



Final System Requirements

The San Luis Obispo County Travel Management Coordination Center (TMCC) Project

Prepared for:

**Federal Transit Administration (FTA)
United States Department of Transportation**

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LIST OF ABBREVIATIONS

Acronym	Description
AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act (federal law)
API	Application Program Interface
APP	Mobile Application
AVL	Automatic Vehicle Location (satellite navigation)
CAD	Computer Aided Dispatching (FR system)
CalTrans	California Department of Transportation
CASD	Computer Aided Scheduling and Dispatching (DRT system)
CHC	Community Health Centers
ConOps	Concept of Operations
CSR	Customer Service Representative
CTSA	Consolidated Transportation Services Agency (California)
DRT	Demand Response Transportation
FHWA	Federal Highway Administration
FR	Fixed Route
FTA	Federal Transit Administration
GPS	Geographic Positioning Systems
ITS	Intelligent Transportation Systems
IVR	Interactive Voice Recognition
JPO	USDOT's ITS Joint Program Office
MSAA	Mobility Services for All Americans
PMT	TMCC Project Management Team
Ride-On	Ride-On Transportation
RTA	San Luis Obispo Regional Transit Authority
SCT	South County Transit (administered by RTA)
SLO	San Luis Obispo
SLOCOG	San Luis Obispo Council of Governments
TA	Technical Assistance
TMCC	Travel Management Coordination Center
TMCCAC	Travel Management Coordination Center Advisory Committee
TTT	TMCC Technology Tool (TMCC's technology components)
USDOT	United States Department of Transportation
USDHHS	United States Department of Health and Human Services

1 Introduction

1.1 Project Overview

The San Luis Obispo County TMCC

In July 2015, Ride-On Transportation was awarded a Federal Transit Administration (FTA) Mobility Services for All Americans (MSAA) Intelligent Transportation Systems (ITS) research grant to design an interoperable, replicable, and scalable Travel Management Coordination Center (TMCC) for San Luis Obispo (SLO) County, CA. The vision of the community-focused TMCC is “To enhance personal mobility across San Luis Obispo County.” The goals of the TMCC project are to use technology in (1) providing real-time transportation information and trip scheduling choices for the general public (all persons) through (2) the coordination of public and human service Demand Response Transportation (DRT) providers.

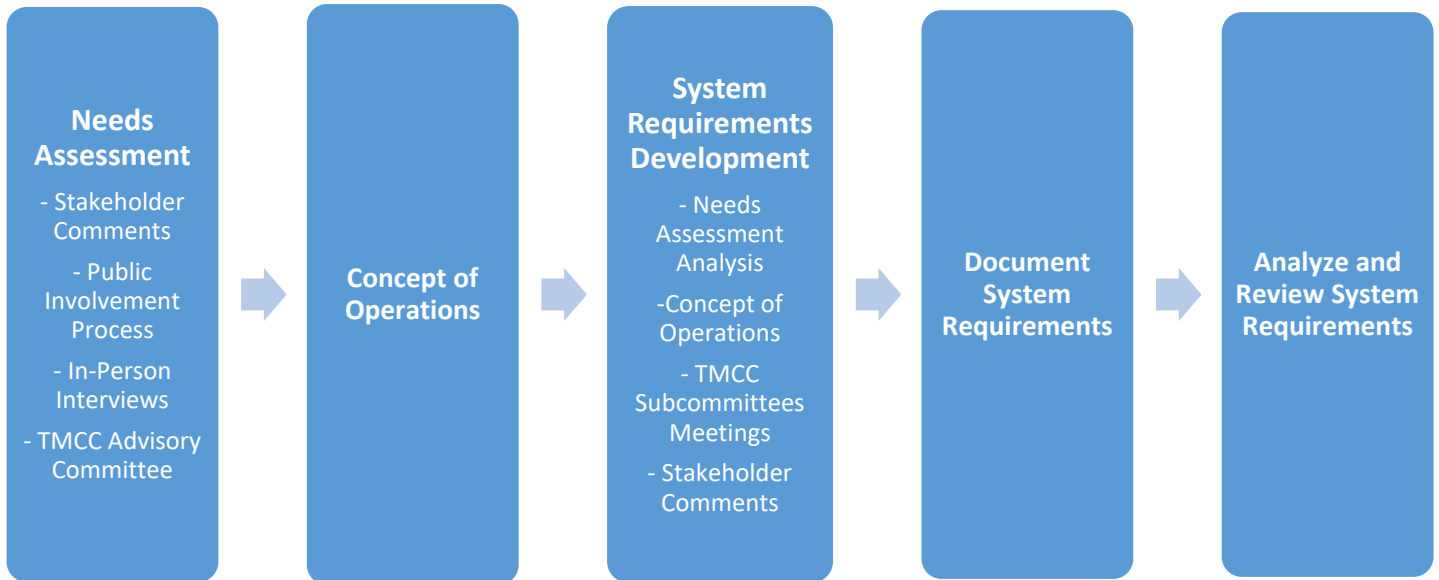
Since its award, the MSAA project has enabled Ride-On, SLO Regional Transit Authority (RTA), SLO Council of Governments (SLOCOG), and other stakeholder partners to leverage the Intelligent Transportation Systems (ITS) Systems Engineering process to further explore coordinating the community’s DRT services while providing real-time information and services to the public.

In this process, Ride-On and local partners have engaged multiple stakeholders seeking to design the TMCC with the community’s interest at heart. This process has included multiple in-person meetings, discussion, shared information, and the creation of written deliverables to document the project, including the project Management Plan and Concept of Operations (ConOps). The preparation of this System Requirements deliverable continues the project’s documentation process by illustrating “what” comprises the TMCC.

1.2 Purpose of Document

This document is written to address the **System Requirements** necessary to design and implement the TMCC’s technology and non-technology elements. The System Requirements are derived from a multifaceted process (illustrated in Figure 1) that commenced with the receipt of stakeholder needs earlier in the project, the creation of the ConOps, development of preliminary system requirements, documentation, and requirements analysis and review for accuracy.

Figure 1. TMCC System Requirements Development Process



Source: Ride-On Transportation/RouteMatch Software

The project's stakeholder needs were obtained during multiple public involvement activities from March through May 2016. Each need was documented, collated, and presented in the ConOps and serve as the basis for each of the following TMCC goals' objectives.

TMCC Goals and Objectives

- **Goal 1: Make available real-time DRT Provider information and services to the public.**
 - Objective: Provide real-time DRT Provider service information to the public.
 - Objective: Provide 90% of all requested demand response trips scheduling through the TMCC.
 - Objective: Provide access to the TMCC through in-person, telephone, website, and mobile Application (APP).

- **Goal 2: Coordinate public and human service DRT.**
 - Objective: Coordinate services between three or more DRT Providers.
 - Objective: Create operational agreements between DRT Providers.
 - Objective: Determine a standard technology interface that could be used to coordinate TMCC scheduling functions.

Development of the System Requirements

In preparation of the System Requirements, each stakeholder need from the ConOps was reviewed, analyzed, and collated into technology and non-technology categories. The technology-related needs formed the basis for the project's electronic DRT Provider Information and Services functional requirements (see Section 3) and framed the initial hypothetical system design, illustrated in Figure 2, Proposed TMCC High Level System Diagram. All other needs became the basis for the project's supporting "non-technology" requirements, such as those categorized as administrative and operating (see Section 4).

In addition, the TMCC's system requirements include other components from the project's ConOps, including scenario elements, summary of impacts, and hypothetical system design. Alternatives to implement the hypothetical system design will be further evaluated and considered in the next phase of this project, High-Level System Design.

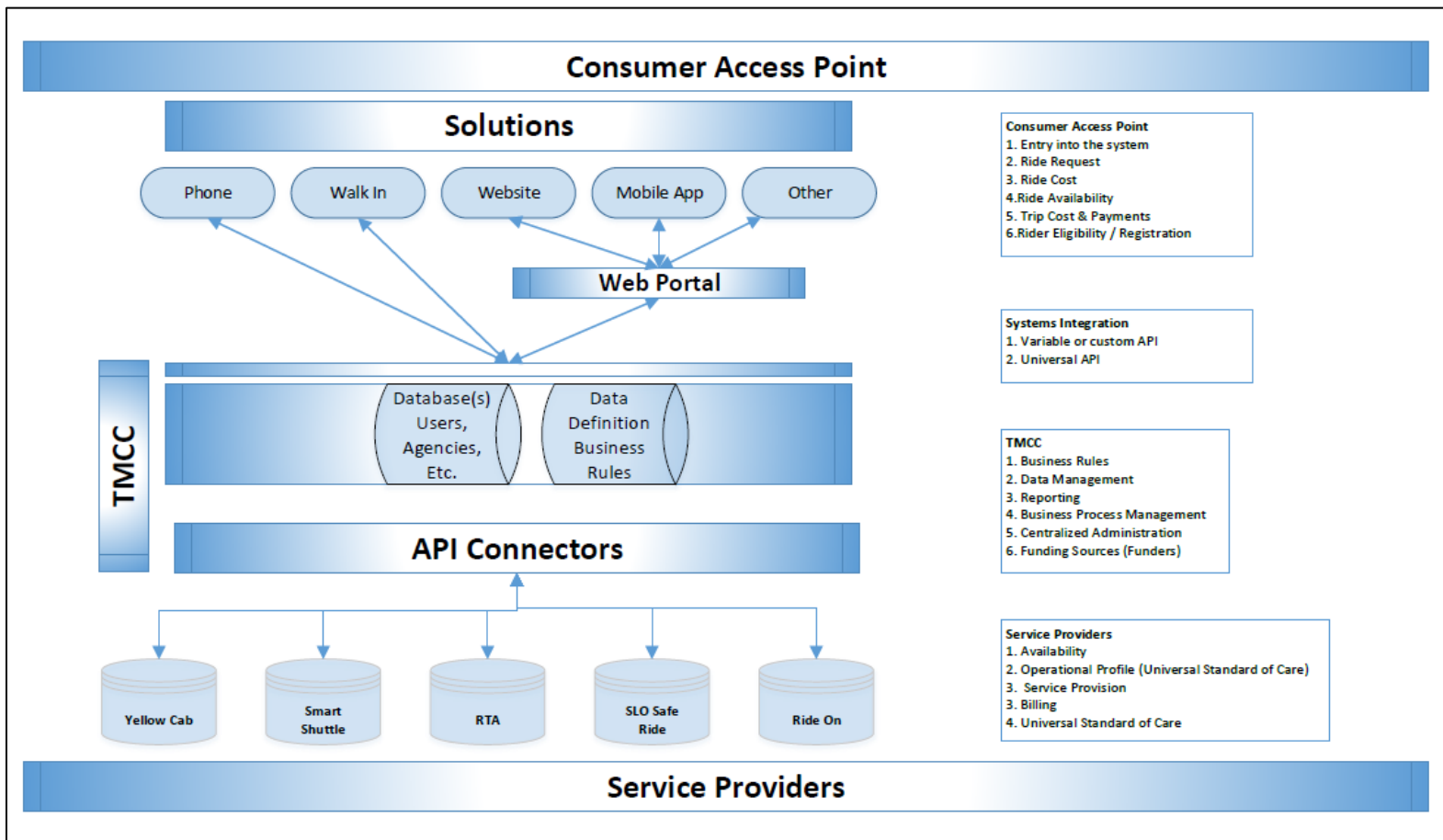
To elicit stakeholder feedback for the System Requirements, the Project Management Team (PMT) developed a draft set of preliminary requirements for review and discussion with stakeholder members of the project's three advisory subcommittees, Provider, Technology, and User, at their meetings on November 2 and 3, 2016. Subcommittee member comments were received through December 2016 and incorporated into a preliminary set of draft System Requirements, which were shared with the FTA and Technical Assistance (TA) team for feedback in December 2016. The initial draft System Requirement Deliverable was created and provided for FTA and TA team comment in February 2017.

Since submission of the draft System Requirements to FTA, the Project Management Team (PMT), TMCC Advisory Committee (TMCCAC), and the subcommittees continued to meet and refine the project's technology requirements. Through this process, the new term of TMCC Technology Tool (TTT) was created to specifically address the project's technology requirements (formerly known as DRT Provider Services) and reduce member confusion. The TTT comprises three portals, including Customer, Staff, and Provider Portals, which will be further addressed in Section 3 of this document.

In addition, to further address the technology or ITS needs associated with the development of the TMCC, this System Requirements document has been prepared to address "what" the technology "system(s)" will do to ensure all TMCC stakeholder needs are met. The Systems Requirement documentation also reviews the system validation process to ensure all technology elements meet stakeholder needs and addresses the critical non-ITS elements that are required to commence the overall TMCC.

As part of this assessment, the Systems Requirement deliverable does *not* address “*how*” the TMCC will operate. A High-Level System Design document will be developed for the TMCC in the next phase of the project to evaluate and communicate “*how*” the TMCC will operate, including technology, business (including a range of start-up and annual operating costs), and user elements, to those agencies that will implement and operate the system. Finally, a phased implementation plan will be completed to illustrate the timeframe for TMCC commencement.

Figure 2. Proposed TMCC High Level System Diagram (Customer Access Perspective)



Courtesy: RouteMatch Software, Ride-On Transportation, and SLO MSAA Project Technology Subcommittee

The following sections are featured in this Systems Requirements deliverable.

- **Section 2.0 - Project Enablers**
- **Section 3.0 - Functional Requirements**
- **Section 4.0 - Non-Functional Requirements**
- **Section 5.0 - System Constraints**
- **Section 6.0 - Traceability Matrix**
- **Section 7.0 - References**
- **Attachments**

2 Project Enablers

The following section provides an overview of enabling aspects that impact the proposed TMCC, including stakeholders, customer access, DRT Provider services, current technology conditions, and project assumptions.

2.1 TMCC Stakeholders

The following are current stakeholders participating in the TMCC project. Each stakeholder holds different roles in the community and are anticipated to participate in the proposed TMCC system in varying capacities based on their level of interest. As illustrated in the ConOps, stakeholder interests may include being an end user (or “customer” of the TMCC), information provider, and service provider of the TMCC.

2.1.1 General Public (customer)

- Individual
- Sponsor (person or organization sponsoring an individual)
- Caretaker (person who serves as caretaker for an individual)

2.1.2 Human Service Agencies and Community Organizations (customer, information provider, service provider)

- Community Health Centers
- CenCal Health (Medi-Cal Program)
- SLO County Department of Social Services (DSS)
- CapSLO
- Tri-Counties Regional Center

- Consolidated Transportation Services Agency (CTSA) supported agencies ([see Attachment B](#)).

2.1.3 DRT Providers (customer, information provider, service provider)

Five public, non-profit, and private demand response transportation organizations operating legally in SLO County have agreed to serve as initial TMCC DRT Partners, including Ride-On, RTA (Runabout, Nipomo Dial-A-Ride, Shandon/Templete Dial-A-Ride, and Paso Express Dial-A-Ride), Atascadero Dial-A-Ride (DAR), Morro Bay Call-A-Ride, SLO Safe Ride, Yellow Taxi, and Smart Shuttle. Table 1 provides an overview of these providers' services.

2.1.4 Fixed Route Transit Providers (customer, information provider, service provider)

- RTA
- City of San Luis Obispo Transit (SLO Transit)
- City of Morro Bay Transit
- South County Transit - SCT (administered by RTA)
- Paso Express (directly operated by RTA)

2.1.5 Transportation Information Resource Providers (customer and information provider)

- San Luis Obispo (SLO) Regional Rideshare/511
- 211 – United Way of San Luis Obispo

2.1.6 Transportation Funding Partners (customer and information provider)

- San Luis Obispo Council of Governments (SLOCOG)
- United States Department of Transportation:
 - Federal Transit Administration (FTA), and MSA Technical Assistance (TA) Team
 - Federal Highway Administration (FHWA) – California Division
- California State Government:
 - California State Transportation Agency:
 - California Department of Transportation (CalTrans)
 - California Health and Human Services Agency
 - Affiliated departments

2.2 Stakeholder Access to DRT Provider Information and Services

Currently, stakeholders have access to DRT Provider information and services through multiple technology resources such as direct contact (telephone and in-person), individual agency websites (including trip booking web forms), 511, 211, Regional Rideshare’s “Know How to Go SLO!” resource guide, and mobile applications (RTA, SCT, SLO Safe Ride, and SLO Transit). A detailed listing for each DRT Provider is available in the ConOps.

2.3 DRT Provider Services

Critical to the success of the TMCC are SLO County’s DRT Providers. Table 1 provides an overview of services provided by the legally operating public, private, and non-profit DRT Providers in SLO County.

Table 1. DRT Provider Agencies - Overview

DRT Provider	Service Description
Ride-On Transportation	Leading the MSAA TMCC project and member of the Project Management Team (PMT), Ride-On provides coordinated door-to-door paratransit transportation services for human service, Medicaid, contract, Veteran’s Shuttle, and senior citizen demand response services. Ride-On provides services 24 hours/day, 7 days/week, with advanced reservations in SLO County and Santa Maria with 60 vehicles. The Ride-On call center is available Monday-Friday, 6:30 am – 5:30 pm, for transportation information and services. Customers may also request trips on the Ride-On website. Ride-On also provides telephone-based Spanish-language translation services for their customers. For public/contracted trips, Ride-On accepts cash and major credit cards (Visa, Master Card, American Express, and Discover Card) for payment. (www.ride-on.org)
RTA (Runabout, Nipomo DAR, Shandon/Templeton DAR, Paso DAR)	As FTA MSAA grant recipient and member of the PMT, RTA provides public fixed route and Runabout ADA complementary door-to-door paratransit services in SLO County. Runabout service is available 7 days/week consistent with fixed route service hours for ADA complementary paratransit-eligible customers. RTA’s demand response call center is available 7 days/week, 8:00 am – 5:00 pm, for transportation information and services. Customers may also view RTA information and services on their web-enabled APP (RTA and SCT fixed route services only). RTA also provides telephone-based Spanish-language translation services for their customers and the SLO Council of Government’s (SLOCOG) Regional Rideshare 511 system. RTA only accepts cash fare for payment and does not accept credit cards at this time. Demand response riders can also buy multi-ride punch passes using personal checks. (http://www.slorta.org/)

DRT Provider	Service Description
SLO Safe Ride	Open to the general public, SLO Safe Ride provides on-call and scheduled demand response transportation services for community and special events. SLO Safe Ride provides curb-to-curb and door-to-door services 24 hours/day, 7 days/week in SLO County and across the state. The SLO Safe Ride call center is available 7 days/week, 10:00 am – 3:00 am, for transportation services. Customers may also schedule trips on the SLO Safe Ride app. SLO safe Ride accepts cash and major credit cards (Visa, Master Card, American Express, and Discover Card) for payment. (https://slosaferide.com/)
Yellow Cab	Open to the general public, Yellow Cab provides 24/7 on-call demand response taxi services in San Luis Obispo County and Santa Maria. Yellow Cab provides curb-to-curb and door-to-door services 24 hours/day, 7 days/week, and the call center/dispatch is open the same hours. Yellow Cab will be acquiring six accessible minivans in early 2017. Yellow Cab is in development of an app to accept customer trip requests. Yellow Cab accepts cash and major credit cards (Visa, Master Card, American Express, and Discover Card) for payment. (http://www.sloyellowcab.com/)
Smart Shuttle	Open to the general public, Smart Shuttle provides curb-to-curb and door-to-door scheduled demand response transportation services to local and out-of-region airports along with special event and town car services in San Luis Obispo and Santa Barbara Counties. Smart Shuttle provides services 24 hours/day, 7 days/week, and the call center is open the same hours. Smart Shuttle is in development of an app to accept customer trip requests. Smart Shuttle accepts cash and major credit cards (Visa, Master Card, American Express, and Discover Card) for payment. (http://www.smartshuttle805.com/)
City of Morro Bay Call-A-Ride	The City of Morro Bay provides Call-A-Ride (DRT), curb-to-curb, flexed fixed route transportation services for its residents up to ¾ mile. Call-A-Ride operates Monday through Saturday and the call center is open from 8:00 am – 10:00 am, Monday through Friday. (http://www.morro-bay.ca.us/293/Transit)
Atascadero Dial-A-Ride	The City of Atascadero provides door-to-door Dial-A-Ride DRT services for its residents. Dial-A-Ride and its call center operates Monday through Friday from 7:30 am – 3:30 pm. (http://www.atascadero.org/index.php?option=com_content&view=article&id=633&Itemid=1536)

2.4 Current Technology Conditions

2.4.1 DRT Provider Technology

The DRT Providers currently use different types of technology to manage their organization’s daily operations and provide a high level of customer service. The following section provides a brief overview of the current DRT Provider Intelligent Transportation Systems (ITS) technologies.

- **Ride-On.** Utilizes RouteMatch Software’s Demand™ and mobile data tablet technologies to manage its customer information and

demand response trip requests, maximize driver and vehicle utilization, manage funding sources, monitor daily operations, and compile reports and billing invoices. RouteMatch automatically interacts with the mobile tablet for resource and customer management services utilizing mobile data service and GPS. Ride-On also utilizes RouteMatch's Notification Module outbound Interactive Voice Recognition (IVR) system to telephone the customer with automated next day and vehicle arrival information. Ride-On also features a Voice Over Internet Protocol (VOIP) telephone system that enables both internal and external call transfer.

- **RTA Runabout.** Utilizes RouteMatch Software's Demand™ and mobile data tablet technologies to manage its customer information and demand response trip requests, maximize driver and vehicle utilization, manage funding sources, monitor daily operations, and compile reports and billing invoices. RouteMatch automatically interacts with the mobile tablet for resource and customer management services utilizing mobile data service and GPS. Runabout also utilizes RouteMatch's Notification Module outbound IVR system to telephone the customer with automated next day and vehicle arrival information.
- **SLO Safe Ride.** Utilizes ShiftPlanning^R software to manage driver resources and customer trip scheduling. SLO Safe Rides provides iPhones to all drivers utilizing mobile services for GPS, directions, and trip information.
- **Yellow Cab.** Utilizes IT Curves software to manage driver resources and customer trip scheduling. Yellow Cab provides tablets to all drivers utilizing mobile services for GPS, directions and trip information.
- **Smart Shuttle.** Utilizes IT Curves and Limo Anywhere software to manage driver resources and customer trip scheduling. Smart Shuttle provides tablets to all drivers utilizing mobile services for GPS, directions, and trip information.
- **Morro Bay Call-A-Ride.** Does not utilize ITS for the provision of its services.
- **Atascadero Dial-A-Ride.** Utilizes Mobilitat Software to manage customer trip scheduling. Does not utilize any in-vehicle mobile technology for the provision of its services. Drivers contact the call center for customer trip pick-up information.

2.4.2 DRT Providers – Existing Technology Interfaces

Today, the proposed TMCC's DRT Providers do not have existing technology interfaces between systems. To facilitate today's inter-agency transportation coordination and customer service needs (i.e. trip sharing), partner staff contact one another by telephone for any service-related assistance opportunities. For fixed route services and information, 511, SLO Transit, and RTA/SCT websites provide fixed route trip planning services for the community.

2.4.3 Transportation Information Resource Provider – Technology

- **511 - SLOCOG Regional Rideshare**

SLO Regional Rideshare is the official Mobility Management Agency for San Luis Obispo County and provides transportation information and referral to individuals through their 511 online and telephone services. SLO Regional Rideshare supports commuter, employer, student, and senior transportation options. SLO Regional Rideshare also coordinates carpool and vanpool options throughout the county. Through its website, Regional Rideshare facilitates access to the community's transportation resources through the "[Know How to Go SLO!](#)" resource guide, provides access to carpool connections, park and ride lots, and a regional trip planner featuring multiple transportation options and modes. The 511 telephone service provides automated regional transportation information and access to live bilingual (English/Spanish) customer service representative (CSR) through RTA. (<https://rideshare.org/>)

- **211 – United Way of San Luis Obispo County**

The United Way of SLO County serves as host for the 211 online and telephone information and referral services. 211 provides transportation, human service, and other community resource information through a search feature on its website and access by telephone to a live bilingual (English/Spanish) CSR 24 hours/day. (<https://www.unitedwayslo.org/search-2-1-1-slo-county>)

2.5 TMCC Project Assumptions

The SLO County MSAA TMCC project system requirements are based on the following assumptions.

2.5.1 TMCC Information

- A current stakeholder, such as 511/SLOCOG or DRT Provider, will serve as the project's information resource.

- The TMCC information host will provide online and telephone (including live CSR) access.
- TMCC information may be made available through linked participating stakeholder websites.

2.5.2 TMCC Provider Services - TTT

- The TMCC can operate in a centralized and decentralized manner.
- A current stakeholder shall serve as TMCC lead agency and administrator.
- Two or more DRT Providers will provide TMCC services.
- DRT Providers will manage and keep current their CASD technologies and GPS-enabled mobile devices.
- DRT Provider CASD technology will remain compatible with TTT requirements.
- For service accuracy, the TTT system is dependent on real-time (i.e. 30 seconds) DRT Provider vehicle location information.
- DRT Providers will institute inter-agency agreements along with policies and procedures as referenced in Section 4.

3 TMCC Functional Requirements

The Functional Requirements section focuses on the TMCC's technology-related components. The following Functional Requirements address the system's high-level functionality, customer access, input and output, electronic interfaces, and data management and reporting requirements.

3.1 High-Level Functionality

The following are the TMCC's primary high-level functionality associated with its information and TTT services.

- 3.1.1 The project team defines customers as all general public "individuals" that use the system (see Section 2.1).
- 3.1.2 The system shall provide customers with DRT Provider and transit information.
- 3.1.3 The system shall provide DRT Provider services through the TTT.
- 3.1.4 The TTT shall comprise the Customer, Staff, and Provider Portals.

- 3.1.5 The TTT Customer and Staff Portals shall provide services, including:
 - 3.1.5.1 Customer Entrance.
 - 3.1.5.2 Trip Reservations and Scheduling.
 - 3.1.5.3 Trip Management.
 - 3.1.5.4 Fare Management.
- 3.1.6 The TTT Provider Portal shall provide DRT Providers with services, including:
 - 3.1.6.1 Access to customer trip schedules.
 - 3.1.6.2 Schedule and manage customer trips.
 - 3.1.6.3 Manage day of customer trips.
 - 3.1.6.4 Electronic communication with other Providers
 - 3.1.6.5 Inter-agency trip coordination.
- 3.1.7 The system shall provide secure access to TTT Portals based on stakeholder level, including (see Figure 3 for illustration):
 - 3.1.7.1 Customer Portal: Individual
 - 3.1.7.2 Staff Portal: Prior-approved Caretakers, Sponsors, Human Service Agencies, and Community Organizations.
 - 3.1.7.3 Provider Portal: Prior-approved DRT Providers.
- 3.1.8 The system shall provide secure access to all customer information.

3.2 Customer Access

- 3.2.1 The system shall provide customer access through in-person, telephone, website, and mobile application (APP) interfaces.
- 3.2.2 The system shall have a single website Uniform Resource Locator (URL). (Internet World Wide Web <www> address)
- 3.2.3 The system shall be accessible by smartphone and mobile phone.
- 3.2.4 The system shall also enable support staff, including DRT Providers, with direct electronic access to the TMCC through internet website and mobile APP (staff portals), to support in-person and telephone customer service.

3.3 System Input Requirements

Figure 4 provides a high-level illustration of the TMCC's functional input and output process accessible through the four customer access methods. Figure 5 illustrates the TTT Portals relationship to the functional input and output process.

Figure 3. TTT Portals – Stakeholder Access

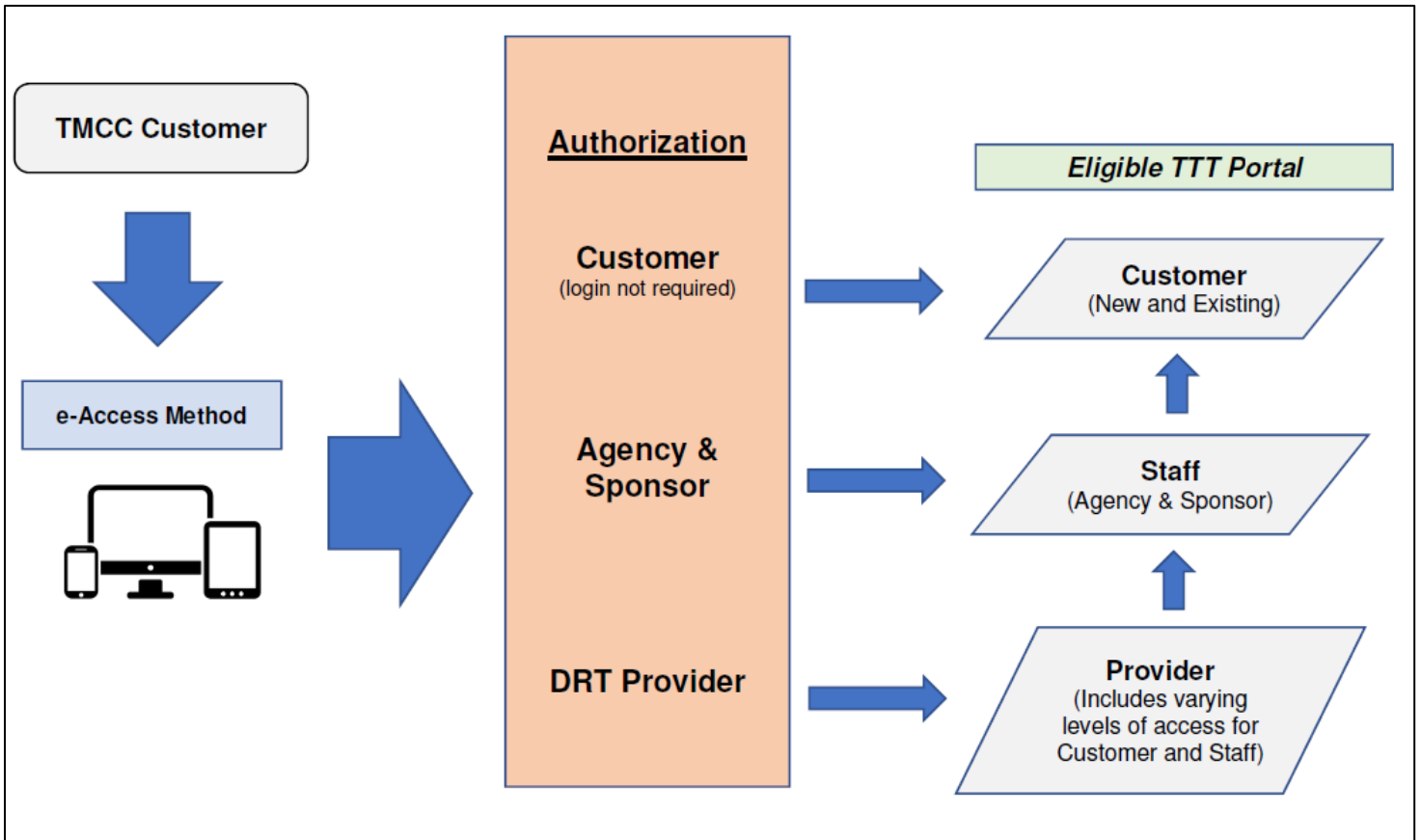
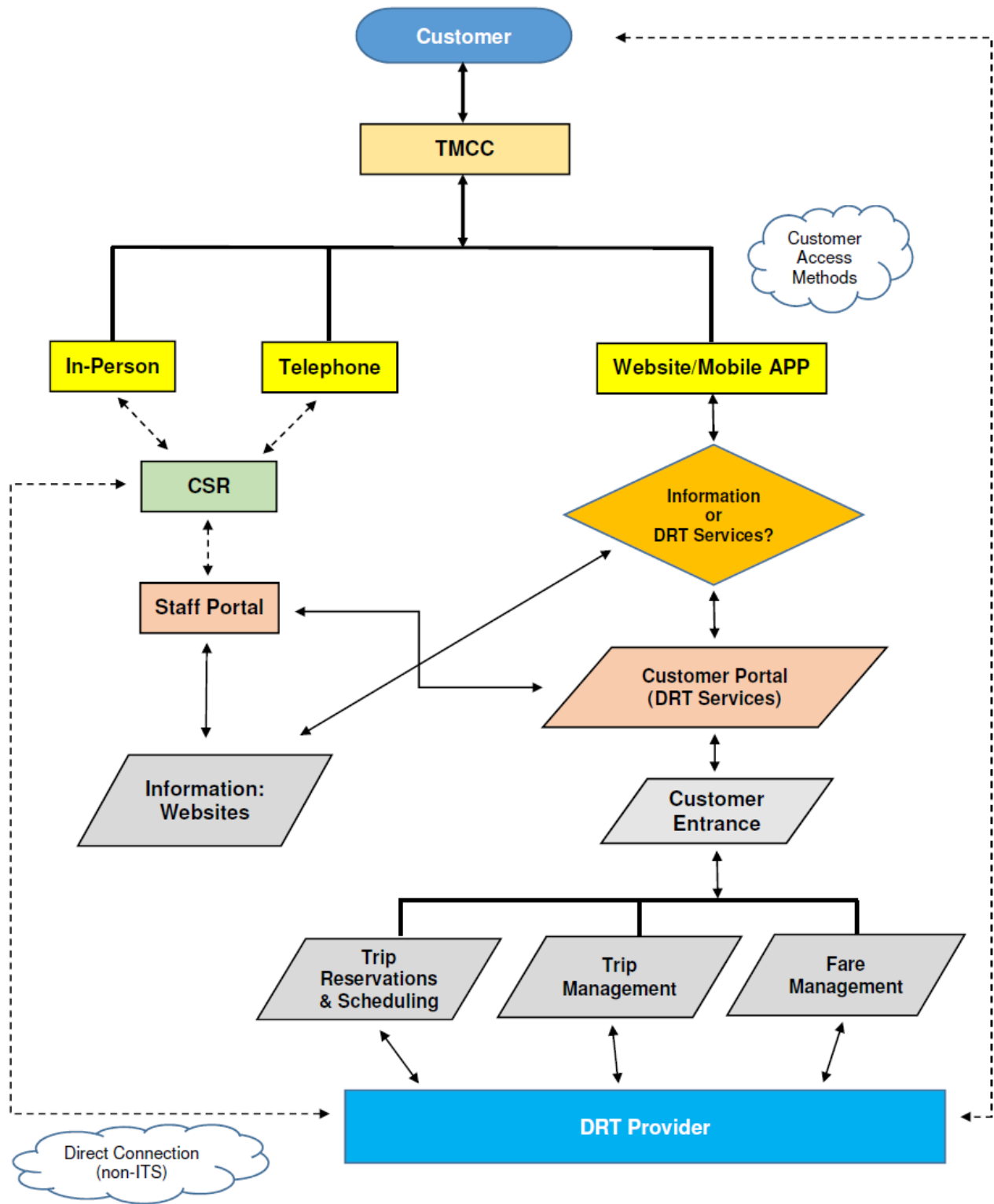
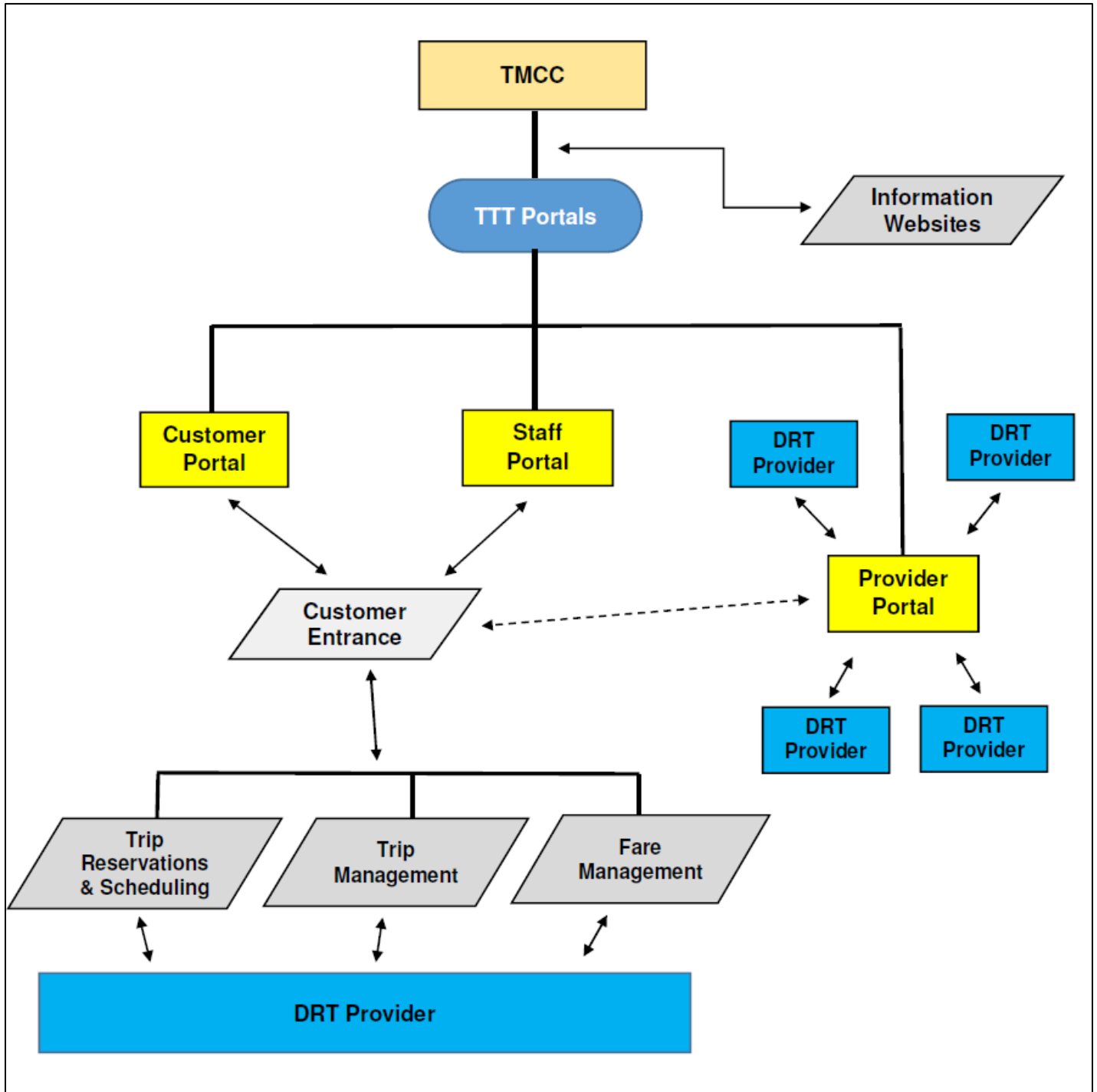


Figure 4. TMCC System Requirements – Functional Input/Output Process



Courtesy: RouteMatch Software, Ride-On Transportation

Figure 5. TTT Portals' Relationship to Functional Input/Outputs



Courtesy: RouteMatch Software, Ride-On Transportation

Information

- 3.3.1 The system shall provide links to the following **Information** websites.
 - 3.3.1.1 Demand Response Transportation (DRT) Provider overview, Internet URL links, telephone links, and contact information.
 - 3.3.1.2 Fixed Route Transportation provider agency overview, Internet URL links, and contact information.
 - 3.3.1.3 Human service agency overview, URL links, and contact information.
 - 3.3.1.4 Other transportation and mobility agency overviews, URL links, and contact information.
 - 3.3.1.5 “What’s new” DRT Provider or other transportation information.
 - 3.3.1.6 Safety & security information, such as emergency response notifications, data security protection statement, and terms of use.
 - 3.3.1.7 511 for traveler information and 211 for human service information.
 - 3.3.1.8 The system shall provide a URL to assist customers with multimodal transportation options.

TMCC Technology Tool (TTT)

Customer Portal

3.3.2 Customer Entrance

- 3.3.2.1 The system shall provide a new customer (not registered) the option of skipping the account registration process until required.
- 3.3.2.2 The system shall provide customer access through website and mobile application (APP) interfaces.
- 3.3.2.3 The system shall provide staff access portal capability for telephone and in-person customer interfaces to assist customers without access to technology.
- 3.3.2.4 The system shall provide a new customer using the website or mobile APP with the following secure access features.
 - 3.3.2.4.1 Create a new account.
 - 3.3.2.4.2 Create a user name and password.
 - 3.3.2.4.3 Auto-create a unique customer ID.

- 3.3.2.4.4 Create a new customer account profile including name, address, user name, password, primary telephone number, mobile phone number, alternate contact name, alternate contact telephone number, emergency contact name, emergency contact telephone number, date of birth (XX/XX/XXXX), gender (male/female), veteran status (Yes or No), create security question with text box, mobility assistance needs – pull down menu (wheelchair, walker, scooter, attendant, do not leave alone, “other” with open text box), eligibility status – pull down menu (ADA, veteran, “other” with open text box), trip confirmation communication preference (e-mail address, text), a “Special Requests” with open text box, and payment method for each DRT Provider.
- 3.3.2.4.5 Manage profile preferences and confirm eligibility for services.
- 3.3.2.4.6 Request information from DRT Provider regarding program eligibility.
- 3.3.2.5 The system shall provide an existing customer (registered) using the website or mobile APP with the following secure access features:
 - 3.3.2.5.1 The system shall provide secure account access through the following methods.
 - 3.3.2.5.1.1 Profile login.
 - 3.3.2.5.1.1.1 Utilize currently available login technology with ID, password, and forgotten password.
 - 3.3.2.5.1.1.2 Provide forgotten password restoration options for login and password identification.
 - 3.3.2.5.1.1.3 Require security question and response.
 - 3.3.2.5.1.2 Manage profile and preferences.
 - 3.3.2.5.1.3 Determine DRT Provider program eligibility.
 - 3.3.2.5.1.4 Schedule new trip reservations.
 - 3.3.2.5.1.5 Manage existing trip reservations.
 - 3.3.2.5.1.6 Seek ride arrival status.
 - 3.3.2.5.1.7 Manage fares and payment for services.

3.3.3 Trip Reservations and Scheduling

- 3.3.3.1 The system shall provide the following **Trip Reservations and Scheduling** services.
 - 3.3.3.1.1 Identify new or existing customer eligibility to be verified by the DRT Provider.
 - 3.3.3.1.2 The DRT Provider will confirm and document the customer's eligibility in the customer's profile.
 - 3.3.3.1.3 New or existing customer may conduct trip search without logging into the TTT.
 - 3.3.3.1.4 New or existing customer trips may only be requested for eligible services.
 - 3.3.3.1.5 New or existing customer may request a trip by directly contacting the DRT Provider.
 - 3.3.3.1.6 The system shall allow the new or existing customer to enter date, pick-up origin, drop-off location, special services required (check boxes for senior citizen – age 65 or older, veteran), and number of passengers.
 - 3.3.3.1.7 The system shall require Runabout customers to verify ADA eligibility in existing customer profile.
 - 3.3.3.1.8 The system shall prompt an error message if customers seek to schedule a Runabout trip less than one day or greater than seven days in advance.
 - 3.3.3.1.9 Provide URL links to each DRT Provider's policies for rider conduct (i.e. assisting with shopping bags, door-to-door vs. door-to-door services, etc.).
 - 3.3.3.1.10 Utilize existing customer profile information for prior selected trips to "auto-fill" the trip request information.
 - 3.3.3.1.11 Allow the existing customer to insert their five most frequently traveled origins and destinations into their profile.
 - 3.3.3.1.12 Allow new or existing customer to be recognized by GPS-location for trip origination.
 - 3.3.3.1.13 Recognize landmark destination names.
 - 3.3.3.1.14 New or existing customer capability to enter one or multiple trip requests.
 - 3.3.3.1.15 Provide lift-equipped vehicle availability and type options when scheduling a trip.

- 3.3.3.1.16 New or existing customers to identify a personal care attendant necessary for the trip, identify possible guests, identify potential service animals and calculate their cost prior to requesting a trip.
- 3.3.3.1.17 New or existing customer capability to search one or more trip requests by date and time of service.
- 3.3.3.1.18 The system shall require the new customer to create a new account or existing customer to login to request the chosen trip.
- 3.3.3.1.19 New or existing customer may request day of service or same day trips (same day trips are not available for Runabout).
- 3.3.3.1.20 New or existing customers can request trips at least 14 days in advance (7 days for Runabout, other DRT Providers may require less days).
- 3.3.3.1.21 Provide an alert feature for duplicate trip requests.
- 3.3.3.1.22 Submit existing customer trip requests to DRT Providers. New customers must register prior to requesting their chosen trip.
- 3.3.3.1.23 The system shall allow the TMCC administrator to select the active DRT Provider telephone links for customers to reach a live CSR.

3.3.4 Trip Management

- 3.3.4.1 The system shall provide the following **Trip Management** services.
 - 3.3.4.1.1 The system shall require existing customer user authentication.
 - 3.3.4.1.2 The system shall require a Customer Code to change any scheduled trips.
 - 3.3.4.1.3 The system shall enable the modification, cancellation, and reservations retrieval of a confirmed existing customer trip.
 - 3.3.4.1.4 Allow the existing customer to check ride status for trips that were not requested through the TMCC.
 - 3.3.4.1.5 The system shall provide options for the customer to select the following day of service information for a scheduled ride.
 - 3.3.4.1.5.1 Scheduled pick-up and return pick-up times.
 - 3.3.4.1.5.2 Current vehicle spatial location on map.
 - 3.3.4.1.5.3 Actual vehicle arrival time notification.

- 3.3.4.1.5.4 Trip duration in distance and time.
- 3.3.4.1.5.5 Trip provider contact information.
- 3.3.4.1.5.6 Vehicle arrival update alerts by e-mail or text.

3.3.5 Fare Management

- 3.3.5.1 The system shall provide existing customers with the following Fare Management services.
 - 3.3.5.1.1 The system shall provide the following secure account management services.
 - 3.3.5.1.1.1 Account access.
 - 3.3.5.1.1.2 Account balance review.
 - 3.3.5.1.1.3 Account balance modification by staff or individual.
 - 3.3.5.1.1.4 Account balance prepayment.
 - 3.3.5.1.1.5 Review trip fares paid.
 - 3.3.5.1.2 The system shall allow DRT Provider staff access to renew existing customer fare media and payment accounts.
 - 3.3.5.1.3 The system shall permit the DRT Provider, customer, and sponsor to use a debit or credit card or PayPal to renew fare media.
- 3.3.5.2 The system shall permit the customer to pay DRT provider directly.
- 3.3.5.3 The system shall accept and track the payment by cash.
- 3.3.5.4 The system shall be capable of interfacing with any DRT Provider or human service agency fare technology.
- 3.3.5.5 The system shall be scalable to manage multiple fare structures for all DRT Providers.

Staff Portal

- 3.3.6 The system shall provide the following **Staff Portal** information and services.
 - 3.3.6.1 The system shall be accessible by authorized stakeholder staff from website and mobile APP.
 - 3.3.6.2 The system shall require staff login and password identification.
 - 3.3.6.3 The system shall record and date stamp any transactions or modifications performed by authorized staff.

- 3.3.6.4 The system shall record registration information for new customers entered by authorized staff (excluding those customers already served by a DRT Provider program, such as approved Runabout ADA paratransit riders) through the following secure services:
 - 3.3.6.4.1 Create a new account.
 - 3.3.6.4.2 User name and temporary password creation.
 - 3.3.6.4.3 Auto-create a unique customer ID.
 - 3.3.6.4.4 Assist customer to create a new customer account profile including name, address, user name, password, primary telephone number, mobile phone number, alternate contact name, alternate contact telephone number, emergency contact name, emergency contact telephone number, date of birth (XX/XX/XXXX), gender (male/female), veteran status (Yes or No), create security question with text box, mobility assistance needs – pull down menu (wheelchair, walker, scooter, attendant, do not leave alone, “other” with open text box), eligibility status – pull down menu (ADA, veteran, “other” with open text box), trip confirmation communication preference (e-mail address, text), a “Special Requests” with open text box, and payment method for each DRT Provider.
 - 3.3.6.4.5 Manage profile preferences and confirm eligibility for services.
 - 3.3.6.4.6 Request information from DRT Provider regarding program eligibility.
- 3.3.6.5 The system shall provide authorized staff with links to **Information** websites listed in Section 3.3.1.
- 3.3.6.6 The system shall provide the following **Trip Reservations and Scheduling** services.
 - 3.3.6.6.1 Allow staff to search and view an existing customer’s name and profile information.
 - 3.3.6.6.2 Provide trip scheduling, modification, cancellation, and reservations retrieval.
 - 3.3.6.6.3 Provide Customer Code to change any reservations.
 - 3.3.6.6.4 Identify new or existing customer access to DRT Provider services based on eligibility.
 - 3.3.6.6.5 New or existing customer may conduct trip search without being logged into the TMCC.

- 3.3.6.6.6 New or existing customer may request a trip directly through the DRT Provider.
- 3.3.6.6.7 The system shall allow the new or existing customer to enter date, pick-up origin, drop-off location, special services required (check boxes for senior citizen – age 65 or older, veteran), and number of passengers.
- 3.3.6.6.8 The system shall require Runabout customers to verify ADA eligibility in existing customer profile.
- 3.3.6.6.9 The system shall prompt an error message if customers seek to schedule a Runabout trip less than one day or greater than seven days in advance.
- 3.3.6.6.10 Provide URL links to each DRT Provider's policies for rider conduct (i.e. assisting with shopping bags, door-to-door vs. door-to-door services, etc.).
- 3.3.6.6.11 Provide URL links to each DRT Provider's policies for rider conduct (i.e. assisting with shopping bags, door-to-door vs. door-to-door services, etc.).
- 3.3.6.6.12 Capability to search one or more new or existing customer trip requests by date and time of service.
- 3.3.6.6.13 The system shall require the new customer to create a new account or existing customer to login to request the chosen trip.
- 3.3.6.6.14 New or existing customer may request day of service or same day trips (same day trips are not available for Runabout).
- 3.3.6.6.15 New or existing customers can request trips at least 14 days in advance (7 days for Runabout, other DRT Providers may require less days).
- 3.3.6.6.16 Accept the existing customer's five most frequently traveled destinations into their profile.
- 3.3.6.6.17 Recognize names of landmark destinations.
- 3.3.6.6.18 Provide lift-equipped vehicle availability and type options when scheduling a trip.
- 3.3.6.6.19 New or existing customers to identify a personal care attendant necessary for the trip, identify possible guests, identify potential service animals and calculate their cost prior to requesting a trip.
- 3.3.6.6.20 Provide an alert feature for duplicate trip requests.

- 3.3.6.6.21 Submit existing customer trip requests to DRT Providers. New customers must register prior to requesting their chosen trip.
- 3.3.6.6.22 The system shall allow the TMCC administrator to select the active DRT Provider telephone links for customers to reach a live CSR.
- 3.3.6.7 The system shall provide staff with direct access to the following **Trip Management** services.
 - 3.3.6.7.1 The system shall allow staff to request ride status information for DRT Provider trips that were not requested through the TMCC.
 - 3.3.6.7.2 The system shall enable the modification, cancellation, and reservations retrieval of a confirmed existing customer trip.
 - 3.3.6.7.3 The system shall require a customer code to change any scheduled trips.
 - 3.3.6.7.4 The system shall notify the confirmed DRT Provider of a modified or cancelled existing customer trip.
 - 3.3.6.7.5 The system shall allow staff to search for the customer's day of trip vehicle status information.
 - 3.3.6.7.5.1 Scheduled pick-up and return pick-up times.
 - 3.3.6.7.5.2 Current vehicle spatial location on a map.
 - 3.3.6.7.5.3 Actual vehicle arrival time notification.
 - 3.3.6.7.5.4 Trip duration in distance and time.
 - 3.3.6.7.5.5 Trip provider contact information.
 - 3.3.6.7.5.6 Provide service update alerts by e-mail or text.
- 3.3.6.8 The system shall provide staff with direct access to the following **Fare Management** services.
 - 3.3.6.8.1 Account access.
 - 3.3.6.8.2 Account balance review.
 - 3.3.6.8.3 Account balance modification by staff or individual.
 - 3.3.6.8.4 Account balance prepayment.
 - 3.3.6.8.5 Review trip fares paid.
- 3.3.6.9 The system shall allow DRT Provider staff access to renew existing customer fare media and payment accounts.
- 3.3.6.10 The system shall permit the DRT Provider, customer, and sponsor to use a debit or credit card to renew fare media.

Provider Portal

3.3.1 The system shall provide the following **Provider Portal** services.

- 3.3.1.1 The system shall allow DRT Providers to communicate electronically between one another through a service such as e-chat.
- 3.3.1.2 DRT Provider sections shall be created within the Provider Portal for drivers, schedulers, and management access to services, including:
 - 3.3.1.2.1 Driver's Section. The Provider Portal "drivers" section shall allow assigned driver's with read-only access to daily scheduled customer trips.
 - 3.3.1.2.2 Schedulers Section. The Provider Portal's "schedulers" section shall enable access to the following services.
 - 3.3.1.2.2.1 Schedule customer trip requests made directly to the DRT Provider.
 - 3.3.1.2.2.2 Request the customer's scheduled trip information through the TTT.
 - 3.3.1.2.2.2.1 Provide an electronic check box to indicate the DRT Provider has completed the customer trip confirmation process.
 - 3.3.1.2.2.3 Enable inter-agency trip coordination.
 - 3.3.1.2.2.3.1 Provide the option for DRT Providers to send confirmed customer trip information through electronic interface (as the trip "owner") to another Provider.
 - 3.3.1.2.2.3.2 DRT Provider "trip owner" agencies shall confirm the other Provider can manage the customer trip before assigning it to the new Provider.
 - 3.3.1.2.2.4 Seek day of schedule trip ride status information.

- 3.3.1.2.3 Manager Section. The Provider Portal “manager” section shall allow access to the following information.
 - 3.3.1.2.3.1 Billing
 - 3.3.1.2.3.2 Reporting
 - 3.3.1.2.3.3 All Driver and Scheduler information.
- 3.3.1.3 Authorized DRT Provider administrators shall be credentialed at agency by the TMCC Administrator.
- 3.3.1.4 Authorized DRT Provider administrators shall monitor the customer’s trip request process.
- 3.3.1.5 Authorized DRT Provider administrators shall contact DRT Providers who have not completed the trip request confirmation process.
- 3.3.1.6 DRT Providers will have secure access to the customer’s profile (as necessary) to schedule a trip request provided through the TTT pushed to them by the rider or their approved representative.
- 3.3.1.7 DRT Providers shall input completed customer trip statistics into the system, including:
 - 3.3.1.7.1 Date
 - 3.3.1.7.2 Beginning and Ending Odometer
 - 3.3.1.7.3 Trip pick-up time
 - 3.3.1.7.4 Trip completion time
 - 3.3.1.7.5 Fare paid: Yes or No
- 3.3.1.8 Submit required completed customer trip information to the host agency.
- 3.3.1.9 Host DRT Providers shall request monthly reports of customer trips provided for a sponsoring agency.

3.4 System Output Requirements

Information

- 3.4.1 The system shall provide **Information** from the following websites.
 - 3.4.1.1 Demand Response Transportation (DRT) Provider overview, Internet URL links, telephone links, and contact information.
 - 3.4.1.2 Fixed Route Transportation provider agency overview, Internet URL links, and contact information.
 - 3.4.1.3 Human service agency overview, URL links, and contact information.

- 3.4.1.4 Other transportation and mobility agency overviews, URL links, and contact information.
 - 3.4.1.5 “What’s new” DRT Provider or other transportation information.
 - 3.4.1.6 Safety & security information, such as emergency response notifications, data security protection statement, and terms of use.
 - 3.4.1.7 511 for traveler information and 211 for human service information.
- 3.4.2 The system shall provide a URL to assist customers with multimodal transportation options.

TMCC Technology Tool (TTT)

Customer Portal

3.4.3 Customer Entrance

- 3.4.3.1 The system shall permit a new customer (not registered) the option to skip the account registration process until required.
- 3.4.3.2 The system shall provide a new customer with confirmation of access and change to the following secure access features.
 - 3.4.3.2.1 Create a new account.
 - 3.4.3.2.2 Create a user name and password.
 - 3.4.3.2.3 Auto-create a unique customer ID.
 - 3.4.3.2.4 New customer profile including name, address, user name, password, primary telephone number, mobile phone number, alternate contact name, alternate contact telephone number, emergency contact name, emergency contact telephone number, date of birth (XX/XX/XXXX), gender (male/female), veteran status (Yes or No), create security question with text box, mobility assistance needs – pull down menu (wheelchair, walker, scooter, attendant, do not leave alone, “other” with open text box), eligibility status – pull down menu (ADA, veteran, “other” with open text box), trip confirmation communication preference (e-mail address, text), a “Special Requests” with open text box, and payment method for each DRT Provider.
 - 3.4.3.2.5 Review and modify profile preferences and confirm eligibility for services.

- 3.4.3.2.6 Request information from DRT Provider regarding program eligibility.
- 3.4.3.2.7 The customer shall receive confirmation of profile system acceptance through the communication of a Customer Code, including:
 - 3.4.3.2.7.1 The creation of a random six-digit Customer Code by the TTT.
 - 3.4.3.2.7.2 The TTT shall update the Customer Code randomly every six months or on customer request.
 - 3.4.3.2.7.3 The TTT shall communicate the new or updated Customer Code to the customer through the customer's stored communication preference.
- 3.4.3.3 The system shall provide an existing customer (registered) using the website or mobile APP with the following secure access features:
 - 3.4.3.3.1 The system shall provide secure account access through the following methods.
 - 3.4.3.3.1.1 Profile login.
 - 3.4.3.3.1.1.1 Utilize currently available login technology with ID, password, and forgotten password.
 - 3.4.3.3.1.1.2 Provide forgotten password restoration options for login and password identification.
 - 3.4.3.3.2 Manage profile and preferences.
 - 3.4.3.3.3 Determine DRT Provider program eligibility.
 - 3.4.3.3.4 Schedule new trip reservations.
 - 3.4.3.3.5 Manage existing trip reservations.
 - 3.4.3.3.6 Seek ride arrival status.
 - 3.4.3.3.7 Manage fares and payment for services.

3.4.4 **Trip Reservations and Scheduling**

- 3.4.4.1 The system shall provide the following **Trip Reservations and Scheduling** services.
 - 3.4.4.1.1 The system will allow each DRT Provider to modify daily hours of availability.

- 3.4.4.1.2 The system shall auto-check all DRT Provider availability prior to submitting a ride request for a specified date and time.
- 3.4.4.1.3 The system shall check and inform the customer of available DRT Providers within 10 seconds.
- 3.4.4.1.4 The system shall provide the requested trip availability, fare, lift-equipped vehicle status (if needed), and estimated travel time.
- 3.4.4.1.5 DRT Providers that are not available for the trip shall be listed as unavailable.
- 3.4.4.1.6 The system shall provide fixed route transit options for the requested trip, including fare, estimated travel time, and number of transfers.
- 3.4.4.1.7 The system shall require the new customer to create a new account or existing customer to login to request the chosen trip.
- 3.4.4.1.8 Provide trip escort and attendant cost prior to scheduling trip.
- 3.4.4.1.9 Trip escort and attendant cost and service provision shall be based on each DRT Provider's policy.
- 3.4.4.1.10 New customers must register prior to selecting their chosen trip.
- 3.4.4.1.11 Existing customers may only request trips.
- 3.4.4.1.12 Existing customer must confirm or cancel the selected trip prior to submittal to the DRT Provider.
- 3.4.4.1.13 Provide an alert feature for duplicate trips when requested.
- 3.4.4.1.14 Selected customer trip request is submitted to the chosen DRT Provider for trip confirmation.
- 3.4.4.1.15 DRT Provider will schedule the trip request and confirm with the existing customer's requested trip and fare within ten seconds.
- 3.4.4.1.16 DRT Provider sends the confirmed trip, fare, and cancellation policy information to the existing customer by e-mail, text, phone, website, or APP (preference listed in their profile).
- 3.4.4.1.17 Provide the confirmed trip and fare information to the existing customer's sponsoring agency (if applicable).
- 3.4.4.1.18 DRT Provider shall acknowledge existing customer trip confirmation in Provider Portal.
- 3.4.4.1.19 Enable telephone link and electronic chat options with a live Customer Service Representative (CSR) during trip booking process.

- 3.4.4.1.20 Search and display all existing customer trip history interaction with each DRT Provider's CASD system database.
- 3.4.4.1.21 Provide the confirmed trip and fare information to the existing customer's sponsoring agency (if applicable).

3.4.5 Trip Management

- 3.4.5.1 The system shall provide the following **Trip Management** services.
 - 3.4.5.1.1 The system shall require customer identification.
 - 3.4.5.1.2 The system shall provide confirmed existing customer trip modification, cancellation, and reservation information.
 - 3.4.5.1.3 The system shall notify the confirmed DRT Provider of a modified or cancelled existing customer trip.
 - 3.4.5.1.4 The system shall allow the existing customer to receive ride status (time) for trips that were not requested through the TMCC.
 - 3.4.5.1.5 The system shall provide the customer with the following day of service information.
 - 3.4.5.1.5.1 Scheduled pick-up times.
 - 3.4.5.1.5.2 Current vehicle spatial location on map.
 - 3.4.5.1.5.3 Actual vehicle arrival time notification.
 - 3.4.5.1.5.4 Trip duration in distance and time.
 - 3.4.5.1.5.5 Trip provider contact information.
 - 3.4.5.1.5.6 Vehicle arrival update alerts by e-mail or text.

3.4.6 Fare Management

- 3.4.6.1 The system shall provide customers with the following secure account services.
 - 3.4.6.1.1 Account access.
 - 3.4.6.1.2 Account balance.
 - 3.4.6.1.3 Account balance may be modified by agency or individual.
 - 3.4.6.1.4 Account balance prepayment.
 - 3.4.6.1.5 Review fares paid.
- 3.4.6.2 The system shall track the payment by cash.
- 3.4.6.3 The system shall authorize use of funds by credit card, bank account, and other account-based services.
- 3.4.6.4 The system shall be scalable to manage multiple fare structures for all DRT Providers.

- 3.4.6.5 The system shall interface with any DRT Provider or human service agency fare technology.
- 3.4.6.6 The system shall interface with human service agency fare systems to enable payment for authorized rides.
- 3.4.6.7 The system shall determine fund balance prior to confirming trip request.
- 3.4.6.8 The system shall verify the amount collected by the DRT Provider as payment from the customer.
- 3.4.6.9 The system shall interface with on board vehicle hardware to print receipts.
- 3.4.6.10 The system shall have auditing functions.
- 3.4.6.11 The system shall accept DRT Provider, customer, and sponsor valid debit or credit cards to renew fare media.
- 3.4.6.12 The system shall provide a DRT Provider staff access option to renew existing customer fare media and payment accounts.
- 3.4.6.13 The system shall permit the customer to pay the DRT provider directly, outside the fare management system.

Staff Portal

- 3.4.7 The system shall provide the following **Staff Portal** information and services.
 - 3.4.7.1 The system shall be accessible by authorized stakeholder staff by website and mobile APP.
 - 3.4.7.2 The system shall provide staff with direct access to TMCC website and mobile APP information and DRT Provider service components.
 - 3.4.7.3 The system shall require staff login and password identification.
 - 3.4.7.4 The system shall record and date stamp any transactions or modifications performed by authorized staff.
 - 3.4.7.5 The system shall provide authorized staff with links to **Information** websites listed in Section 3.3.1.
 - 3.4.7.6 The system shall provide the following **Trip Reservations and Scheduling** services.
 - 3.4.7.6.1 The system will allow each DRT Provider to modify daily hours of availability.
 - 3.4.7.6.2 The system shall auto-check all DRT Provider availability prior to submitting a ride request for a specified date and time.
 - 3.4.7.6.3 The system shall check and inform the customer of available DRT Providers within 10 seconds.

- 3.4.7.6.4 The system shall provide the requested trip availability, fare, lift-equipped vehicle status (if needed), and estimated travel time.
- 3.4.7.6.5 DRT Providers that are not available for the trip shall be listed as unavailable.
- 3.4.7.6.6 The system shall provide fixed route transit options for the requested trip, including fare, estimated travel time, and number of transfers.
- 3.4.7.6.7 The system shall require the new customer to create a new account or existing customer to login to request the chosen trip.
- 3.4.7.6.8 Provide trip escort and attendant cost prior to scheduling trip.
- 3.4.7.6.9 Trip escort and attendant cost and service provision shall be based on each DRT Provider's policy.
- 3.4.7.6.10 New customers must register prior to selecting their chosen trip.
- 3.4.7.6.11 Existing customers may only request trips.
- 3.4.7.6.12 Existing customer must confirm or cancel the selected trip prior to submittal to the DRT Provider.
- 3.4.7.6.13 Provide an alert feature for duplicate trips when requested.
- 3.4.7.6.14 Selected customer trip request is submitted to the chosen DRT Provider for trip confirmation.
- 3.4.7.6.15 DRT Provider will schedule the trip request and confirm with the existing customer's requested trip and fare within ten seconds.
- 3.4.7.6.16 DRT Provider sends the confirmed trip, fare, and cancellation policy information to the existing customer by e-mail, text, phone, website, or APP (preference listed in their profile).
- 3.4.7.6.17 Provide the confirmed trip and fare information to the existing customer's sponsoring agency (if applicable).
- 3.4.7.6.18 DRT Provider shall acknowledge existing customer trip confirmation in Provider Portal.
- 3.4.7.6.19 Enable telephone link and electronic chat options with a live Customer Service Representative (CSR) during trip booking process.
- 3.4.7.6.20 Search and display all existing customer trip history interaction with each DRT Provider's CASD system database.
- 3.4.7.6.21 Provide the confirmed trip and fare information to the existing customer's sponsoring agency (if applicable).

- 3.4.7.6.22 Existing customer denied a trip request will receive a message directly from the DRT Provider.
- 3.4.7.6.23 Existing customer with a denied trip will receive contact information for the TMCC.
- 3.4.7.6.24 Store and illustrate all existing customer trip history.
- 3.4.7.7 The system shall provide staff with direct access to the following **Trip Management** services.
 - 3.4.7.7.1 The system shall access DRT Provider CASD database and provide the status of a scheduled customer trip.
 - 3.4.7.7.2 The system shall provide confirmed existing customer trip modification, cancellation, and reservation information.
 - 3.4.7.7.3 The system shall allow staff to view the customer's day of trip vehicle status information.
 - 3.4.7.7.3.1 Scheduled pick-up times.
 - 3.4.7.7.3.2 Current map-based vehicle spatial location.
 - 3.4.7.7.3.3 Actual vehicle arrival time notification.
 - 3.4.7.7.3.4 Trip duration in distance and time.
 - 3.4.7.7.3.5 Trip provider contact information.
 - 3.4.7.7.3.6 Provide service update alerts by e-mail or text.
- 3.4.7.8 The system shall provide staff with direct access to the following **Fare Management** services.
 - 3.4.7.8.1 The system shall provide customers with access to the following secure account information.
 - 3.4.7.8.1.1 Account access.
 - 3.4.7.8.1.2 Account balance.
 - 3.4.7.8.1.3 Account balance may be modified by agency or individual.
 - 3.4.7.8.1.4 Account balance prepayment.
 - 3.4.7.8.1.5 Review fares paid.
- 3.4.7.9 The system shall permit the DRT Provider, customer, and sponsor to use a debit or credit card to renew fare media.
- 3.4.7.10 The system shall allow DRT Provider staff to record existing customer transactions for account payment.
- 3.4.7.11 The system shall permit the customer to pay DRT provider directly.

Provider Portal

3.4.8 The system shall provide the following **Provider Portal** services.

3.4.8.1 The system shall allow DRT Providers to communicate electronically between one another through a service such as e-chat.

3.4.8.2 DRT Provider sections shall be created within the portal for drivers, schedulers, and management access to services, including:

3.4.8.2.1 Driver's Section. The Provider Portal "drivers" section shall allow assigned drivers with the following information.

3.4.8.2.1.1 Read-only access to scheduled customer trip information

3.4.8.2.2 Schedulers Section. The Provider Portal's "schedulers" section shall enable access to the following services.

3.4.8.2.2.1 View customer trip requests made directly through the DRT Provider.

3.4.8.2.2.2 View the customer's scheduled trip information through the TTT.

3.4.8.2.2.3 Enable inter-agency trip coordination.

3.4.8.2.2.3.1 Receive trip coordination request from other DRT Providers.

3.4.8.2.2.3.2 Receive trip acceptance from originating DRT Provider.

3.4.8.2.2.3.3 If a coordination match is unavailable, the originating DRT Provider must provide the trip (if available).

3.4.8.2.2.3.4 Notify customer of trip Provider schedule change as stated in Profile.

3.4.8.2.2.4 Receive day of schedule trip ride status information.

3.4.8.2.3 Manager Section. The Provider Portal "manager" section shall allow receive the following information.

3.4.8.2.3.1 Billing

3.4.8.2.3.2 Reporting

3.4.8.2.3.3 Access to all Driver and Scheduler information.

3.4.8.3 Authorized DRT Provider administrators shall receive updates on the customer's trip request process status.

3.4.8.4 Host DRT Providers shall receive monthly reports of customer trips provided for a sponsoring agency.

3.5 Electronic Interfaces

3.5.1 The system shall interface with DRT provider legacy CASD systems and databases for customer trip scheduling and management.

3.5.2 The system shall be capable of interfacing with DRT Provider fare payment systems.

3.5.3 The system shall be capable of interfacing with human service agency fare systems to enable payment for authorized rides.

3.5.4 The system shall be capable of interfacing with commercial banking accounts for the transfer of funds to manage the cost of existing customer trips.

3.5.5 The system shall interface with the fare management system.

3.5.6 The system shall be capable of interfacing with any DRT Provider or human service agency fare management systems.

3.5.7 The system shall be capable of integration with all contact and contactless fare media.

3.5.8 The system shall meet all applicable ITS standards.

3.6 Data Management and Reporting

TMCC Technology Tool (TTT)

3.6.1 The system shall provide monthly reports of all existing customer trips originated through TTT.

3.6.2 The system shall interface with DRT Provider legacy CASD systems to obtain trip level cost, reconciliation, and verification for billing and invoicing functions.

3.6.3 The system shall be capable of generating an invoice for services billed through TMCC fare management system.

3.6.4 The system shall can calculate billing rates based for funding program requirements and funding sources.

3.6.5 The system shall can determine payment to providers by funding source based on trip attributes including: load fee, mileage, revenue hour, revenue mile, mobility type, service area and service mode, such as curb-to-curb or door-to-door service.

- 3.6.6 The TMCC shall provide performance information to DRT providers, such as:
 - 3.6.6.1 Trips provided per day
 - 3.6.6.2 Mobile APP access
 - 3.6.6.3 Staff use
 - 3.6.6.4 Website access
 - 3.6.6.5 Others to be developed
- 3.6.7 The TMCC shall maintain existing customer information, such as profiles, scheduled trips, and DRT Provider services provision for a period of three years after the last activity performed by or for the customer.
- 3.6.8 The TMCC shall store performance information for three years after the date covered by the statistics.
- 3.6.9 The system shall create the following DRT Provider Fare Management payment financial reports.
 - 3.6.9.1 Fares owed by customer
 - 3.6.9.2 Fares owed by agency.
 - 3.6.9.3 Create detailed monthly reports.
 - 3.6.9.3.1 Display customer and agency fares paid total and per customer.
 - 3.6.9.3.2 DRT Provider cost reimbursement owed to one another.
- 3.6.10 The system shall track reported lost and stolen fare media.

TMCC Administrator

- 3.6.11 The system shall record data changes performed by administrators.
- 3.6.12 The system shall provide a report of all data changes performed by administrators.
- 3.6.13 The system shall record and provide a report of all functions executed by DRT Providers, stakeholders, administrators, and other authorized TMCC users.

4 Non-Functional Requirements

To implement the TMCC's customer services, additional non-ITS stakeholder needs and requirements must be addressed that are necessary to make the project a success. The following Non-Functional Requirements section addresses the TMCC's proposed accessibility, system performance and availability, security, scalability and replicability, administrative, operational, and precedence requirements. The section also addresses the system's method for verification as well.

4.1 Accessibility

4.1.1 Language

4.1.1.1 The system shall support customer communication in English and Spanish languages.

4.1.2 TDD/TTY/California Relay Connection

4.1.2.1 The system shall be accessible by TDD, TTY, and California Relay services.

4.1.3 Compliance with Federal, State, and Local Regulations

4.1.3.1 The system shall be in compliance with all United States, State of California, and local laws and regulations.

4.1.3.2 The system shall be United States Section 508 compliant.

4.1.4 DRT Provider Helpdesk

4.1.4.1 The system shall provide helpdesk functions for DRT Providers to assist with all technology-related questions and issues.

4.1.4.2 The system shall provide helpdesk functions that are accessible to DRT Providers through the staff access portal.

4.1.4.3 The system shall identify the DRT Provider to serve in the helpdesk capacity.

4.1.4.4 The system shall provide TMCC helpdesk functions to DRT Providers through the telephone.

4.2 System Performance and Availability

4.2.1 TMCC Administrator Access

4.2.1.1 The system shall have a TMCC administrator for oversight, management, and support.

4.2.1.2 The system shall allow TMCC administrators and authorized staff to modify any information and DRT Provider services.

- 4.2.1.3 The TMCC shall allow TMCC administrators to execute any functions and run any reports in the system.
- 4.2.1.4 TMCC administrators shall maintain a list of authorized stakeholder staff.
- 4.2.1.5 TMCC administrators shall determine the level of TTT access for all authorized agency staff and customer support staff.
- 4.2.1.6 The system shall maintain and report a list of administrator name, date, and description of changes made.
- 4.2.1.7 The system shall be available for administrator access on a 24-hour basis, 365 days/year.

4.2.2 **System Operations**

- 4.2.2.1 The system shall determine a response time for trip requests.
- 4.2.2.2 The system shall be available for customer access on a 24-hour basis 365 days per year.
- 4.2.2.3 The system shall have an average up time of 99% with scheduled maintenance windows.
- 4.2.2.4 The system website interface shall timeout after 30 minutes of inactivity.
- 4.2.2.5 The system shall require the existing customer to reauthenticate after timeout.

4.2.3 **System Maintenance**

- 4.2.3.1 The system shall have committed annual support and maintenance.
- 4.2.3.2 The system shall be accessible by administrators to provide off-site maintenance.
- 4.2.3.3 The system shall display a maintenance announcement when unavailable and provide information when the system will be available.
- 4.2.3.4 The system shall be capable of scaling to meet increased service demands.

4.2.4 **Telephone Access**

- 4.2.4.1 The system shall include the following telephone access elements for customer service.
 - 4.2.4.1.1 Create a single, identifiable telephone number for customers to access services.
 - 4.2.4.1.2 Provide transportation information and DRT Provider services.
 - 4.2.4.1.3 Be accessible on a 24-hour basis, 365 days/week.
 - 4.2.4.1.4 Enable customers to connect with a "live" CSRs for all services.

- 4.2.4.1.5 Be capable of transferring telephone calls in a “One-Call” manner between DRT Providers.
- 4.2.4.1.6 Provide end of month call transfer and hold time reporting information for each DRT Provider.
- 4.2.4.1.7 The system shall collect number of TMCC phone calls received and number of phone calls transferred to other agencies.
- 4.2.4.1.8 Utilize existing legacy DRT Provider telephony systems and call centers.
- 4.2.4.1.9 Create a DRT Provider “staff only” telephone number to address administrative, operations, and customer needs.
- 4.2.4.1.10 Provide emergency and safety information.
- 4.2.4.1.11 The CSR shall utilize the staff access portal to support customer information and DRT provider service requests.
- 4.2.4.1.12 DRT Provider and other stakeholder staff will receive training to provide telephone services.
- 4.2.4.1.13 Enable customer access by text to TMCC staff.
- 4.2.4.1.14 Enable customer access to TMCC staff through CA Relay, TDD, and TTY services.

4.2.5 In-Person Access

- 4.2.5.1 The system shall include the following in-person access elements for customer service.
 - 4.2.5.1.1 Provide transportation information and DRT Provider services.
 - 4.2.5.1.2 Identify physical in-person resource locations.
 - 4.2.5.1.3 Make available at DRT and other stakeholder facilities.
 - 4.2.5.1.4 Be open during regular business hours.
 - 4.2.5.1.5 Enable customers access to “live” CSR’s for all services.
 - 4.2.5.1.6 The CSR will utilize the staff access portal and telephone access services to support interaction with the customer.
 - 4.2.5.1.7 DRT Provider and other stakeholder staff will receive training to provide in-person services.
 - 4.2.5.1.8 Provide emergency and safety information.

4.3 Security

General

4.3.1 The system shall meet all current industry data security standards.

Customer Information

4.3.2 The system shall be HIPPA compliant.

4.3.3 The system shall encrypt existing customer sensitive information using industry-standard techniques.

4.3.4 The system shall partially mask existing customer sensitive information when displaying this information through the website and mobile APP interface.

4.3.5 The system shall require telephone CSR's to only request the existing customer's last name, address, and customer identification information for authentication purposes.

4.3.6 The system shall not store information on a local computer using persistent cookies.

4.3.7 Customer Code. The DRT Provider administrator may contact other DRT Provider staff directly by phone to discuss aspects of the customer's trip. The staff person must provide the DRT Provider a Customer Code to discuss any trip information. The Customer Code will be generated and updated by the TTT every six months or upon customer request.

DRT Provider and Stakeholder Agency Staff

4.3.8 The system shall require user-based authentication and secure connections.

4.3.9 The system shall provide each approved DRT Provider and stakeholder agency staff with options to view and modify data relevant to their organization.

4.3.10 The system shall provide secure data sharing between agencies, such as existing customer trip information.

4.3.11 The system shall require TMCC administrators to create specific user-based access accounts for each approved DRT provider and stakeholder agency staff.

TTT Administrator

4.3.12 The system shall require administrator user-based authentication and secure connections for nonfinancial tasks.

4.3.13 The system shall require secure connections, administrator authentication, and the location from which the user is performing the operation.

4.3.14 The system shall provide administrators with options to view and modify ride request information.

4.4 Scalability and Replicability

- 4.4.1 The system shall define the number of website access capacity transactions per hour.
- 4.4.2 The system shall be designed to support incremental increases in capacity as needed.
- 4.4.3 The system shall be designed so that all telephone access functions can be transferred to another DRT Provider or stakeholder agency.
- 4.4.4 The system shall be designed to support simultaneous operations from multiple locations.
- 4.4.5 The system's data shall be backed up daily at one (1) off-site redundant location.
- 4.4.6 The system shall be capable of being managed from remote locations for emergency management purposes.

4.5 Administrative

4.5.1 Inter-Agency Agreements

- 4.5.1.1 Create DRT Provider inter-agency agreements for TMCC participation.

4.5.2 Policies and Procedures

- 4.5.2.1 Develop standardized policies and procedures for the TMCC.
- 4.5.2.2 Develop the following service provision requirements.
 - 4.5.2.2.1 Minimum level of vehicle insurance.
 - 4.5.2.2.2 Staff training requirements (CSR, administrative, driver).
 - 4.5.2.2.3 Technology support and maintenance.
 - 4.5.2.2.4 Vehicle maintenance.
- 4.5.2.3 Develop DRT Provider operational policies and procedures to support inter-agency trip coordination and TMCC service provision, such as trip booking, day of service trip management (where applicable), staff communication, age eligibility, and customer needs support.
- 4.5.2.4 Create fare media management policies and procedures.
- 4.5.2.5 Create reporting policies and procedures.
- 4.5.2.6 Identify all DRT Provider services that can be included in the TMCC.
- 4.5.2.7 Address DRT Providers' system policies and procedure changes to accommodate interaction with the TMCC (as needed).

- 4.5.2.8 Create emergency management policies and procedures. See Emergency Management subsection below.
- 4.5.2.9 The system shall require existing customer trip requests be provided at the same time to all available DRT Providers.
- 4.5.2.10 Create a staff-based internal communication process to address TMCC issues.
- 4.5.2.11 Develop an ongoing committee to advise the TMCC.
- 4.5.2.12 Create a customer complaint and system issues resolution process.

4.5.3 **Communication**

- 4.5.3.1 Create a staff-based internal communication process to address TMCC issues.
- 4.5.3.2 Identify an ongoing committee to advise the TMCC.
- 4.5.3.3 Create a customer communication process.

4.5.4 **Staffing**

- 4.5.4.1 Identify DRT Provider and participating stakeholder staffing and roles in support of the TMCC.
- 4.5.4.2 Identify TMCC Administrator staff and functions.
- 4.5.4.3 Identify TMCC helpdesk staffing and functions.

4.5.5 **Financial**

- 4.5.5.1 Establish cost sharing agreement for TMCC operational costs.
- 4.5.5.2 Create a “no show” and “late cancellation” fare payment and cancelation policy.
- 4.5.5.3 Identify DRT Provider fare structures applicable to the TMCC.
- 4.5.5.4 Develop and document fare management policies and procedures. Specifically address riders with fare payment challenges.
- 4.5.5.5 Develop DRT Provider and participating stakeholder fare management processes, including reimbursement rates for coordinated trips.
- 4.5.5.6 Develop and document DRT Provider accounting processes, including payment and fare management services.
- 4.5.5.7 Create fare media management policies and procedures.
- 4.5.5.8 Establish fare media accounting and reimbursement procedures with all DRT Providers and other participating stakeholders.

4.5.6 **Measures for Success**

- 4.5.6.1 Create specific system success goals, such as increasing DRT customer access to mobility options.

- 4.5.6.2 Identify specific system success goals measurements, such as number of customers served, number of calls taken, number of trips scheduled, number of trips provided, trips provided per day, mobile APP access, staff use, website access, and customer satisfaction.
- 4.5.6.3 Develop customer service measures for DRT Provider participation in the TMCC.
- 4.5.6.4 Develop process and procedure for collecting system success measurement information.
- 4.5.6.5 Provide one or more methods for customer feedback.

4.5.7 Marketing

- 4.5.7.1 Create a TMCC marketing plan, including a cost-sharing agreement to implement the marketing plan.
- 4.5.7.2 Create a new TMCC brand, including name and logo.
- 4.5.7.3 Market new TMCC brand and co-brand with other participating DRT Provider, transportation, and information stakeholders.
- 4.5.7.4 Promote new TMCC brand through public education, advertizing, and logo on all participating TMCC DRT Provider vehicles.
- 4.5.7.5 Identify methods for the receipt, collection, and tracking of customer feedback.
- 4.5.7.6 Create a quality control customer rating system of all DRT Providers.

4.5.8 Training

- 4.5.8.1 Create and provide TMCC start-up and ongoing training for DRT Providers and other stakeholder staff on all system policies and procedures.
- 4.5.8.2 Train DRT Provider and participating stakeholder staff on the website, mobile, telephone, in-person, and staff portal access methods and features.
- 4.5.8.3 Crosstrain DRT Provider staff on all TMCC services.
- 4.5.8.4 Develop processes and provide ongoing support for TMCC technology and customer service requirements.
- 4.5.8.5 Create and provide customer and stakeholder-focused training services, such as how to access the system, what is the TMCC, how to provide customer services, and using the TMCC's services.

4.5.9 Emergency Management

- 4.5.9.1 In cooperation with SLO County Emergency Management Services and Volunteer Organizations Active in Disaster (VOAD), prepare emergency response support procedures.

- 4.5.9.2 Create an emergency redundancy plan, including system and DRT Provider electricity, inter-DRT Provider communications, external (customer) communications, and other components.

4.5.10 Other Supporting Requirements

- 4.5.10.1 Encourage customers to utilize fixed route transit services.
- 4.5.10.2 Identify and address DRT Provider barriers to participate in the TMCC.
- 4.5.10.3 Engage DRT Provider Boards of Directors (those appropriate) in the TMCC process.
- 4.5.10.4 Hold ongoing, regular DRT Provider committee meetings to address TMCC items.
- 4.5.10.5 DRT Providers identify a lead staff person to address all agency specific TMCC related items.
- 4.5.10.6 DRT Providers shall modify their system policies and procedures to accommodate interaction with the TMCC (as needed).
- 4.5.10.7 Enable client sponsored trip management for an individual, through a human service agency, or community organization.

4.6 Operational

- 4.6.1 Develop DRT Provider operational protocols to support inter-agency trip coordination and TMCC service provision, such as trip booking, day of service trip management, staff communication, age eligibility, and customer needs support.
- 4.6.2 Address a process and contingency plan in support of DRT Provider vehicle maintenance/break downs.
- 4.6.3 Identify emergency operational needs.
- 4.6.4 Develop TMCC operations contingency plan.

4.7 Precedence

In future development of the TMCC, should conflict arise between the use of requirements and contractual documents, the executed contract shall take precedence. The priority in process to follow will then include the system specifications, statement of work, and quality assurance documents.

4.8 Verification Methods

In development of the TMCC's System Requirements, the process requires a method of Verification in which the Information and DRT Provider Services systems will be tested. This process is critical in determining whether the

technology systems and subsystems are capable of meeting the stakeholder needs as expressed in the ConOps.

In this process, each System Requirement will be subject to a minimum of one verification method. Most requirements verification testing may be achieved through observation and depending on level of complexity, some may require more than one verification method to ensure the requirement is satisfied.

In the next stage of the TMCC project, preparation of the High-Level Design, each requirement will be supported by at least one verification method to ensure the requirement can be achieved. A verification matrix will be developed in support of this process. The following are verification methods that will be incorporated into the design phase of this project:

- Demonstration. A method to validate the requirement is satisfied without external test equipment.
- Test. A method to test a requirement using an external piece of equipment.
- Analyze. A method using a logical conclusion or mathematical analysis.
- Inspection. A method using visual inspection and/or comparison.

5 System Constraints

The TMCC's ConOps documented stakeholder (customer) constraint comments that were received as part of the needs assessment process from March through May 2016. Through this process, the functionality of the TMCC has the potential to be impacted by the following issues.

5.1 Administrative Constraints

- 5.1.1 Inter-agency agreement process, including cost-sharing arrangements for the operation of the TMCC, marketing plan, and training.
- 5.1.2 Community awareness of the TMCC.
- 5.1.3 Development of cost/benefits for all proposed TMCC High-Level Design alternatives.
- 5.1.4 TMCC implementation funding and sustainability.
- 5.1.5 DRT Provider service funding and sustainability.
- 5.1.6 Stakeholder continued engagement and participation.
- 5.1.7 Lack of adequate staff training on the TMCC system.
- 5.1.8 Approval from DRT Provider Boards (if applicable and required for participation in the TMCC).

5.2 Operational Constraints

- 5.2.1 Labor rules.
- 5.2.2 Decentralized dispatching and call centers.
- 5.2.3 DRT Provider service/vehicle availability.
- 5.2.4 County geography - access to services in all portions of the county.
- 5.2.5 DRT Provider staffing.

5.3 Technical Constraints

- 5.3.1 System complexity (keep it simple).
- 5.3.2 System accessibility and availability.
- 5.3.3 Chosen system design.

6 Traceability Matrix

The Traceability Matrix serves as a method to ensure that all TMCC collated stakeholder needs are addressed in the System Requirements and High-Level System Design stages of the project. The Traceability Matrix, illustrated below in Table 2, identifies the ConOps page number, corresponding identification number, collated stakeholder need, stakeholder priority, System Requirement identification number (from Sections 3 and 4), System Requirement category (ITS or non-ITS), and level of project significance (mandatory or optional).

Table 2. TMCC System Requirements Traceability Matrix

Revised ConOps Page #	Need #	Collated Stakeholder Need	Stakeholder Priority (from ConOps)	Requirement ID#	Requirement	Requirement Category (ITS/Non-ITS)	Project Requirements (M=Mandatory; O=Optional)
21	1.00	Provide Transportation Services and Information through the following means: In-Person, Telephone, Website, and Mobile APP	High	3.2.1	The system shall provide customer access through in-person, telephone, website, and mobile application (APP) interfaces.	ITS	M
21	1.00	Provide Transportation Services and Information through the following means: In-Person, Telephone, Website, and Mobile APP	High	3.2.3	The system shall be accessible by smartphone and mobile phone.	ITS	M
21	1.00	Provide Transportation Services and Information through the following means: In-Person, Telephone, Website, and Mobile APP	High	3.2.4	The system shall also enable support staff, including DRT Providers, with direct electronic access to the TMCC through internet website and mobile APP (staff portals), to support in-person and telephone customer service.	ITS	M

San Luis Obispo County TMCC Project - System Requirements

Revised ConOps Page #	Need #	Collated Stakeholder Need	Stakeholder Priority (from ConOps)	Requirement ID#	Requirement	Requirement Category (ITS/Non-ITS)	Project Requirements (M=Mandatory; O=Optional)
21	1.00	Provide Transportation Services and Information through the following means: In-Person, Telephone, Website, and Mobile APP	High	4.2.4	Telephone Access	Non-ITS	M
21	1.00	Provide Transportation Services and Information through the following means: In-Person, Telephone, Website, and Mobile APP	High	4.2.5	In-Person Access	Non-ITS	M
21	1.01	Provide customer with transportation service options and agency contact information	High	3.3.2.3	The system shall provide staff access portal capability for telephone and in-person customer interfaces to assist customers without access to technology.	ITS	M
21	1.01	Provide customer with transportation service options and agency contact information	High	3.3.3.1.10	Utilize existing customer profile information for prior selected trips to “auto-fill” the trip request information.	ITS	M
21	1.01	Provide customer with transportation service options and agency contact information	High	3.4.6.9	The system shall interface with on board vehicle hardware to print receipts.	ITS	M
21	1.01	Provide customer with transportation service options and agency contact information	High	4.2.5.1.1	Provide transportation information and DRT Provider services.	Non-ITS	M
21	1.01	Provide customer with transportation service options and agency contact information	High	4.2.5.1.2	Identify physical in-person resource locations.	Non-ITS	M

San Luis Obispo County TMCC Project - System Requirements

Revised ConOps Page #	Need #	Collated Stakeholder Need	Stakeholder Priority (from ConOps)	Requirement ID#	Requirement	Requirement Category (ITS/Non-ITS)	Project Requirements (M=Mandatory; O=Optional)
21	1.02	Utilize existing 511 and 211 electronic and telephone services	High	3.3.1.7	511 for traveler information and 211 for human service information.	ITS	M
21	1.02	Utilize existing 511 and 211 electronic and telephone services	High	3.4.1.7	511 for traveler information and 211 for human service information.	ITS	M
21	1.03	Provide accessible services for senior citizens and persons with disabilities	High	3.2.1	The system shall provide customer access through in-person, telephone, website, and mobile application (APP) interfaces.	ITS	M
21	1.03	Provide accessible services for senior citizens and persons with disabilities	High	3.2.3	The system shall be accessible by smartphone and mobile phone.	ITS	M
21	1.03	Provide accessible services for senior citizens and persons with disabilities	High	3.2.4	The system shall also enable support staff, including DRT Providers, with direct electronic access to the TMCC through internet website and mobile APP (staff portals), to support in-person and telephone customer service.	ITS	M
21	1.03	Provide accessible services for senior citizens and persons with disabilities	High	4.1.2	TDD/TTY/California Relay Connection	Non-ITS	M
21	1.03	Provide accessible services for senior citizens and persons with disabilities	High	4.2.4	Telephone Access	Non-ITS	M

San Luis Obispo County TMCC Project - System Requirements

Revised ConOps Page #	Need #	Collated Stakeholder Need	Stakeholder Priority (from ConOps)	Requirement ID#	Requirement	Requirement Category (ITS/Non-ITS)	Project Requirements (M=Mandatory; O=Optional)
21	1.03	Provide accessible services for senior citizens and persons with disabilities	High	4.2.5	In-Person Access	Non-ITS	M
21	1.04	Provide customer with a Fare Comparison of all transportation options (illustrate all available service providers and fares)	High	3.4.4.1.4	The system shall provide the requested trip availability, fare, and estimated travel time.	ITS	M
21	1.04	Provide customer with a Fare Comparison of all transportation options (illustrate all available service providers and fares)	High	3.4.4.1.12	Existing customer must confirm or cancel the selected trip prior to submittal to the DRT Provider.	ITS	M
21	1.05	Provide customer with real-time vehicle arrival and travel time information	High	3.3.4.1.5.3	Actual vehicle arrival time notification.	ITS	M
21	1.05	Provide customer with real-time vehicle arrival and travel time information	High	3.3.6.7.4.3	Actual vehicle arrival time notification.	ITS	M
21	1.05	Provide customer with real-time vehicle arrival and travel time information	High	3.4.5.1.4.3	Actual vehicle arrival time notification.	ITS	M

San Luis Obispo County TMCC Project - System Requirements

Revised ConOps Page #	Need #	Collated Stakeholder Need	Stakeholder Priority (from ConOps)	Requirement ID#	Requirement	Requirement Category (ITS/Non-ITS)	Project Requirements (M=Mandatory; O=Optional)
21	1.05	Provide customer with real-time vehicle arrival and travel time information	High	3.4.7.7.3.3	Actual vehicle arrival time notification.	ITS	M
21	1.06	Provide customer with a less than 1 hour DRT Provider response time to a ride request	High	3.4.4.1.3	DRT Providers shall respond to an existing customer trip request in one hour or less based on availability during regular business hours.	ITS	M
21	1.06	Provide customer with a less than 1 hour DRT Provider response time to a ride request	High	3.4.7.6.4	DRT Providers shall respond to an existing customer trip request in one hour or less based on DRT Provider vehicle availability.	ITS	M
21	1.07	Provide customer with in-person (physical location) trip scheduling capability	High	3.2.1	The system shall provide customer access through in-person, telephone, website, and mobile application (APP) interfaces.	ITS	M
21	1.07	Provide customer with in-person (physical location) trip scheduling capability	High	3.2.3	The system shall be accessible by smartphone and mobile phone.	ITS	M
21	1.07	Provide customer with in-person (physical location) trip scheduling capability	High	3.2.4	The system shall also enable support staff, including DRT Providers, with direct electronic access to the TMCC through internet website and mobile APP (staff portals), to support in-person and telephone customer service.	ITS	M

San Luis Obispo County TMCC Project - System Requirements

Revised ConOps Page #	Need #	Collated Stakeholder Need	Stakeholder Priority (from ConOps)	Requirement ID#	Requirement	Requirement Category (ITS/Non-ITS)	Project Requirements (M=Mandatory; O=Optional)
21	1.07	Provide customer with in-person (physical location) trip scheduling capability	High	4.2.4	Telephone Access	Non-ITS	M
21	1.07	Provide customer with in-person (physical location) trip scheduling capability	High	4.2.5	In-Person Access	Non-ITS	M
21	1.08	Provide customer with trip journey planning services (fixed-para-train-taxi, etc.)	High	3.3.1.8	The system shall provide a URL to assist customers with multimodal transportation options.	ITS	M
21	1.08	Provide customer with trip journey planning services (fixed-para-train-taxi, etc.)	High	3.4.2	The system shall provide a URL to assist customers with multimodal transportation options.	ITS	M
21	1.08	Provide customer with trip journey planning services (fixed-para-train-taxi, etc.)	High	3.4.7.5	The system shall provide authorized staff with links to Information websites listed in Section 3.3.1.	ITS	M
21	1.09	Communicate DRT Provider vehicle lift-equipped capability and vehicle capacity to customer	High	3.3.3.1.15	Provide lift-equipped vehicle availability and type options when scheduling a trip.	ITS	M
21	1.09	Communicate DRT Provider vehicle lift-equipped capability and vehicle capacity to customer	High	3.3.6.6.15	Provide lift-equipped vehicle availability and type options when scheduling a trip.	ITS	M

San Luis Obispo County TMCC Project - System Requirements

Revised ConOps Page #	Need #	Collated Stakeholder Need	Stakeholder Priority (from ConOps)	Requirement ID#	Requirement	Requirement Category (ITS/Non-ITS)	Project Requirements (M=Mandatory; O=Optional)
21	1.09	Communicate DRT Provider vehicle lift-equipped capability and vehicle capacity to customer	High	3.4.4.1.4	The system shall provide the requested trip availability, fare, lit-equipped vehicle (if needed), and estimated travel time.	ITS	M
21	1.10	Enable direct phone call transfers between DRT Providers	High	4.2.4.1.5	Be capable of transferring telephone calls in a "One-Call" manner between DRT Providers.	Non-ITS	M
21	1.11	Create a single telephone number for customers to contact DRT Providers	High	4.2.4.1.1	Create a single, identifiable telephone number for customers to access services.	Non-ITS	M
21	1.12	Provide customer with 24/7, 365/day, telephone service availability	High	4.2.4.1.3	Be accessible on a 24-hour basis, 365 days/week.	Non-ITS	M
22	1.13	Create simple to use APP and website for customer	High	3.2.1	The system shall provide customer access through in-person, telephone, website, and mobile application (APP) interfaces.	ITS	M
22	1.13	Create simple to use APP and website for customer	High	3.2.3	The system shall be accessible by smartphone and mobile phone.	ITS	M
22	1.13	Create simple to use APP and website for customer	High	3.2.4	The system shall also enable support staff, including DRT Providers, with direct electronic access to the TMCC through internet website and mobile APP (staff portals), to support in-person and telephone customer service.	ITS	M

San Luis Obispo County TMCC Project - System Requirements

Revised ConOps Page #	Need #	Collated Stakeholder Need	Stakeholder Priority (from ConOps)	Requirement ID#	Requirement	Requirement Category (ITS/Non-ITS)	Project Requirements (M=Mandatory; O=Optional)
22	1.13	Create simple to use APP and website for customer	High	4.2.4	Telephone Access	Non-ITS	M
22	1.13	Create simple to use APP and website for customer	High	4.2.5	In-Person Access	Non-ITS	M
22	1.14	Leverage DRT Provider data	High	3.4.7.7.1	The system shall access DRT Provider CASD database and provide the status if a scheduled customer trip.	ITS	M
22	1.14	Leverage DRT Provider data	High	3.5.1	The system shall interface with DRT provider legacy CASD systems and databases for customer trip scheduling and management.	ITS	M
22	1.15	Enable "new" riders to register for applicable services(s)	High	3.3.2.1	The system shall provide a new customer (not registered) the option of skipping the account registration process until required.	ITS	M
22	1.15	Enable "new" riders to register for applicable services(s)	High	3.3.2.4	The system shall provide a new customer using the website or mobile APP with the following secure access features.		
22	1.15	Enable "new" riders to register for applicable services(s)	High	3.3.6.4	The system shall record registration information for new customers entered by authorized staff (excluding those customers already served by a DRT Provider program, such as approved Runabout ADA	ITS	M

San Luis Obispo County TMCC Project - System Requirements

Revised ConOps Page #	Need #	Collated Stakeholder Need	Stakeholder Priority (from ConOps)	Requirement ID#	Requirement	Requirement Category (ITS/Non-ITS)	Project Requirements (M=Mandatory; O=Optional)
					paratransit riders) through the following secure services.		
22	1.16	Utilize existing DRT Provider technologies	High	3.5.1	The system shall interface with DRT provider legacy CASD systems and databases for customer trip scheduling and management.	ITS	M
22	1.16	Utilize existing DRT Provider technologies	High	3.5.2	The system shall be capable of interfacing with DRT Provider fare payment systems.	ITS	M
22	1.16	Utilize existing DRT Provider technologies	High	3.6.2	The system shall interface with DRT Provider legacy CASD systems to obtain trip level cost, reconciliation, and verification for billing and invoicing functions.	ITS	M
22	1.16	Utilize existing DRT Provider technologies	High	4.2.4.1.8	Utilize existing legacy DRT Provider telephony systems and call centers.	Non-ITS	M
22	1.17	Provide a unified fare payment capability	High	3.3.5.1.2	The system shall allow DRT Provider staff access to renew existing customer fare media and payment accounts.	ITS	M
22	1.17	Provide a unified fare payment capability	High	3.3.5.1.3	The system shall permit the DRT Provider, customer, and sponsor to use a debit or credit card to renew fare media.	ITS	M

San Luis Obispo County TMCC Project - System Requirements

Revised ConOps Page #	Need #	Collated Stakeholder Need	Stakeholder Priority (from ConOps)	Requirement ID#	Requirement	Requirement Category (ITS/Non-ITS)	Project Requirements (M=Mandatory; O=Optional)
22	1.17	Provide a unified fare payment capability	High	3.3.5.4	The system shall be capable of interfacing with any DRT Provider or human service agency fare technology.	ITS	M
22	1.17	Provide a unified fare payment capability	High	3.3.5.5	The system shall be scalable to manage multiple fare structures for all DRT Providers.	ITS	M
22	1.17	Provide a unified fare payment capability	High	3.3.6.10	The system shall permit the DRT Provider, customer, and sponsor to use a debit or credit card to renew fare media.	ITS	M
22	1.17	Provide a unified fare payment capability	High	3.4.6.4	The system shall be scalable to manage multiple fare structures for all DRT Providers.	ITS	M
22	1.17	Provide a unified fare payment capability	High	3.4.6.5	The system shall interface with any DRT Provider or human service agency fare technology.	ITS	M
22	1.17	Provide a unified fare payment capability	High	3.4.6.6	The system shall interface with human service agency fare systems to enable payment for authorized rides.	ITS	M
22	1.17	Provide a unified fare payment capability	High	3.4.6.11	The system shall accept DRT Provider, customer, and sponsor valid debit or credit cards to renew fare media.	ITS	M
22	1.17	Provide a unified fare payment capability	High	3.4.6.13	The system shall permit the customer to pay the DRT provider directly,	ITS	M

San Luis Obispo County TMCC Project - System Requirements

Revised ConOps Page #	Need #	Collated Stakeholder Need	Stakeholder Priority (from ConOps)	Requirement ID#	Requirement	Requirement Category (ITS/Non-ITS)	Project Requirements (M=Mandatory; O=Optional)
					outside the fare management system.		
22	1.17	Provide a unified fare payment capability	High	3.4.7.9	The system shall permit the DRT Provider, customer, and sponsor to use a debit or credit card to renew fare media.	ITS	M
22	1.17	Provide a unified fare payment capability	High	3.5.2	The system shall be capable of interfacing with DRT Provider fare payment systems.	ITS	M
22	1.17	Provide a unified fare payment capability	High	3.5.8	The system shall meet all applicable ITS standards.	ITS	M
22	1.17	Provide a unified fare payment capability	High	3.5.6	The system shall be capable of interfacing with any DRT Provider or human service agency fare management systems.	ITS	M
22	1.17	Provide a unified fare payment capability	High	3.5.7	The system shall be capable of integration with all contact and contactless fare media.	ITS	M
22	1.17	Provide a unified fare payment capability	High	4.5.2.4	Create fare media management policies and procedures.	Non-ITS	M
22	1.17	Provide a unified fare payment capability	High	4.5.5.2	Identify DRT Provider fare structures applicable to the TMCC.	Non-ITS	M
22	1.17	Provide a unified fare payment capability	High	4.5.5.3	Develop and document fare management policies and procedures. Specifically address riders with fare payment challenges.	Non-ITS	M

San Luis Obispo County TMCC Project - System Requirements

Revised ConOps Page #	Need #	Collated Stakeholder Need	Stakeholder Priority (from ConOps)	Requirement ID#	Requirement	Requirement Category (ITS/Non-ITS)	Project Requirements (M=Mandatory; O=Optional)
22	1.17	Provide a unified fare payment capability	High	4.5.5.4	Develop DRT Provider and participating stakeholder fare management processes, including reimbursement rates for coordinated trips.	Non-ITS	M
22	1.17	Provide a unified fare payment capability	High	4.5.5.5	Develop and document DRT Provider accounting processes, including payment and fare management services.	Non-ITS	M
22	1.17	Provide a unified fare payment capability	High	4.5.5.6	Create fare media management policies and procedures.	Non-ITS	M
22	1.17	Provide a unified fare payment capability	High	4.5.5.7	Establish fare media accounting and reimbursement procedures with all DRT Providers and other participating stakeholders.	Non-ITS	M
22	1.18	Provide customer with secure online access for electronic services	High	3.1.7.3	The system shall provide secure access to TTT Portals based on stakeholder level, including (see Section 2.1): 3.1.7.1 Customer Portal: Individual 3.1.7.2 Staff Portal: Prior-approved Caretakers, Sponsors, Human Service Agencies, and Community Organizations. Provider Portal: Prior-approved DRT Providers.	ITS	M

San Luis Obispo County TMCC Project - System Requirements

Revised ConOps Page #	Need #	Collated Stakeholder Need	Stakeholder Priority (from ConOps)	Requirement ID#	Requirement	Requirement Category (ITS/Non-ITS)	Project Requirements (M=Mandatory; O=Optional)
22	1.18	Provide customer with secure online access for electronic services	High	3.1.8	The system shall provide secure access to all customer information.	ITS	M
22	1.18	Provide customer with confirmed fare after booking trip	High	3.4.4.1.15	DRT Provider confirms the existing customer's requested trip and fare within ten seconds.	ITS	M
22	1.18	Provide customer with confirmed fare after booking trip	High	3.4.4.1.16	DRT Provider sends the confirmed trip, fare, and cancellation policy information to the existing customer by e-mail or text (preference listed in their profile).	ITS	M
22	1.18	Provide customer with confirmed fare after booking trip	High	3.4.7.6.13	DRT Provider confirms the existing customer's requested trip and fare.	ITS	M
22	1.18	Provide customer with confirmed fare after booking trip	High	3.4.7.6.14	DRT Provider sends the confirmed trip, fare, and cancellation policy information to the existing customer by e-mail or text (preference listed in their profile).	ITS	M
22	1.19	Provide customer with trip confirmation (after trip is scheduled)	High	3.4.4.1.15	DRT Provider confirms the existing customer's requested trip and fare within ten seconds.	ITS	M
22	1.19	Provide customer with trip confirmation (after trip is scheduled)	High	3.4.4.1.16	DRT Provider sends the confirmed trip, fare, and cancellation policy information to the existing customer by e-mail, text, phone, website, or APP	ITS	M

San Luis Obispo County TMCC Project - System Requirements

Revised ConOps Page #	Need #	Collated Stakeholder Need	Stakeholder Priority (from ConOps)	Requirement ID#	Requirement	Requirement Category (ITS/Non-ITS)	Project Requirements (M=Mandatory; O=Optional)
					(preference listed in their profile).		
22	1.19	Provide customer with trip confirmation (after trip is scheduled)	High	3.4.7.6.13	DRT Provider confirms the existing customer's requested trip and fare.	ITS	M
22	1.19	Provide customer with trip confirmation (after trip is scheduled)	High	3.4.7.6.14	DRT Provider sends the confirmed trip, fare, and cancellation policy information to the existing customer by e-mail or text (preference listed in their profile).	ITS	M
22	1.20	Enable data to be shared between DRT Providers	High	3.5.1	The system shall interface with DRT provider legacy CASD systems and databases for customer trip scheduling and management.	ITS	M
22	1.20	Enable data to be shared between DRT Providers	High	4.3.10	The system shall provide secure data sharing between agencies, such as existing customer trip information.	Non-ITS	M
22	1.21	Trip verification/confirmation (who owns the trip - client's host agency?)	High	3.4.4.1.17	Provide the confirmed trip and fare information to the existing customer's sponsoring agency (if applicable).	ITS	M
22	1.21	Trip verification/confirmation (who owns the trip - client's host agency?)	High	3.4.7.6.15	Provide the confirmed trip and fare information to the existing customer's sponsoring agency (if applicable).	ITS	M

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22	2.00	Create DRT Provider inter-agency service agreements	High	4.5.1.1	Create DRT Provider inter-agency agreements for TMCC participation.	Non-ITS	M
22	2.01	Create a DRT Provider "agency-only" telephone number	High	4.2.4.1.9	Create a DRT Provider "staff only" telephone number to address administrative, operations, and customer needs.	Non-ITS	M
22	2.02	Identify all DRT Providers services available to the public	High	4.5.2.6	Identify all DRT Provider services that can be included in the TMCC.	Non-ITS	M
22	2.03	Develop operations coordination protocols between DRT Providers (business rules)	High	4.5.2.3	Develop DRT Provider operational policies and procedures to support inter-agency trip coordination and TMCC service provision, such as trip booking, day of service trip management (where applicable), staff communication, age eligibility, and customer needs support.	Non-ITS	M
22	2.04	Develop minimum DRT Provider levels of insurance, staff training, and maintenance	High	4.5.2.2	Develop the following service provision requirements. 4.5.2.2.1 Minimum level of vehicle insurance. 4.5.2.2.2 Staff training requirements (CSR, administrative, driver). 4.5.2.2.3 Technology support and maintenance. 4.5.2.2.4 Vehicle maintenance.	Non-ITS	M

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22	2.05	Develop DRT Provider customer quality assurance measures	High	4.5.6	Measures for Success	Non-ITS	M
22	2.06	Encourage customers to use fixed route as options to DRT	High	4.5.10.1	Encourage customers to utilize fixed route transit services.	Non-ITS	M
22	2.07	Understand DRT Provider institutional barriers	High	4.5.10.2	Identify and address DRT Provider barriers to participate in the TMCC.	Non-ITS	M
22	2.08	Involve DRT Provider governing boards in the process as appropriate (those applicable)	High	4.5.10.3	Engage DRT Provider Boards of Directors (those appropriate) in the TMCC process.	Non-ITS	M
22	2.09	Utilize existing DRT Provider call centers	High	4.2.4.1.5	Be capable of transferring telephone calls in a "One-Call" manner between DRT Providers.	Non-ITS	M
22	2.09	Utilize existing DRT Provider call centers	High	4.2.4.1.8	Utilize existing legacy DRT Provider telephony systems and call centers.	Non-ITS	M
22	2.09	Utilize existing DRT Provider call centers	High	4.4.3	The system shall be designed so that all telephone access functions can be transferred to another DRT Provider or stakeholder agency.	Non-ITS	M
22	2.09	Utilize existing DRT Provider call centers	High	4.4.6	The system shall be capable of being managed from remote locations for emergency management purposes.	Non-ITS	M

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22	2.09	Utilize existing DRT Provider call centers	High	4.6.1	Develop DRT Provider operational protocols to support inter-agency trip coordination and TMCC service provision, such as trip booking, day of service trip management, staff communication, age eligibility, and customer needs support.	Non-ITS	M
22	2.10	Ensure DRT Provider consistency of information communicated to the customer	High	4.5.8	Training	Non-ITS	M
22	2.11	Create a project name and logo	High	4.5.7.3	Market new TMCC brand and co-brand with other participating DRT Provider, transportation, and information stakeholders.	Non-ITS	M
22	2.12	Place logo in a visible location on all participating DRT Provider vehicles	High	4.5.7.5	Identify methods for the receipt, collection, and tracking of customer feedback.	Non-ITS	M
22	2.13	Marketing and promote the TMCC to the public	High	4.5.7.1	Create a TMCC marketing plan, including a cost-sharing agreement to implement the marketing plan.	Non-ITS	M
22	2.13	Marketing and promote the TMCC to the public	High	4.5.7.2	Create a new TMCC brand, including name and logo.	Non-ITS	M

San Luis Obispo County TMCC Project - System Requirements

Revised ConOps Page #	Need #	Collated Stakeholder Need	Stakeholder Priority (from ConOps)	Requirement ID#	Requirement	Requirement Category (ITS/Non-ITS)	Project Requirements (M=Mandatory; O=Optional)
22	2.13	Marketing and promote the TMCC to the public	High	4.5.7.3	Market new TMCC brand and co-brand with other participating DRT Provider, transportation, and information stakeholders.	Non-ITS	M
22	2.13	Marketing and promote the TMCC to the public	High	4.5.7.4	Promote new TMCC brand through public education, adverting, and logo on all participating TMCC DRT Provider vehicles.	Non-ITS	M
22	2.14	Conduct customer education campaign	High	4.5.7.4	Promote new TMCC brand through public education, adverting, and logo on all participating TMCC DRT Provider vehicles.	Non-ITS	M
22	2.15	Establish accounting (payment/reimbursement) procedures between providers	High	4.5.5.4	Develop DRT Provider and participating stakeholder fare management processes, including reimbursement rates for coordinated trips.	Non-ITS	M
22	2.15	Establish accounting (payment/reimbursement) procedures between providers	High	4.5.5.5	Develop and document DRT Provider accounting processes, including payment and fare management services.	Non-ITS	M
22	2.15	Establish accounting (payment/reimbursement) procedures between providers	High	4.5.5.6	Create fare media management policies and procedures.	Non-ITS	M
22	2.16	Identify fares for all ridership categories	High	4.5.5.2	Identify DRT Provider fare structures applicable to the TMCC.	Non-ITS	M

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22	2.17	Conduct DRT Provider staff training	High	4.5.8.1	Create and provide TMCC start-up and ongoing training for DRT Providers and other stakeholder staff on all system policies and procedures.	Non-ITS	M
22	2.17	Conduct DRT Provider staff training	High	4.5.8.2	Train DRT Provider and participating stakeholder staff on the website, mobile, telephone, in-person, and staff portal access methods and features.	Non-ITS	M
22	2.18	Identify DRT Provider staff to support the TMCC	High	4.5.4.1	Identify DRT Provider and participating stakeholder staffing and roles in support of the TMCC.	Non-ITS	M

7 References

The following are local and other supporting documents, along with MSAA systems engineering references, utilized by the Project Management Team (PMT) in development of the System Requirements.

7.1 Local and Other Supporting Documents

- 7.1.1 TMCC Advisory Committee meeting notes, January 31, 2017.
- 7.1.2 TMCC Advisory Subcommittees Meeting Notes - Transportation Provider, Technology, and User/Rider, November 2-3, 2016, February 28 & March 1, 2017, March 16, 2017, and May 2, 2017.
- 7.1.3 Presentation – Mr. Kevin Chambers, Ride Connection, Portland, OR – Data “Clearinghouse,” for the Technology Subcommittee, May 2, 2017.
- 7.1.4 SLO County TMCC Project – TMCC Technology Tool (TTT) Functional Requirements, Working Processes, and Options, draftv04, March 20, 2017.
- 7.1.5 AASHTO MTAP Information Alert (request) for similar technology best practices, submitted by CalTrans through AASHTO to peer member state departments of transportation, February 2017.
- 7.1.6 SLO County MSAA Project preliminary draft TMCC System Requirements, December 22, 2016.
- 7.1.7 SLOCOG Comments and Revised Flow Chart, November 15, 2016, in response to SLO County MSAA Project preliminary draft TMCC System Requirements, dated October 24, 2016.
- 7.1.8 Ride-On/SLO County MSAA Project Website (<http://ride-on.org/msaa.php>)
- 7.1.9 Stakeholder Agency Websites (listed in Section 2).

7.2 MSAA and Systems Engineering References

- 7.2.1 The San Luis Obispo County Travel Management Coordination Center (TMCC) Draft System Requirements, February 15, 2017 – FTA and TA Team Comments received on April 25, 2017.
- 7.2.2 The San Luis Obispo County Travel Management Coordination Center (TMCC) Concept of Operations, Ride-On Transportation, September 16, 2016.
- 7.2.3 Final Project Management Plan (PMP), The San Luis Obispo County Travel Management Coordination Center (TMCC) Project, Ride-On Transportation, January 27, 2016.

- 7.2.4 The San Luis Obispo County Travel Management Coordination Center (TMCC) Application to FTA, Ride-On Transportation/RTA, July 2014.
- 7.2.5 Tips for Writing Requirements, Noblis, November 30, 2016.
- 7.2.6 System and Subsystem Requirements Template, Noblis, November 30, 2016.
- 7.2.7 FTA TA Team Comments on the Preliminary Draft Systems Requirements and draft Systems Requirements Deliverable outline, Dawn Hardesty, Noblis, January 9, 2017.
- 7.2.8 FTA Monthly Project Status Conference Call, January 18, 2017.
- 7.2.9 FTA Mobility Services for All Americans (MSAA): System Requirements and Architecting Overview, January 18, 2017.
- 7.2.10 Mobility Services for All Americans (MSAA) Phase 1 - System Development and Design: Travel Management Coordination Center (TMCC), Lower Savannah Council of Governments, SC, October 31, 2007.
- 7.2.11 Atlanta Regional Transportation Management Coordination Center, Atlanta Regional Commission, GA, April 30, 2008.
- 7.2.12 Mobility Services for All Americans (MSAA) Phase 1 - System Development and Design: Travel Management Coordination Center (TMCC), Deliverable #3: System Requirements (Revised), Paducah Area Transit System, KY, April 30, 2008.
- 7.2.13 MORE-TMCC (Model Orlando Regionally Efficient TMCC) Requirements Document, Central Orlando Regional Transportation Authority (LYNX), FL, April 2008.
- 7.2.14 Camden County Travel Management Coordination Center Demonstration Project, Camden County Workforce Investment Board, NJ, February 15, 2008.
- 7.2.15 M-ITS: MART'S Integrated Traveler Services, Demonstration of Enhanced Human Service Transportation Models: Phase I – System Development and Design, Montachusett Regional Transit Authority, MA, January 31, 2008.
- 7.2.16 Integrated Corridor Management: Implementation Guide and Lessons Learned, USDOT/ITS Joint Program Office and Noblis, Inc., February 2012 (http://ntl.bts.gov/lib/47000/47600/47670/FHWA-JPO-12-075_FinalPKG_508.pdf)
- 7.2.17 Systems Engineering Guidebook for ITS, Version 3.0, USDOT/FHWA, November 2009 (<https://www.fhwa.dot.gov/cadiv/segb/files/segbversion3.pdf>)
- 7.2.18 Louisville Travel Management Coordination Center, Transit Authority of River City, KY, January 2008.
- 7.2.19 USDOT MSAA Initiative Workshop: “Mobility and Technology Solutions for Coordinated Human Services Transportation Systems,” October 3, 2016, Asheville, NC.
- 7.2.20 Integrated Corridor Management: Implementation Guide and Lessons Learned, Version 1.1, USDOT/FHWA, February 2012.

Appendix A: Document Version Changes

Version Number	Date	Description of Changes	Status
01	February 15, 2017	Draft Document	Submitted to FTA for review and comment.
02	June 1, 2017	Revised Draft Document	Submitted to FTA for review and comment.
03	July 13, 2017	Final Document	Approved by FTA.

Attachment B: CTSA-Supported Organizations

Performing Arts Foundation	Morro Bay Winter Bird Festival	Ballet Theatre of SLO
Cal Poly University	American Cancer Society	Jubilee by the Sea
San Luis International Film Festival	SLO Arts Council	Monday Club
Youth Works	Bay Foundation of Morro Bay	SLO Chamber of Commerce
SLO Arts Council	Boys and Girls Club of Oceano	Central Coast Gymnastics
SLO Symphony	Campfire Boys and Girls	Canyon Creek Learning Center
South County Youth Coalition	Cuesta College	SLO Sportsmen's Association
Templeton Youth Center	Child Development Center	City of Pismo Beach
SLO YMCA	Economic Opportunity Commission	Hearst Cancer Foundation
Achievement House	French Hospital	SLO County Veterans' Services
SLO County Department of Social Services	Sierra Vista Hospital	Epic Camp
California Children's Services	Life Span	Architectural Society
Bella Vista Center	Morro Bay Senior Center	Cal Poly Trekkers
Arroyo Grande Care Center	Morro Bay Park and Recreation	Hospice Partners of SLO County
Pathpoint, Inc.	SLO County Social Services	SLO Kiwanis Club
SLO Health Department	Pacific Repertory Opera	Air Pollution Control District
North County Industries	R&D Transportation	Cambria Historical Society
Lifesteps Foundation, Inc.	San Luis Obispo Park and Recreation	Central Coast Wine Classic
Escuela Del Rio	Transitions Program	Pacific Gas and Electric
Tri-Counties Regional Center	Cambria Community Bus	Veterans Express
People First	Earth Day Celebration	St. Patrick's Church
California Department of Rehabilitation	Manse on Marsh	American Heart Association
SLO Devita Dialysis Center	Elderhostel	Mission View Care Center
Danish Care Center	Association of Amputee Surfers	Nature Conservancy
Pacific Care Center	Woods Humane Society	SLO Historical Society
Twin Cities Hospital	Mission View Care Facility	SLO Senior Center
Arroyo Grande Hospital	People Self Help Housing	Elder Hostel