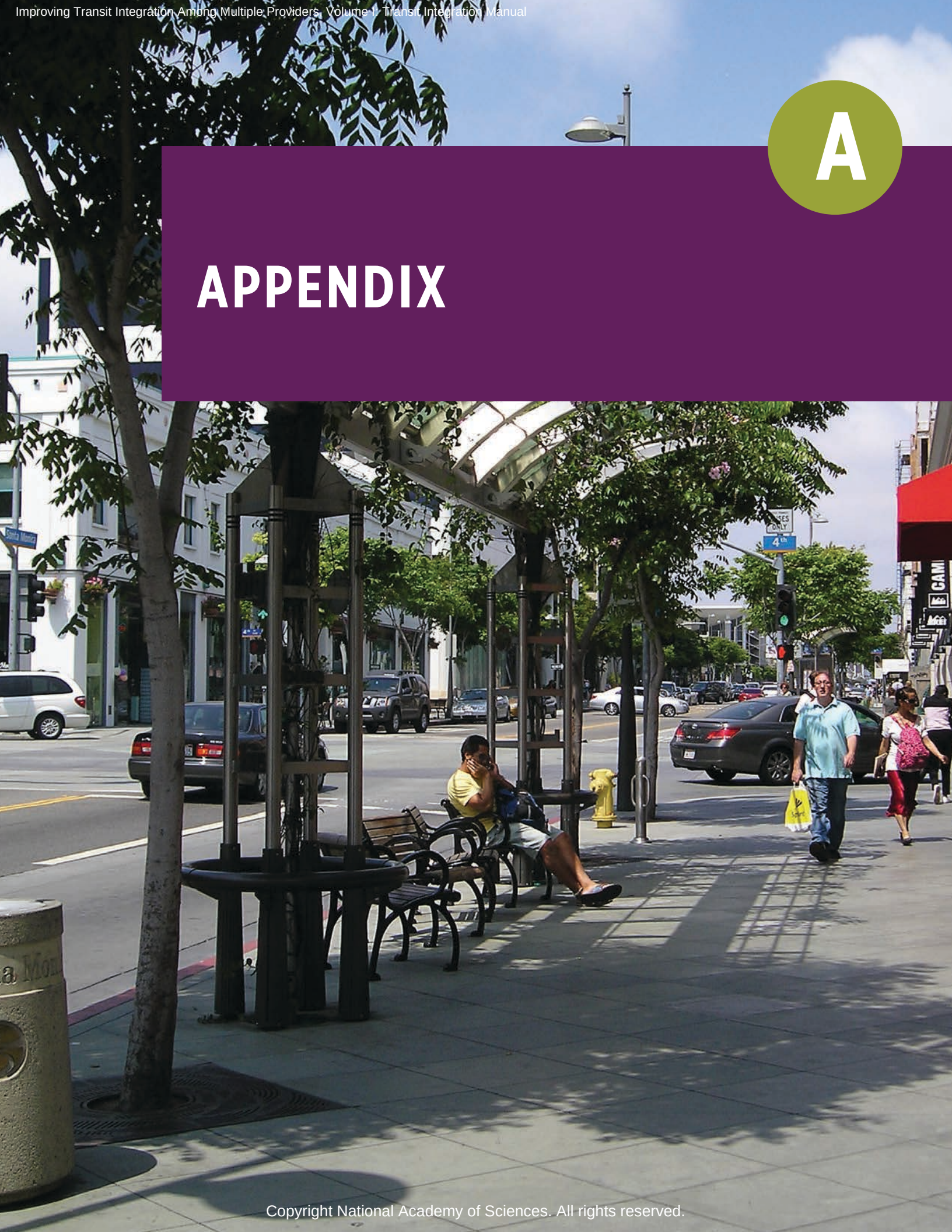

A

APPENDIX

INTEGRATION EXAMPLES

NAME OF INTEGRATION: ORCA Universal Fare Card
TRANSIT AGENCIES: Community Transit, Everett Transit, King County Metro Transit, Kitsap Transit, Pierce Transit, Sound Transit, Washington State Ferries
LOCATION: Puget Sound, Washington

The ORCA card, which stands for "One Regional Card for All," is a contactless smart card that can be utilized for fare payment on seven public transportation providers in the four-county Central Puget Sound region. ORCA is the current iteration of a long history of fare integration efforts in the Central Puget Sound region. The ORCA card allows riders to use one fare medium to take trips on any of the seven providers. Riders can pay a cash fare through their "e-purse" (cash value loaded on the card) and get a free transfer that lasts two hours on any of the six bus services regardless of operator. Riders can also purchase a "Puget Pass" which is a fixed-price monthly pass that allows for unlimited travel on any service except the Washington State ferries. ORCA markets a Business program that allows employers/institutions to purchase ORCA passes and cash value for their employees and clients and a U-PASS program, which provides discounted transit passes to students, faculty and staff at the University of Washington. The process to fully integrate fare payment, from both policy and technology perspectives in a large region with numerous transit agencies, was costly and required significant time, negotiation and resources. However, the resulting ORCA system is universally lauded as a successful program. Most people cannot imagine going back to conditions before the system was implemented.

NAME OF INTEGRATION: Northwest Transit Alliance
TRANSIT AGENCIES: Columbia County Rider, Sunset Empire Transportation District, Tillamook County Transportation District, Benton County Transit, Lincoln County Transit
LOCATION: Columbia, Clatsop, Tillamook, Lincoln, and Benton Counties, Oregon

The Northwest Transit Alliance comprises five transit providers operating and marketed under a single brand that crosses jurisdictional boundaries. The intent of the Alliance was to remove barriers to transit use through better connecting communities and improving coordination of routes, schedules, and fare structures among the five operators. Each of the five agencies retains ownership of all its assets and operation of all its services, but they share resources such as transit stops and improve the convenience and cost effectiveness of regional transit services through coordinated transfers and shared staff resources. Achievements include creation of a nonprofit organization to fundraise for multimodal transportation projects and creation of the North by Northwest CONNECTOR website, www.nworegontransit.org, which includes a "one-stop shop" for schedule and fare information, a regional transit trip planner, and a "track our performance" feature. The Alliance also established three- and seven-day visitor passes and started efforts to install unified branded signage and shelters at major transit stops.

Image source: Jason McHuff

NAME OF INTEGRATION: Linx Mobility Management Co-op
TRANSIT AGENCIES: Public transit, human service transportation, and private carriers
LOCATION: Greater Yellowstone Region—Wyoming, Idaho and Montana

The Yellowstone region is a vast geographic region with sparse population. Linx is a 19-member transportation cooperative that facilitates access by tourists and local travelers to a variety of transportation services, including public transit, human service transportation, and private carriers. The organization functions as a mobility manager; it helps organize access to service through trip planning tools and ticket sales. For its co-op members, Linx provides marketing and ticket sales and helps coordinate routes and transfer locations to maximize the network. Because transit co-ops are fairly unique in the U.S., Linx represents an interesting business model for rural areas.

Image source: tlindenbaum (Flickr)

NAME OF INTEGRATION: Butte County B-Line
TRANSIT AGENCIES: Butte Regional Transit (B-Line), Chico Area Transit (CATS), Oroville Area Transit, Butte County Transit
LOCATION: Butte County, California

Butte Regional Transit, known to the public as B-Line, represents the consolidation of six separate transit operations in a mix of rural communities, fast-growing towns, and one small urban area. In 1999, the Butte County Association of Governments (BCAG) spearheaded a study to explore consolidation opportunities. At the completion of the study, Committee members agreed to consolidate administrative functions, transferring administrative responsibilities from the County and the cities to BCAG. However, due to the complex issue of determining how to share operating costs among participating jurisdictions, the operations remained independent for nearly four years after the completion of the study. In 2004, through a complicated negotiation process, a new formula that considered both population and ridership characteristics was adopted. Today, the primary transit services in Butte County are administered by the BCAG and operate as a single, unified system that provides a mix of fixed-route bus services and paratransit operations.

NAME OF INTEGRATION: MTC Transit Sustainability Project
TRANSIT AGENCIES: Metropolitan Transportation Commission, AC Transit, BART, Caltrain, Golden Gate Transit, Golden Gate Ferry, SamTrans, SF Muni, Santa Clara VTA
LOCATION: San Francisco Bay Area, California

In early 2010, the San Francisco Bay Area's metropolitan planning organization, MTC, began work on its Transit Sustainability Project to address the declining productivity of the seven major Bay Area transit operators over the previous 10 years (FY97-FY08). Its Regional Transportation Plan identified 25-year shortfalls of $17 billion in capital and $8 billion in operating funds. A key component of the TSP is MTC's proposal to condition allocation of future operating and capital funds in FY19 on each transit operator's ability to meet future cost reduction targets. MTC set performance measures and targets and adopted service, paratransit, and institutional recommendations to address future transit sustainability.

NAME OF INTEGRATION: Valley Metro
TRANSIT AGENCY: Valley Metro
LOCATION: Maricopa County, Arizona

The Maricopa County Regional Transportation Planning Authority, branded as Valley Metro, is the regional transit authority for the majority of the Phoenix metro area. Nearly all of the region's most populated cities operate local transit services. The regional services that connect communities are funded and operated separately by Valley Metro. In 2004 voters reauthorized funding for bus and light rail transit improvements, which was a major step forward in creating a regional transit network by restructuring bus service into a grid and by planning for regional light rail. Valley Metro's early successes include a unified regional brand to remove visual distinctions between the services for riders, a joint passenger information system, and unified fares that are set regionally based on mode rather than on who is operating or funding the service. It has a Regional Marketing Committee that manages branding and marketing and a Regional Fare Committee that oversees the fare structure. Valley Metro is updating the Transit Standards and Performance Measures to create more consistencies among operators across the service area.

NAME OF INTEGRATION: Dallas–Fort Worth Trinity Railway Express (TRE) Commuter Rail
TRANSIT AGENCIES: Dallas Area Rapid Transit (DART), Fort Worth Transportation Authority (The T), Denton County Transportation Authority (DCTA)
LOCATION: Dallas, Texas

Dallas Area Rapid Transit and The Fort Worth Transportation Authority each own a 50% stake in the TRE, a 35-mile commuter rail line which provides a one-seat ride linking downtown Dallas, downtown Fort Worth, and eight stops between them. The commuter line also enables access to Dallas/Fort Worth International Airport and is time-competitive with the automobile (especially during peak hours). DART, The T, and DCTA have set identical fares for regional tickets and passes. Each system keeps the revenue generated from regional tickets and passes sold in their respective service areas and no additional revenue redistribution takes place. A jointly owned service provides a viable solution to the dilemma of geographic operating restrictions and political boundaries and spurs further regional cooperation on issues such as fares.

NAME OF INTEGRATION: McAllen Central Station
TRANSIT AGENCY: McAllen Metro (McAllen Express)
LOCATION: McAllen, Texas

Central Station is a multimodal bus terminal located in downtown McAllen, a city located in southeastern Texas, approximately nine miles from the U.S.–Mexico border along the Rio Grande. In the midst of population and economic growth, the City of McAllen passed a local tax initiative in 1995 that supported local public transit services within the city and, as part of the local service, a central bus station. Developing a central station, or hub, was deemed essential to making local transit service effective. Prior to Central Station, almost all of the inter-jurisdictional bus companies operated from independent pick-up and drop-off locations. As a result, bus operations downtown were uncoordinated, with bus traffic on multiple parallel streets; transfers between services were confusing, often entailing walking many blocks; and passenger facilities were minimal and/or unsafe, lacking waiting areas or public restrooms. Central Station was designed as a focal point for local transit service and regional inter-jurisdictional bus operators, including Mexican bus operators. Additionally, both the transit services and the multimodal hub were intended as economic development projects, especially when the decision was made to develop the station in a downtown location rather than by the freeway. The City of McAllen was its primary sponsor but the international bus operators were critical stakeholders because they represented a majority of potential lessees and therefore a fundamental ingredient in the station's financial sustainability. Downtown merchants, property owners and local advocacy groups also played an important role in the project's development and success. Supported by the local tax, transit service started in McAllen in 1997 and McAllen Central Station opened in 2001.

NAME OF INTEGRATION: Twin Cities
TRANSIT AGENCIES: Metro Transit, Southwest Metro Transit, Plymouth MetroLink, Maple Grove Transit, Minnesota Valley Transit Authority, Shakopee Transit, Prior Lake Transit
LOCATION: Minneapolis, St. Paul, Eden Prairie, Plymouth, and Maple Grove, Minnesota

The Minneapolis–Saint Paul region, or Twin Cities, illustrates an array of initiatives and policy direction that encourages—in some instances, mandates—that the region's transit providers work together. The Twin Cities' regional transit network consists primarily of one major transit provider, Metro Transit, which operates the services in and around Minneapolis and Saint Paul, working with six smaller transit providers that serve the region's vast suburbs and provide links to major destinations. For example, along the major Downtown Marquette and 2nd Avenue Corridors, both urban and suburban transit operators coordinate schedules and follow the same operating procedures to serve designated multi-agency stops. Among other coordinated efforts are a regional fare structure, a unified route numbering scheme, a regional vehicle fleet and procurement program, shared operations protocols for transit facilities, and regional performance standards. Metro Transit also operates a Transit Information Center offering trip planning assistance and serving as a transit information clearinghouse. Metro Transit is a division of the Metropolitan Council, which leads long-term regional transit planning, capital initiatives, and the regional funding program. The Metropolitan Council also holds title to all the vehicles purchased in the region in order to streamline fleet management.

NAME OF INTEGRATION: Quad Cities
TRANSIT AGENCIES: Rock Island County Metropolitan Mass Transit District (MetroLINK), Bettendorf Transit (BT), Citibus
LOCATION: Davenport and Bettendorf, Iowa and Rock Island and Moline, Illinois

The Quad Cities area straddles two states, Illinois and Iowa, bordering the Mississippi River. The Tourism Bureau desired an easy way for tourists to visit features of the riverfront area. Three transit agencies created The Loop, a circulator that serves four city downtowns in the two states weekend evenings and Sundays. Staff had tried unsuccessfully to create a universal fare card that could be used on all three systems. When Churches United took up the effort on behalf of its constituents, the result was a monthly QC Passport for $30 with unlimited rides on all three systems.

NAME OF INTEGRATION: CATA/Clinton Transit/Eaton
TRANSIT AGENCIES: Capital Area Transportation Authority (CATA), Clinton Transit, Eaton
LOCATION: Lansing, Michigan

CATA and Clinton Transit have achieved integration by setting up transfer centers at the border of the two counties. Trips into Lansing were 30 miles one way for Clinton Transit. Now Clinton Transit carries its general public riders six miles to the border for a timed transfer to a CATA fixed-route or paratransit bus for the trip into Lansing. Riders from Clinton County are no longer limited to a single destination formerly provided by demand response service into Ingham County. Likewise, Ingham County residents now have convenient service into Clinton County. In addition, CATA wrote a successful clean fuels grant on behalf of the three transit systems for medium-duty hybrid vehicles.

Image source: CATA

NAME OF INTEGRATION: PAAC Busways
TRANSIT AGENCY: Port Authority of Allegheny County
LOCATION: Pittsburgh, Pennsylvania

The PAAC has allowed suburban public transit operators to use its separated fixed-guideway busways from outlying suburbs into downtown Pittsburgh. Vehicles that travel on the busways travel faster and are more reliable. In part because of sharing the busways, non-PAAC transit operators traveling into downtown Pittsburgh converge at Penn Station in downtown Pittsburgh, which has become a de-facto regional transit center. This convergence of service significantly strengthened the regional bus network by making it easier to transfer between systems and facilitate regional travel. Operating on the busways reduces operating costs for transit agencies through fewer service hours and also improves travel times for passengers.

NAME OF INTEGRATION: LYNX FlexBus
TRANSIT AGENCY: Central Florida Regional Transportation Authority (LYNX)
LOCATION: Orlando, Florida

FlexBus will employ technology to serve suburban riders according to user requests in real time rather than a fixed route/schedule. FlexBus will use transit ITS applications to facilitate vehicle location, scheduling, dispatching, routing, trip assignment and manifesting capabilities and to utilize customer user interface devices to allow customers to request service in real time or in advance. The software will find the best possible trip alternative for each customer based on specific service parameters. Customers will board only at designated station locations. Web-enabled mobile devices provide an ideal platform for requesting and paying for service and as a "boarding pass." Ideally customers will embrace the freedom to travel where and when they want rather than on a fixed route/schedule. The FlexBus demonstration goes live for 12 months beginning mid-2015 and will connect to SunRail, LYNX fixed buses, and NeighborLink.

NAME OF INTEGRATION: Model Orlando Regionally Efficient Travel Management Coordination Center (MORE TMCC)
TRANSIT AGENCIES: Central Florida Regional Transportation Authority (LYNX), Polk County Transit, Citrus Connection, six human service agencies
LOCATION: Orlando, Florida

The MORE TMCC demonstration project will allow a scheduling system to coordinate transit services within the region by three public transit providers, six human service agencies, and veterans' services. Each agency will access trip-booking, scheduling and dispatch functions through a common web-based scheduling application. Fares, fare policy, service delivery, and cost sharing will all be coordinated between participating agencies. Customers will access the system through a connection to the regional 211 One-Call, One-Click mobility management system. Although customers may notice different providers service their trips, they will have more options for travel and their on-board times should be reduced. Customers in the region without access to transit may find that they now will have access to transit.

NAME OF INTEGRATION: Addison/Rutland County Connector
TRANSIT AGENCIES: Addison County Transit Resources (ACTR), Marble Valley Regional Transit District (MVRTD)
LOCATION: Middlebury and Rutland, Vermont

In response to the loss of Greyhound service, ACTR and MVRTD jointly operate "The Connector," a daily commuter service between Middlebury and Rutland (distance of about 45 miles) with two morning and two afternoon trips, plus one mid-day trip on Tuesdays and Fridays. Each agency operates one round trip in the morning and afternoon; services meet half-way for mid-day trips. Fares are retained by the route operator. Fare structures are similar enough that most discounted passes are honored by each operator. An outcome of the joint operation was the need for increased coordination of schedules, vehicle layover locations, communication to staff and passengers, marketing materials and development of passenger amenities along corridors.

Image source: Doug Kerr

NAME OF INTEGRATION: Trenton Transit Center
TRANSIT AGENCY: New Jersey Transit
LOCATION: Trenton, New Jersey

The Trenton Transit Center (TTC) is one of the busiest train stations in the U.S. and hosts a diversity of operators and multimodal connections. Amtrak owns the track and NJ Transit owns the site, so the two had a vested interest in the TTC's renovation, which is also spurring transit-oriented development around the train station. The facility serves NJ Transit Rail (Northeast Corridor), local and interregional buses, NJ Transit Light Rail (River Line), Southeastern Pennsylvania Transportation Authority (SEPTA) Regional Rail, and Amtrak (Northeast Corridor). As part of the TTC, NJ Transit also developed the "Capitol Connection," a set of co-branded bus services that link the TTC with downtown Trenton.

Image source: Rob Nguyen

NAME OF INTEGRATION: Research Triangle
TRANSIT AGENCIES: Durham Area Transit Authority (DATA), Capital Area Transit (CAT), Chapel Hill Transit (CHT), C-Tran, Wolfline, Duke University Transit, and Triangle Transit Authority (TTA)
LOCATION: Durham, Raleigh, Chapel Hill, Cary, North Carolina State University, Duke University, North Carolina

Three cities comprise the three points of the Research Triangle, also home to three research universities and a major center for technology and research. Census data from the 2000 Decennial Census showed—for the first time—contiguous metropolitan area boundaries in the Research Triangle. There was also more inter-jurisdictional commuting than had been recorded before. This sparked a new wave of regionalism. Although an initial consolidation effort under a single regional operator failed, a successful contractual merger between DATA and TTA did occur. The mayors of the four largest cities also established the Seamless Public Transportation Service Project, where their staffs accomplished nine transportation coordination projects, which included a regional bus plan, regional paratransit service, joint marketing and procurement, a regional fare program, centralized capital procurements and maintenance, and coordinated safety and security. A regional call center has been one of the most successful efforts, linked to a regional AVL and GPS system with real-time information for customers. Joint maintenance was also tried for five years, where DATA performed maintenance on technical equipment for itself and three other providers until the systems had grown too much to continue the shared maintenance agreements. As an outgrowth of coordination, agencies conduct safety and security training jointly, which includes drills and leadership training.

Image source: Bendertj (Flickr)

NAME OF INTEGRATION: Consorcio Regional de Transportes de Madrid (Madrid Regional Transportation Consortium, or CRTM)

TRANSIT AGENCIES: Urban bus, suburban bus, private bus concessionaires, subway, suburban rail, light rail, trams

LOCATION: Madrid, Spain

In the late 1970s and 1980s, as the population of Madrid grew and spread from the central city to towns and centers on the periphery, the lack of coordination between Madrid's multiple transportation systems became increasingly apparent. The government at the time placed high priority on an integration effort in order to improve the overall quality of life and functionality of the capital. The system needed to improve the user's experience, improve the provision of services, optimize use of resources, and increase public transit use. CRTM was created to manage the physical, administrative and fare structure integration of a diverse regional system including municipal bus, suburban bus, metro, suburban rail, national rail, light rail and tram systems. All the transit operators that form part of CRTM maintain autonomous management of their operations, but cede control over establishment and planning of service. Integration efforts include coordinated planning and design of services and programming of infrastructure investments; creation of universal passes valid for all modes and unlimited rides; standardization of the fare rates/structure by creating a zone-based pricing system; unified branding of bus fleets; and planning and construction of a series of integrated multimodal interchanges to enable smooth, convenient transfers between modes (including bus-only tunnels into interchanges from surrounding highways for suburban commute buses to bypass traffic congestion in the central city). Fare integration was the most important aspect in promoting an integrated network, solidified CRTM's role as the regional coordinating body from the start and represented the core of the CRTM identity and leverage. CRTM's operations are paid for through ~2% of annual operations funding for the entire system.

Image source: Björn Láczay

NAME OF INTEGRATION: Association du Transport Urbain du Québec (Urban Transit Association of Quebec, or ATUQ)
TRANSIT AGENCIES: Nine public transportation organizations in Quebec
LOCATION: Montreal, Quebec, Canada

ATUQ is a membership association of nine bus operators, who pay dues and operate by consensus. It was an outgrowth of transit providers banding together to save money through group purchases of buses, tires and gasoline, with savings now averaging 15%. The organization was formed in 1983 to be a collective voice in promoting transit's issues before the government and the citizens and to provide better service to customers. ATUQ believes its efforts influenced the passage of the Québec Public Transit Policy in 2006, which has increased transit services by 16%; modernized the bus fleets; and funded installation of amenities, such as bus shelters, bike racks, and elevators. Customers benefit from the availability of smart passes that can be used on multiple systems. Persons who hold an OPUS smart card for more than one year are eligible for Maestro status, which allows riders in Montreal and Quebec City to ride free on the other city's system. The association has created service standards for its members through benchmarking, a management tool used to implement corrective actions for improved performance, and brings in experts in the newest technologies to teach member agencies maintenance best practices.

Image source: Alexcaban (Wikimedia Commons)

Abbreviations and acronyms used without definitions in TRB publications:

A4A	Airlines for America
AAAE	American Association of Airport Executives
AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and Transportation Officials
ACI–NA	Airports Council International–North America
ACRP	Airport Cooperative Research Program
ADA	Americans with Disabilities Act
APTA	American Public Transportation Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATA	American Trucking Associations
CTAA	Community Transportation Association of America
CTBSSP	Commercial Truck and Bus Safety Synthesis Program
DHS	Department of Homeland Security
DOE	Department of Energy
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
HMCRP	Hazardous Materials Cooperative Research Program
IEEE	Institute of Electrical and Electronics Engineers
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
MAP-21	Moving Ahead for Progress in the 21st Century Act (2012)
NASA	National Aeronautics and Space Administration
NASAO	National Association of State Aviation Officials
NCFRP	National Cooperative Freight Research Program
NCHRP	National Cooperative Highway Research Program
NHTSA	National Highway Traffic Safety Administration
NTSB	National Transportation Safety Board
PHMSA	Pipeline and Hazardous Materials Safety Administration
RITA	Research and Innovative Technology Administration
SAE	Society of Automotive Engineers
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (2005)
TCRP	Transit Cooperative Research Program
TEA-21	Transportation Equity Act for the 21st Century (1998)
TRB	Transportation Research Board
TSA	Transportation Security Administration
U.S.DOT	United States Department of Transportation