



Draft Concept of Operations

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
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
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
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
USDOT	United States Department of Transportation
USDHHS	United States Department of Health and Human Services

1 INTRODUCTION

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

Since inception in 1993, Ride-On Transportation (Ride-On) has continued seeking opportunities to enhance personal mobility options for residents and visitors across San Luis Obispo (SLO) County. Through this effort, Ride-On's designation by the SLO Council of Governments (SLOCOG) as the county's Consolidated Transportation Services Agency (CTSA) has continued to enhance the organization's mobility management focus while seeking partnerships to coordinate human service and public transportation resources.

Through this collaborative effort, the 2015 award of Federal Transit Administration (FTA) Mobility Services for All Americans (MSAA) funding has provided Ride-On, SLO County Regional Transit Authority (RTA), and stakeholders with the catalyst to leverage the Intelligent Transportation Systems (ITS) Systems Engineering process to further explore coordinating the community's Demand Response Transportation (DRT) services while providing real-time information to the public.

The San Luis Obispo County Travel Management Coordination Center (TMCC) project focuses on designing an interoperable, replicable, and scalable technology system with the goals of providing real-time transportation information and trip scheduling choices for the general public through the coordination of public and human service DRT. With the development of the proposed TMCC, San Luis Obispo County will be home to a fully accessible transportation information and services resource that will be available through multiple solutions 24 hours/day, 7 days/week, 365 days/year.

2 CURRENT CONDITIONS

The following section provides an overview of current conditions related to the existing transportation services, customer access, and transit technology solutions in San Luis Obispo County.

2.1 Transportation Services in San Luis Obispo County

San Luis Obispo (SLO) County is home to public, private, and non-profit organizations that provide DRT services, also known as dial-a-ride and paratransit, and fixed route transportation services for the general public and human service agency customers. The county is also home to transportation information resource agencies that provide customers with information and referral services in the community. The following is an overview of the transportation providers, information resources, and services provided.

2.1.1 Demand Response Transportation (DRT) Providers

Table 1 provides an overview of legally operating public, private, and non-profit DRT Providers and services in SLO County. Note, a Transportation Network Company (TNC) operates illegally in SLO County and is not reflected in this provider compilation.

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	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 Monday-Sunday consistent with fixed route service hours for ADA

DRT Provider	Service Description
	<p>complementary paratransit-eligible customers. The Runabout call center is available Monday-Sunday, 8:00 am – 5:00 pm, for transportation information and services. Customers may also view RTA information and services on their web-enabled application (app). 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 Runabout only accepts cash fare for payment and does not accept credit cards at this time. (http://www.slorta.org/)</p>
SLO Safe Ride	<p>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 Monday-Sunday, 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/)</p>
Yellow Cab	<p>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 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/)</p>
Smart Shuttle	<p>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/)</p>
City of Morro Bay Call-A-Ride	<p>The City of Morro Bay provides Call-A-Ride, 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.</p>

2.1.2 Fixed Route Transit Providers

- **SLO Regional Transit Authority (RTA).** RTA provides regional public transit services and complementary Americans with Disabilities Act (ADA) Paratransit services throughout San Luis Obispo County. RTA operates six (6) fixed routes from Monday-Sunday, which includes South County Transit in southern SLO County. For information on the RTA's Runabout ADA Paratransit services, see Table 1. (<http://www.RTA.org/>)
- **City of San Luis Obispo Transit (SLO Transit).** The City of San Luis Obispo Transit provides public transit services in the city through eight (8) fixed routes, including a downtown trolley. SLO Transit connects areas across the city with their downtown transit center and the California Polytechnic University (Cal Poly) campus. (<http://www.slocity.org/government/department-directory/public-works/slo-transit>)
- **Morro Bay Transit.** The City of Morro Bay provides public transit services in the city through one (1) flexed fixed route. Morro Bay Transit connects their community interest areas and operates Monday through Sunday. (<http://www.morro-bay.ca.us/294/Morro-Bay-Transit>)

2.1.3 Transportation Information Resources

- **San Luis Obispo (SLO) Regional Rideshare/511.** A division of the SLO Council of Governments (SLOCOG), 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 telephone service. SLO Regional Rideshare also supports commuter, employer, student, and senior transportation options. SLO Regional Rideshare coordinates carpool and vanpool options throughout the county and urban area through their "Know How to Go!" program. (<http://knowhowtogoslo.org/>).
- **211 – United Way of San Luis Obispo.** 211 is a community information & referral service that is operated by the United Way of San Luis Obispo County. 211 features a "live" 24 hour/day call center located in Ventura, CA, and supporting website to provide community information, including transportation services, for callers in San Luis Obispo County. (<http://www.unitedwayslo.org/search-2-1-1-slo-county>)

2.1.4 Human Service Agencies and Community Organizations

In SLO County, human service agencies fund and support a variety of transportation programs for customer access to community services. The following are human service agencies and other community organizations that provide this supportive service.

- **Community Health Centers (CHC).** The CHC is a United States Department of Health and Human Service (USDHHS) funded network of health clinics that serve the County of San Luis Obispo. The CHC offers transportation assistance to patients who do not have a car and cannot use public transportation. (<http://www.communityhealthcenters.org/en/san-luis-obispo-casa-st.html>)
- **CenCal Health (Medi-Cal Program).** CenCal Health provides community healthcare choices along with administration of the Medi-Cal Program (USDHHS Medicaid Program) for San Luis Obispo County. CenCal Health provides transportation funding and contracted services for customers to access necessary Medi-Cal sponsored services. (<http://www.cencalhealth.org/>)
- **Community Action Program of San Luis Obispo (CapSLO).** CapSLO provides a variety of community-based human service programs, including Head Start, and client supportive services such as transportation. (<http://www.capslo.org/>)
- **SLO County Department of Social Services (DSS).** The SLO County DSS provides multiple human support assistance programs, including transportation (bus pass purchases), for persons meeting eligibility requirements. (<http://www.slocounty.ca.gov/dss.htm>)
- **Tri-Counties Regional Center.** “One of twenty-one non-profit regional centers in California providing lifelong services and supports for people with developmental disabilities residing in San Luis Obispo County.” Tri-Counties provides funding to Ride-On for contracted human service transportation. (<http://www.tri-counties.org/>)
- **California Consolidated Transportation Service Agency (CTSA) - supported Human Service and Community agencies.** Serving as the designated CTSA for SLO County, Ride-On provides CTSA-funded transportation services for participating human service and other community organization client transportation. For a list of CTSA-funded agencies, see Table 2.

Table 2. CTSA-Supported Human Service and Community 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

2.2 Customer Access to Transportation Services and Information

In SLO County, customers seeking transportation services and information have the ability to directly communicate with their DRT Provider, stand at a fixed route stop, connect with sponsoring human service agencies, and leverage transportation information resource providers. The following subsection and Table 3 provides a sample of current customer access methods to secure transportation services and information through DRT Providers and transportation information resource stakeholders.

2.2.1 Existing Customer Access to DRT Providers

Customers directly contact their DRT Provider to receive transportation services and information through the following access methods.

- **In-Person Access.** Ride-On and RTA allow for in-person visits to their offices for information and services during defined business hours. Other project stakeholders, such as transportation information resource and a select human service and community organizations provide their clients with a connection to transportation services.
- **Telephone Access.** All participating DRT Providers enable telephone access to their services and information during defined business hours. DRT Providers have the capability to forward telephone calls to other stakeholder as needed (SLO Safe Ride uses Google Voice). TDD and TTYs services are available at Ride-On and RTA. California Relay voice supported services for persons who are either deaf or hard of hearing are available at all DRT Provider locations.
- **Website Customer Access.** Available 24 hours/day, all DRT Providers have websites that provide service information. Ride-On, SLO Safe Ride, Yellow Cab, and Smart Shuttle have created web forms to allow customers to request trips.
- **Mobile APP Customer Access**
 - Ride-On. Available through internet-based, mobile-friendly service.
 - RTA. Available through internet-based, mobile-friendly service with fixed route information.
 - SLO Safe Ride. Mobile app access.
 - Yellow Cab. Available through internet-based, mobile-friendly service. Mobile app in development.
 - Smart Shuttle. Available through internet-based, mobile-friendly service. Mobile app in development.

Table 3. Customer Transportation Interest and Access Methods

Customer Transportation Interest	Customer Service Need	Customer Access Method
Transportation Service	Schedule a DRT ride / Book a trip	Customer calls DRT provider; limited online trip scheduling functionality.
	Check on a pre-arranged DRT trip	Customer calls DRT Providers.
	Seek lowest cost provider and service availability	Customer calls all DRT Providers for information.
	Calls Provider 1 and is recommended to call other Providers.	Customer hangs up and calls other providers.
	Fixed route options for DRT customers	Visit 511 and fixed route provider websites – use trip planners.
	DRT and Fixed Route trip planning	Customers conduct this process themselves by calling each provider and/or researching on provider or 511 websites. Regional Rideshare provides commuter trip information.
Transportation Information	Seek DRT Provider Information	Call or view DRT Provider websites. Limited information is available on the 511 website both telephone systems.
	Seek Fixed Route Information	Call/Visit websites for 511 and providers. The websites feature trip planners.
	Seek Human Service agency information	Call, visit websites, and use 211 to learn information about human service transportation options.
	Seek other DRT Provider information	Must do a web search for other providers.

2.3 Transportation Funding Partners

2.3.1 United States Department of Transportation (USDOT), Federal Transit Administration (FTA).

Provides federal transit funding and technical assistance for transit and human service agencies across the country. The MSAA project is funded by FTA and Ride-On.

2.3.2 California State Government:

- California State Transportation Agency:
 - California Department of Transportation (CalTrans). Provides federal and state transit funding to local grantees.
- California Health and Human Services Agency (and affiliated departments – i.e. Medi-Cal). Provides federal and state human service transportation funding to agencies across the state.

2.3.3 San Luis Obispo Council of Governments (SLOCOG).

SLOCOG serves as the Metropolitan Planning Organization and the regional ITS architecture coordinator. SLOCOG also oversees the regional coordinated transportation planning process, CTSA management, and also provides FTA Sections 5310 and 5311 grant funding recommendations to CalTrans. (<http://www.slocog.org/>)

2.4 Transportation Technology Resources

2.4.1 Customer Access

Currently, customers have access to transportation provider services and information through multiple technology resources such as telephone, individual websites, 511, Regional Rideshare's "Know How to Go SLO!" resource guide, and mobile applications (RTA, SLO Safe Ride, and SLO Transit).

2.4.2 DRT Provider – Current Intelligent Transportation Systems (ITS) Status

The DRT Providers currently have different types of technology to manage their organization's daily operations and to 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 DemandTM 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.

- **RTA Runabout.** Utilizes RouteMatch Software's DemandTM 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. RTA is procuring RouteMatch's Notification Module outbound IVR system to call 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.

2.4.3 DRT Providers - Current Technology Interfaces between Providers

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, the 511 and RTA's website systems provide fixed route trip planning services for the community.

2.5 DRT Providers – Existing Agency Staffing

All five DRT Providers have professional full and part time staff hired to manage daily administrative and operational services such as accounting, trip scheduling, and driving. Technology support staffing varies by provider, such as Ride-On has a hired technical support staff person.

In addition, other project stakeholders, such as human service agencies, have designated staff that are responsible for communicating their their agency's transportation needs and work with many of the DRT Providers.

TMCC staffing needs, costs, and design alternatives will be further evaluated in detail during the upcoming High-Level System Design deliverable stage of the project.

2.6 The Regional ITS Architecture

In general, the regional ITS architecture comprises local transportation technology projects for all modes and “provides region-level information that can be used and expanded in project development.”¹ As the designated urban Metropolitan Planning Organization (MPO), SLOCOG oversees the development, management, and maintenance of the region's ITS architecture plan. In speaking with SLOCOG staff in March 2016, the region is due for an update to the Regional ITS Architecture in the next year. SLOCOG staff indicated there are no other paratransit ITS deployments in the county that are not already participating in the TMCC design and there are no competing designs to the TMCC's. SLOCOG also indicated that when the TMCC design is finalized, it will be incorporated into the next revision of the ITS Architecture.

¹ (Systems Engineering Process for ITS: An Introduction for Transportation Professionals, USDOT/FHWA/FTA, January 2007)

3 SCOPE

This San Luis Obispo (SLO) County Concept of Operations document describes the proposed system characteristics from the proposed TMCC project stakeholders' perspectives. The ConOps also seeks to provide stakeholders with the proposed TMCC's vision, goals/objectives, expectations, anticipated roles and functions, and operating information on the context in which it will operate.

3.1 Document Contents.

The Concept of Operations contains the following contents.

- Introduction
- Current Conditions
- Project Scope
- System Boundaries
- Operational and Support Environment
- Operational Scenarios
- Summary of Impacts
- References
- Appendices

3.2 TMCC Vision

"To enhance personal mobility across San Luis Obispo County."

3.3 TMCC Goals and Objectives

3.3.1 Goal 1: Make available real-time DRT information and trip scheduling choices to the public.

- Objective 1: Provide real-time transportation provider service information to the public.
- Objective 2: Provide 90% of all demand response trip scheduling through the TMCC.
- Objective 3: Provide access to the TMCC through alternate means.

3.3.2 Goal 2: Coordinate public and human service DRT.

- Objective: Coordinate services between four 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.

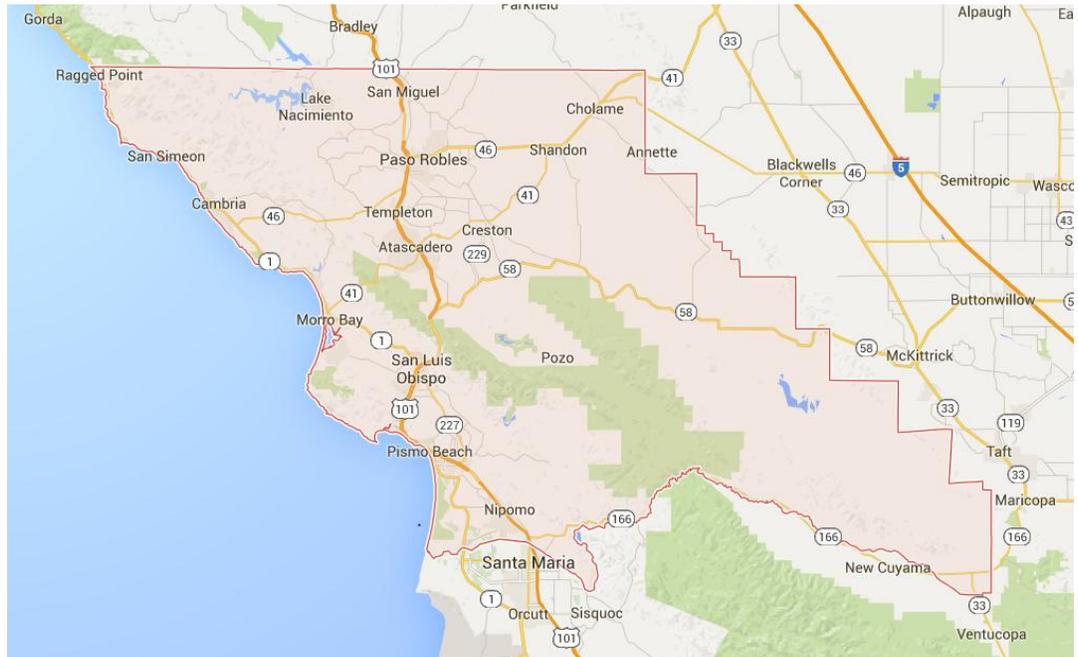
3.4 TMCC Audience

The TMCC Concept of Operations has a diverse stakeholder audience that will use, deploy, operate, fund, and benefit from the project. The Concept of Operations audience includes customers (end users), and transportation stakeholders, such as DRT Providers, fixed route providers, information resources, funding partners, and technology providers.

3.5 TMCC Coverage Area

The project focus for the TMCC is to provide real-time services and information through the coordination of DRT within San Luis Obispo County. See Figure 1 for a map of the TMCC coverage area. With the TMCC proposed to be scalable in nature, future opportunity for connections to other out-of-county markets are proposed for the system. For example, Ride-On, SLO Safe Rides, and Smart Shuttle currently provide out-of-county transportation services. Ride-On also provides connections with regional medical transportation providers, such as the VA, who enable customer out-of-county medical transportation to Los Angeles area communities for medical treatment. Ride-On also provides long distance Medi-Cal funded medical trips to Santa Maria, San Francisco, and Los Angeles as well.

Figure 1. Map of San Luis Obispo County



Courtesy: Google Maps

3.6 TMCC Stakeholders – “Who’s in”

Since commencement of the TMCC project, Ride-On has sought to engage multiple stakeholders in the process. The following section provides an overview of stakeholders who have agreed to participate in the project.

3.6.1 Customers

- General Public
- Human Service Agencies and Community Organizations
 - Community Health Centers
 - CenCal Health (Medi-Cal Program)
 - SLO County Department of Social Services (DSS)
 - CapSLO
 - Tri-Counties Regional Center
 - CTSA-supported agencies. See a listing in Table 2.

3.6.2 DRT Providers

Five demand response providers operating legally in SLO County have agreed to serve as initial TMCC DRT Partners, including Ride-On, RTA Runabout, SLO Safe Ride, Yellow Taxi, and Smart Shuttle. Table 1 provides an overview of these providers’ services.

3.6.3 Fixed Route Transit Providers

- RTA
- City of San Luis Obispo Transit (SLO Transit)
- City of Morro Bay Transit

3.6.4 Transportation Information Resource Providers

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

3.6.5 Transportation Funding Partners

- San Luis Obispo Council of Governments (SLOCOG).
- United States Department of Transportation:
 - Federal Transit Administration (FTA), and MSAA 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 (and affiliated departments)

3.6.6 Technology Providers

The following technology companies are TMCC stakeholder partners and provide technology for DRT and Fixed Route Providers.

- RouteMatch Software. Provides paratransit routing, scheduling and dispatching, mobile data tablets, and outbound Interactive Voice Recognition (IVR) notification technologies for Ride-On and RTA Runabout.
- Bishop Peak Technology. Provides the SLO Transit mobile application.

3.7 Identification of Customer Needs

To develop the TMCC for the community, the process must reflect the needs of the community.

The TMCC customer needs identification process commenced in December 2015 with the initial FTA project site visit and TMCC Advisory Committee (TMCCAC) meeting and continued through May 2016. Customer comments were sought after and received during this timeframe. Through this process, the Project Management Team identified multiple needs, shortcomings, and technology concerns in the development of the TMCC. The following section provides an overview of the stakeholder comment and needs solicitation process.

3.7.1 Outreach and Collection Process

TMCC customer needs were solicited and received by Ride-On through the following formats from December 2015 through May 2016. Customer needs received have been critical in the development of the Concept of Operations and serves as a basis for the TMCC's proposed services. To facilitate greater general public

and human service/community organization comments, Ride-On created a public outreach plan to solicit customer needs for the TMCC. Through the outreach plan, the following methods were used to solicit and receive customer needs.

- **General Public Outreach.** Commenced in early March 2016, Ride-On created a project website that included information such as a presentation overview of the TMCC project and English/Spanish language customer surveys (<http://ride-on.org/msaa-public-input-survey.php>) asked respondents questions such as (1) the level of difficulty in seeking transportation; (2) how could a TMCC help to overcome transportation difficulties; (3) methods to access community transportation resources; and (4) potential problems foreseen in creating a TMCC. In addition, Ride-On also reviewed and discussed survey questions with interested telephone respondents and recorded those customer comments as well.

Overall, Ride-On received over sixty-nine (69) survey responses from multiple diverse customer perspectives providing comments on TMCC project needs and perceived constraints. A list of unduplicated public comments received are illustrated in Appendix E.

- **Human Service Agency and Community Organization Outreach.** Ride-On presented an overview of the MSAA project to the following organizations and sought customer needs related to the project.
 - Adult Services Policy Council of SLO County (see Attachment D for an organization membership list) – presentation and committee comments.
 - SLO County Department of Social Service – staff outreach/customer feedback.
 - CenCal Health – advisory committee presentation and comments -and- staff outreach/customer feedback.
 - SLO County Senior Commission – presentation and feedback.
 - SLOCOG Social Services Transportation Advisory Committee (SSTAC) – presentation and comments.
 - City of San Luis Obispo Mass Transportation Advisory Committee – presentation and comments.
- **TMCC Advisory Committee (TMCCAC)**
Comprised of stakeholders referenced in Section 3.6, the TMCCAC and its three (3) working subcommittee members provide information and advice in the development of the

TMCC. The TMCCAC has met at least on a quarterly basis since the initial FTA site visit in December 2015 and its subcommittees (Provider, Technology, and Rider/User) have met almost monthly to discuss detailed project-related issues. Through these meetings, the committee partners have discussed key elements in the development of the TMCC, including identification of needs, creation of project objectives, discussion of DRT provider coordination opportunities, and other items of interest. Through this process, all TMCCAC and subcommittee meetings have been documented and notes shared with the committee members after each meeting. See Appendices B and C for a sample of TMCCAC and subcommittee meeting notes.

3.7.2 Needs and Constraints – Collation Process

During the customer input phase of the project, Ride-On documented the receipt of all customer and other stakeholder needs and constraints in separate Microsoft Excel databases for further analysis and future traceability. Unduplicated customer needs are listed in Appendix E and constraints are included in Appendix F.

- **Customer Needs.** In review of all customer needs received, Ride-On staff identified duplicated comments with like patterns and collated them into single customer needs. Table 4 illustrates the collated needs as organized and related to the project’s two goals. All collated customer needs were then used to create the project’s goal-based objectives and supports the design of the proposed TMCC.

Table 4. Collated Customer Needs

Goal #	Need #	Collated Need
1	1.00	Provide Transportation Services and Information through the following means: In-Person, Telephone, Website, and Mobile APP
1	1.01	Provide customer with transportation service options and agency contact information
1	1.02	Utilize existing 511 and 211 electronic and telephone services
1	1.03	Provide accessible services for senior citizens and persons with disabilities
1	1.04	Provide customer with a Fare Comparison of all transportation options (illustrate all available service providers and fares)
1	1.05	Provide customer with real-time vehicle arrival and travel time information
1	1.06	Provide customer with a less than 1-hour DRT Provider response time to a ride request
1	1.07	Provide customer with in-person (physical location) trip scheduling capability

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Goal #	Need #	Collated Need
1	1.08	Provide customer with trip journey planning services (fixed-para-train-taxi, etc.)
1	1.09	Communicate DRT Provider vehicle lift-equipped capability and vehicle capacity to customer
1	1.10	Enable direct phone call transfers between DRT Providers
1	1.11	Create a single telephone number for customers to contact DRT Providers
1	1.12	Provide customer with 24/7, 365/day, telephone service availability
1	1.13	Create simple to use APP and website for customer
1	1.14	Leverage DRT Provider data
1	1.15	Enable "new" riders to register for applicable services(s)
1	1.16	Utilize existing DRT Provider technologies
1	1.17	Provide a unified fare payment capability
1	1.18	Provide customer with secure online access for electronic services
1	1.18	Provide customer with confirmed fare after booking trip
1	1.19	Provide customer with trip confirmation (after trip is scheduled)
1	1.20	Enable data to be shared between DRT Providers
1	1.21	Trip verification/confirmation (who owns the trip - client's host agency?)
2	2.00	Create DRT Provider inter-agency service agreements
2	2.01	Create a DRT Provider "agency-only" telephone number
2	2.02	Identify all DRT Providers services available to the public
2	2.03	Develop operations coordination protocols between DRT Providers (business rules)
2	2.04	Develop minimum DRT Provider levels of insurance, staff training, and maintenance
2	2.05	Develop DRT Provider customer quality assurance measures
2	2.06	Encourage customers to use fixed route as options to DRT
2	2.07	Understand DRT Provider institutional barriers
2	2.08	Involve DRT Provider governing boards in the process as appropriate (those applicable)
2	2.09	Utilize existing DRT Provider call centers
2	2.10	Ensure DRT Provider consistency of information communicated to the customer
2	2.11	Create a project name and logo
2	2.12	Place logo in a visible location on all participating DRT Provider vehicles
2	2.13	Marketing and promote the TMCC to the public
2	2.14	Conduct customer education campaign
2	2.15	Establish accounting (payment/reimbursement) procedures between providers
2	2.16	Identify fares for all ridership categories
2	2.17	Conduct DRT Provider staff training
2	2.18	Identify DRT Provider staff to support the TMCC

- Customer Constraints.** Similar to the needs review process, customer constraints received were collated and then listed by recognizable categories by the Ride-On staff, including Administrative, Operational, and Technology. See Appendix F for a list of the collated customer constraints. Through the

TMCC design process, the DRT Providers and TMCCAC seek to address the identified constraints through tasks such as the discussion and development of inter-local agreements.

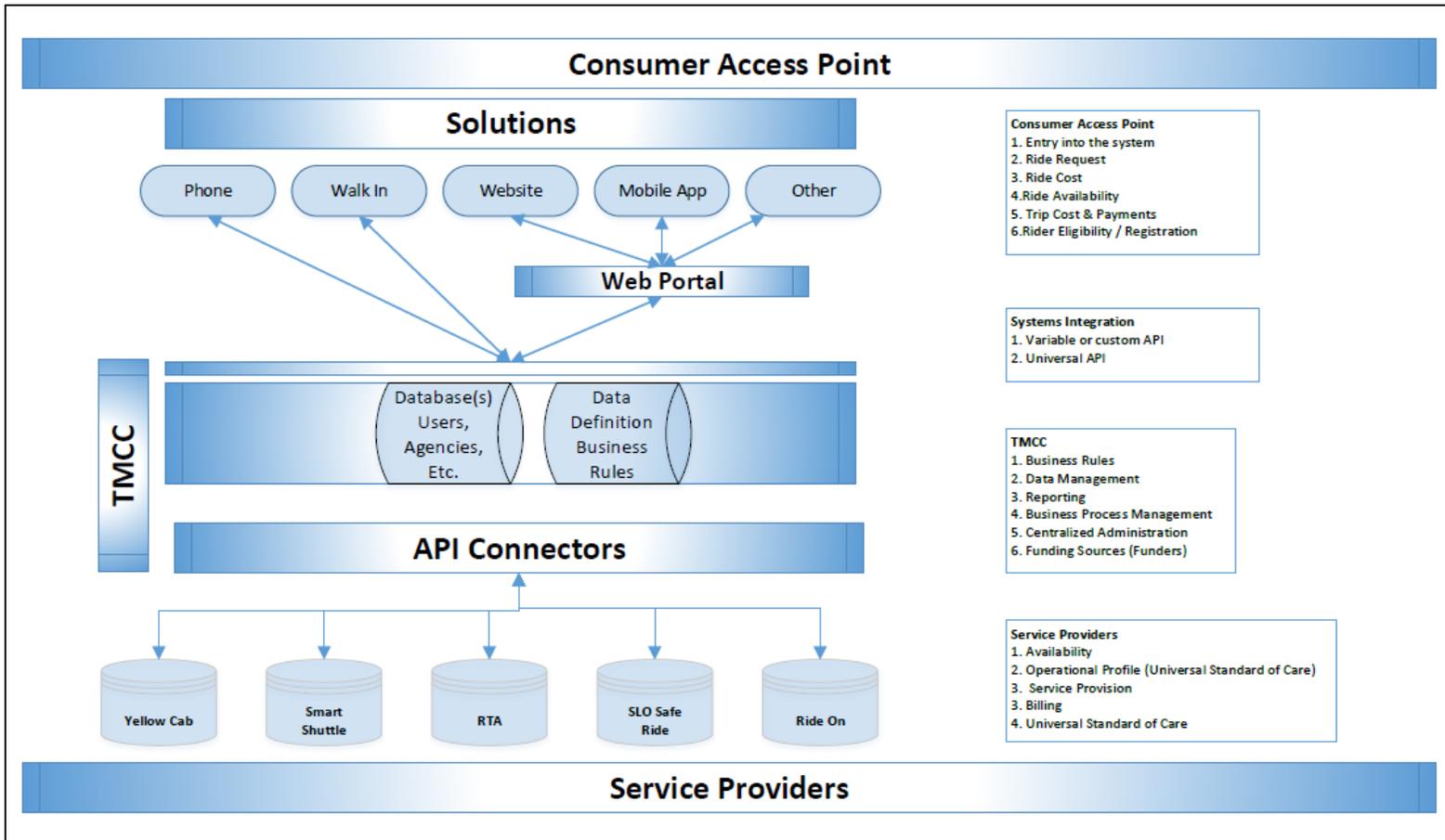
4 System Boundaries – What’s “In”

The following System Boundaries section depicts the environment in which the TMCC will operate, including human or machine interaction, in SLO County. The system boundaries also feature the proposed hypothetical TMCC system and elements associated with its operation.

4.1 Hypothetical TMCC System

The proposed hypothetical TMCC system aims to meet customer (user) needs listed in Table 4 and the project’s identified goals and objectives listed in Section 2. Through this effort, the Project Management Team (PMT) envisions the following hypothetical TMCC system as illustrated in Figure 2, Proposed TMCC High Level System Design Diagram (Customer Access Perspective).

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

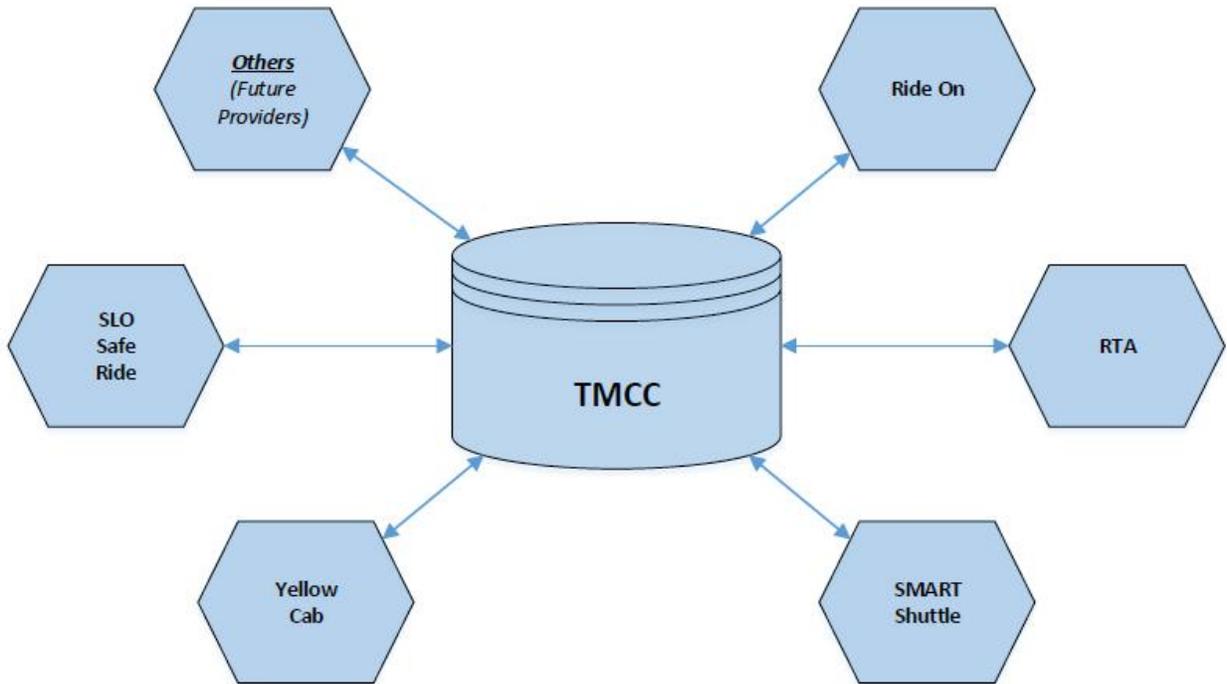


Courtesy: RouteMatch Software

4.1.1 Proposed TMCC DRT Service Providers

As illustrated in Figure 3 and discussed in Section 2, the proposed TMCC's services will be supported initially by five DRT Providers, including Ride-On, RTA, SLO Safe Ride, Yellow Cab, and Smart Shuttle. The system is envisioned to be scalable for additional future DRT providers participation.

Figure 3. Proposed TMCC DRT Service Providers

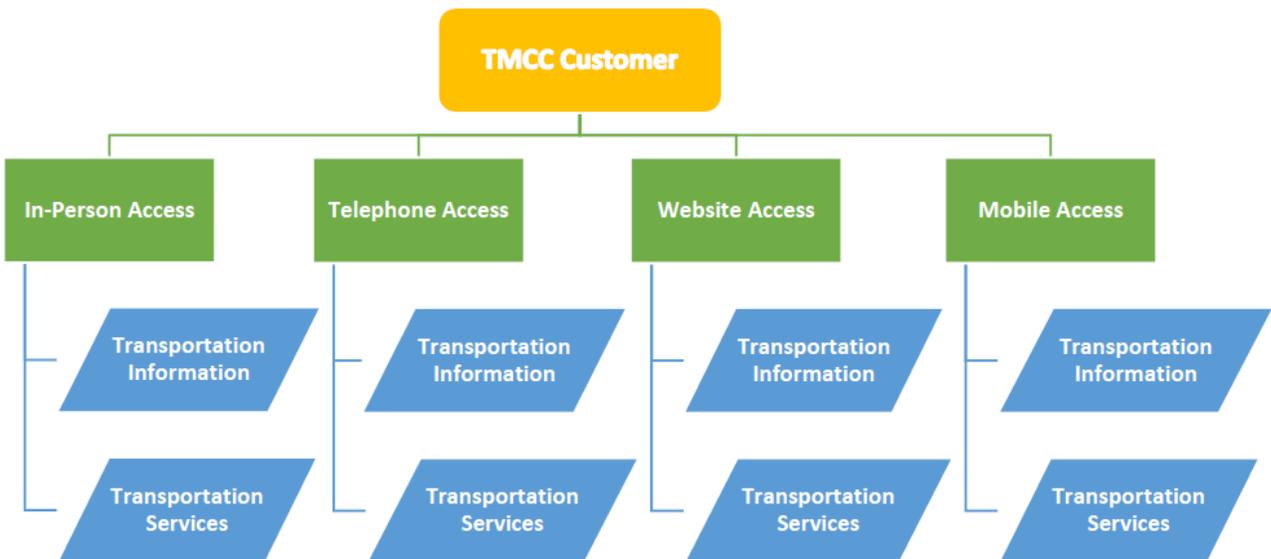


Courtesy: RouteMatch Software

4.1.2 Proposed TMCC Customer Access

As illustrated in Figure 4, TMCC customer access is proposed through the following in-person, telephone, website, and mobile app solutions.

Figure 4. Proposed TMCC Customer Access Solutions

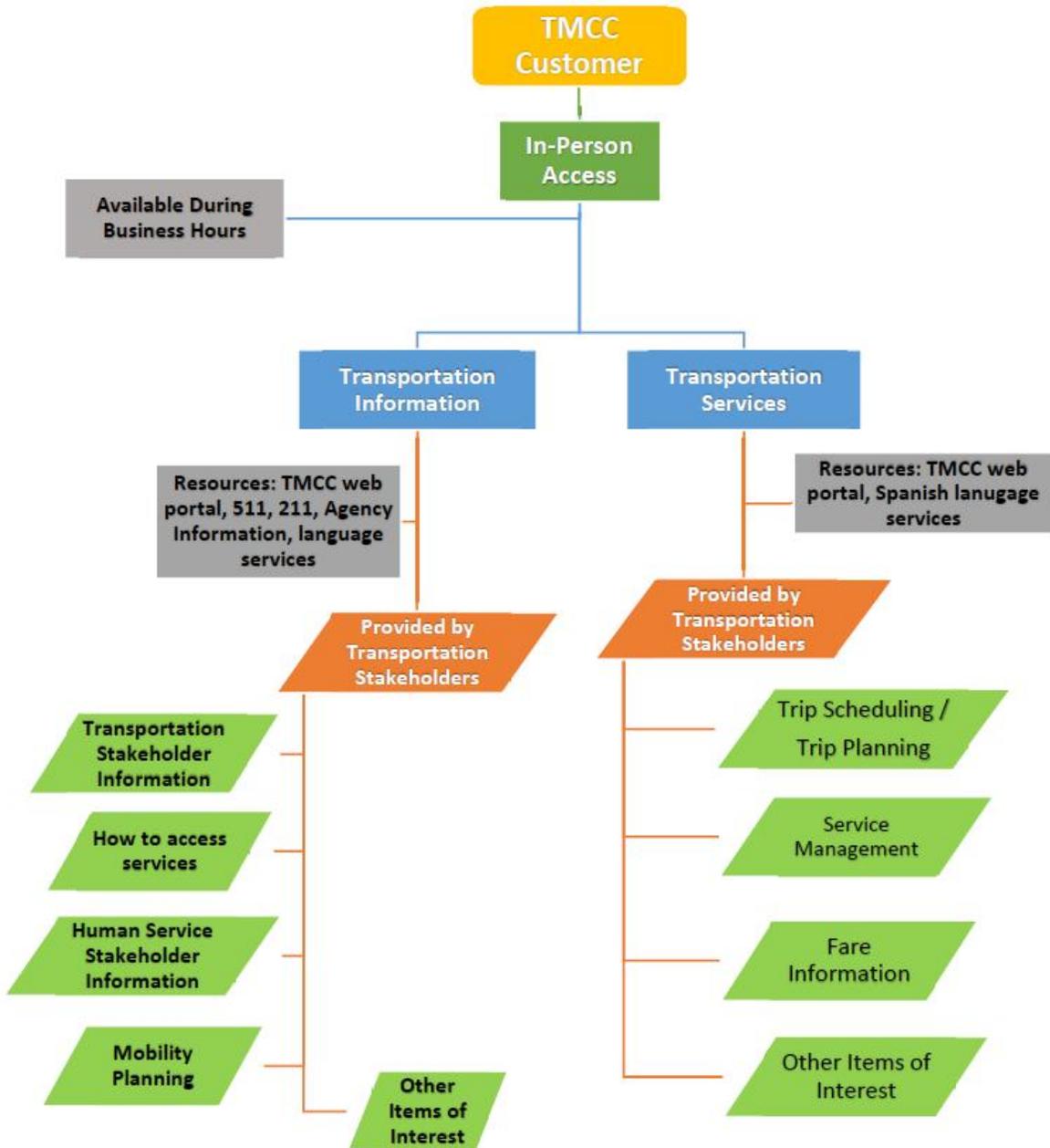


Courtesy: RouteMatch Software

- **In-Person Access.** To accommodate in-person customer access, it is envisioned that DRT Providers and other interested stakeholders have the capability to utilize the proposed TMCC system to assist the customer in providing “personal” services during business hours. Figure 5 illustrates In-Person Access to proposed TMCC services.
- **Telephone Access.** Customers are proposed to have the ability to either call a single new “one-call” TMCC telephone number or contact their DRT Provider directly. The TMCC customer will also have access to a “live” customer service representative (CSR) to address their questions. Figure 6 illustrates Telephone Access to proposed TMCC services.
- **Website Access.** The proposed TMCC system also provides a website for customers to access online transportation services and information. For future TMCC system access, Ride-On has secured a website domain, <http://www.go-slo.org>, for the project. Links will be made available to other stakeholder websites and important resources. Figure 7 illustrates proposed Website Access to proposed TMCC services.

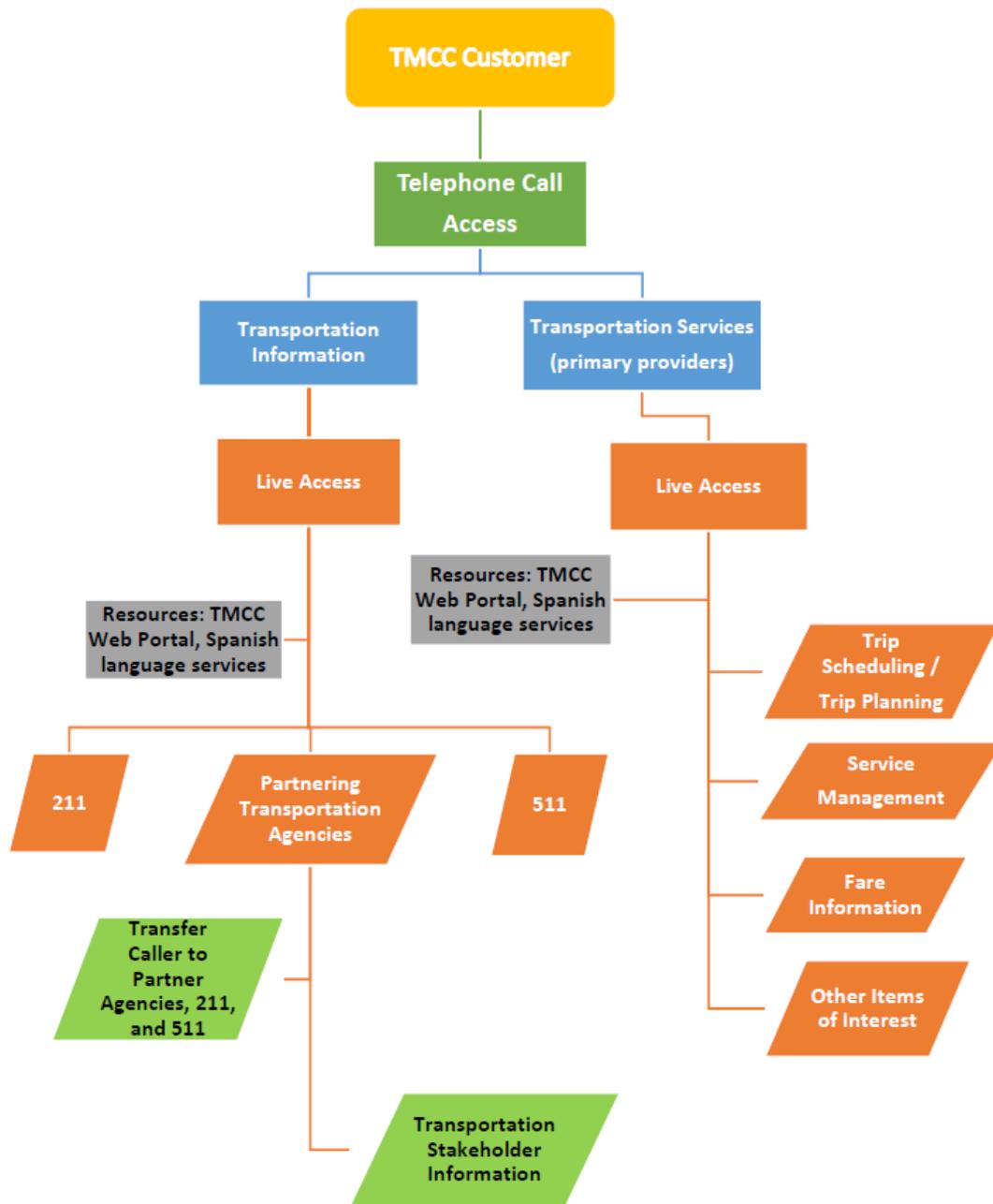
- Mobile Access.** Customers are proposed to have access to a TMCC mobile phone APP that provides transportation information and services from an easy to use and understand mobile app. Figure 8 illustrates the mobile app's proposed access to TMCC services.

Figure 5. Proposed TMCC In-Person Customer Access



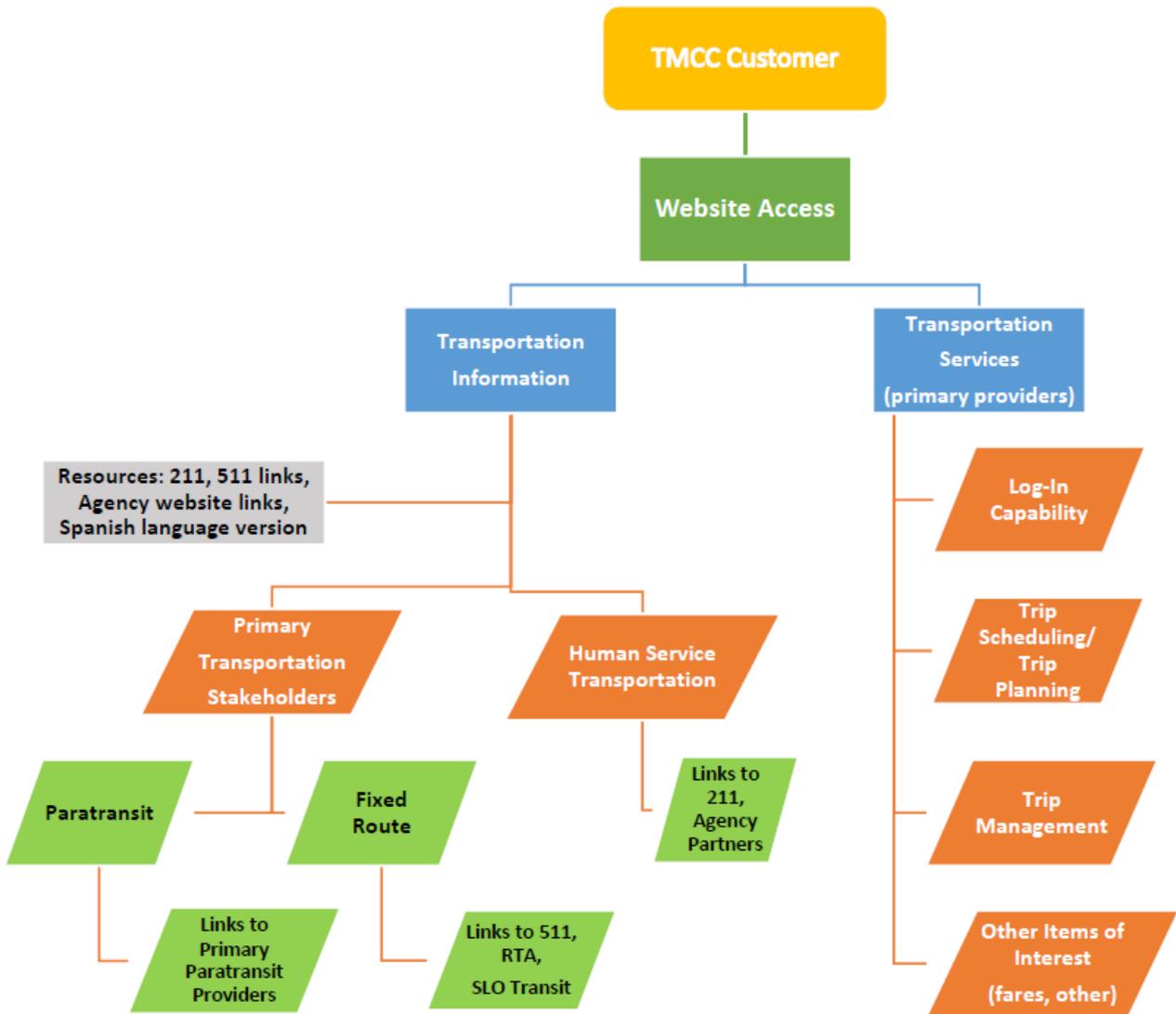
Courtesy: RouteMatch Software

Figure 6. Proposed TMCC Telephone Customer Access



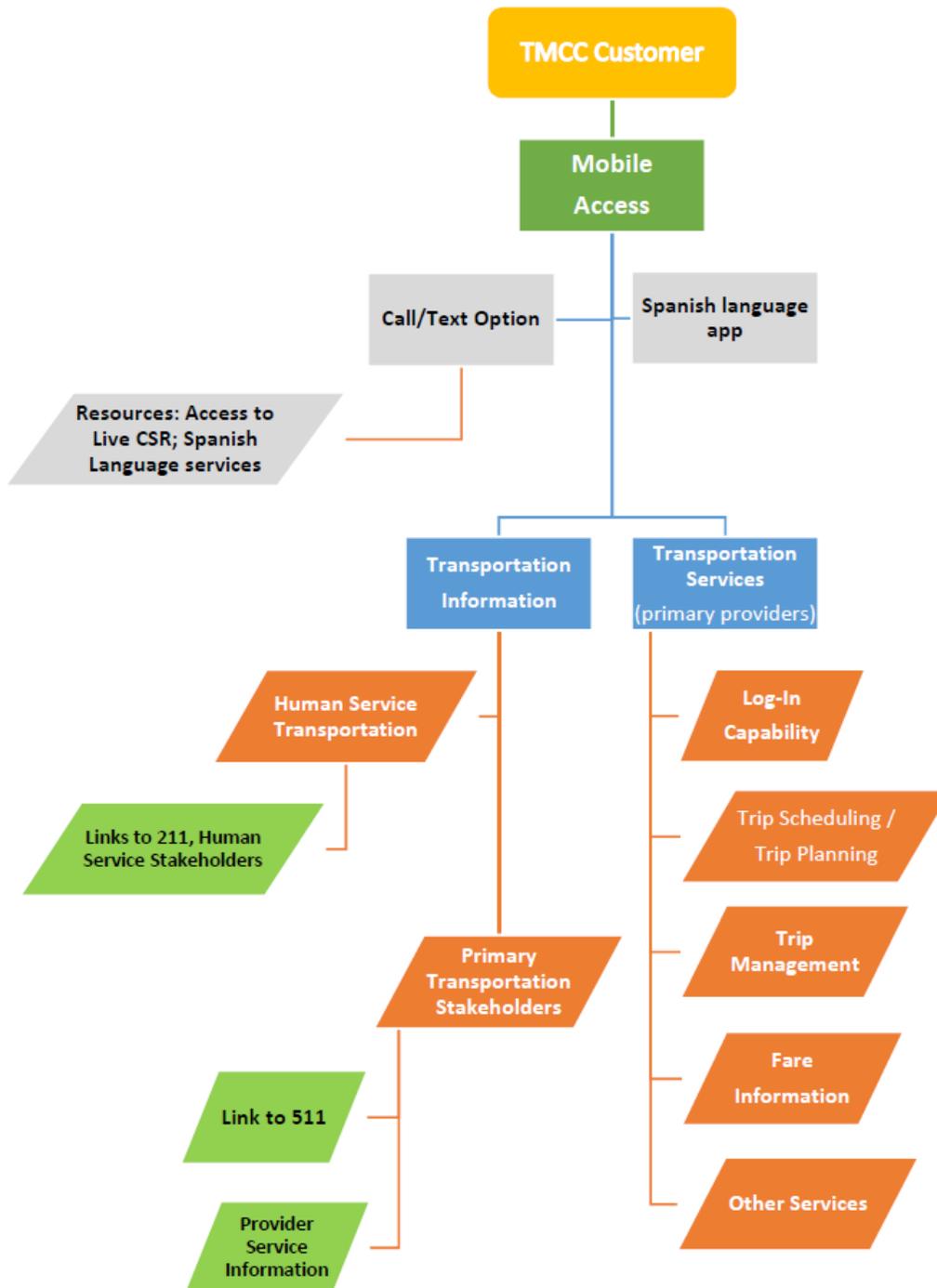
Courtesy: RouteMatch Software

Figure 7. Proposed TMCC Website Customer Access



Courtesy: RouteMatch Software

Figure 8. Proposed TMCC Mobile Customer Access



Courtesy: RouteMatch Software

4.1.3 Proposed TMCC Customer Services

The TMCC system is proposed to provide customers (as defined in Section 2) with access to real-time DRT trip scheduling and transportation information. The following are sample services proposed to be provided by the TMCC.

- **DRT Real-Time Trip Scheduling**
 - Customer secure login capability.
 - “New” customer registration capability.
 - Trip scheduling through all available DRT Providers, based on customer eligibility for DRT Providers’ services.
 - Proposed DRT trip fare cost information availability.
 - Provide real-time DRT Provider vehicle arrival information.
 - Common fare system.
 - Trip scheduling confirmation and verification.
 - Access to scheduled and completed trip history.
- **Transportation Information**
 - DRT and Fixed Route (FR) Transportation provider information (routes, schedules, contact information, physical location).
 - Links to 511, 211, Ride Share, and other project stakeholders.
 - Trip itinerary journey planning.

4.1.4 Proposed TMCC Data Services

The TMCC Data Services system is envisioned to feature a master database and data dictionary. This hypothetical system enables the use of a master database to manage multiple data and a data dictionary to “tell” the database what to do with the data.

4.1.5 Proposed TMCC Application Protocol Interface (API)

To facilitate communication between existing DRT Provider technology systems and the TMCC, one or more API’s will be necessary for the proposed system to connect the master and DRT Provider databases. An individual or a universal API between databases is envisioned by connection via the Internet.

4.1.6 DRT Provider Technology Systems

The DRT providers each leverage their own individual technology systems to manage and schedule customer trips, monitor agency resources (i.e. vehicles, staff), and share trip information with customers. See Section 2 for a detailed listing of existing

technology by DRT Provider. These technologies are proposed to be maintained and leveraged in the proposed system.

4.1.7 DRT Provider Staff - Access to System

- **Web Portal.** DRT Provider staff members are proposed to access the TMCC via a staff web portal to provide services and information for in-person and telephone customers. The purpose of the web portal is for DRT Provider staff to view more directed TMCC website content to reduce unnecessary staff delay and system responsiveness when assisting the customer.

In addition, to further coordinate DRT trips, providers are proposed to directly access proposed TMCC customer services such as trip booking, fare, vehicle capacity, and monitoring capabilities. DRT Provider technology infrastructure is proposed to be utilized in supplying the TMCC with necessary trip data, such as schedule, resource availability, real-time status, fare, and other information to enhance coordination.

In the future, it is envisioned the TMCC's web portal's access will be extended to other stakeholders such as transportation information resources and human service and other community organizations.

4.1.8 Proposed TMCC Staffing

Ride-On is proposed to serve as the TMCC lead agency and support the system as needed. The system is proposed to be initially staffed by existing DRT Provider administrative and operations staff. As DRT Provider revenues allow, a TMCC system administrator staff person is proposed to be added to monitor and maintain the system while supporting all DRT Providers as necessary.

4.1.9 Proposed TMCC Facilities

The TMCC is proposed to be developed in a decentralized manner allowing each DRT Provider's existing facility to be leveraged in the same manner as today.

5 Operational & Support Environment

In designing the proposed TMCC, there are operational and support environment needs that require further investigation by the Project Management Team and TMCCAC to ensure project success. This section addresses potential needs for the proposed TMCC, including physical facilities, hardware and software, and any other support as needed to operate the TMCC.

5.1 Physical Facilities

As currently proposed, the TMCC plans to leverage existing primary DRT Provider staff and physical facilities. The proposed TMCC technology enhancements are desired to be supported “in the cloud” and should not require any additional physical facility needs.

In addition, customer access to the TMCC’s solutions or services are proposed to leverage existing resources as well. In-person visits and telephone calls to the proposed TMCC will leverage DRT Provider staff during regular hours and use existing facilities. Other than potential changes in specific DRT call volume due to coordinating resources and initiating new call transfers to other stakeholders, the proposed TMCC’s telephone services are not anticipated to cause any change in physical facility needs. Website, mobile app, and web portal development and maintenance are proposed to leverage existing technology resources. Additional investigation and confirmation of these needs will occur in the upcoming High Level System Design deliverable.

Also, the proposed TMCC system will require DRT Providers to remain fully powered to operate critical ITS. It is desired the TMCC DRT Providers have a contingency power supply in place in the event of a power outage.

5.2 Hardware and Software

As illustrated in Figure 2, the TMCC’s proposed system leverages the current DRT Provider technology (“legacy”) infrastructure while adding new technology to enable inter-agency coordination and communication in real-time through multiple customer solutions. To facilitate the proposed system architecture, Ride-On, TMCCAC, Technology Subcommittee, and potentially systems integrator consulting assistance may be needed to further investigate different hardware and software options to facilitate the TMCC’s proposed API’s, master database, data dictionary, and solutions, including website, mobile app, and web portal(s). Additional information

and alternatives will be available in the High Level System Design deliverable.

5.3 Other Support Necessary to Operate the TMCC

In the development and operation of the TMCC, the region's primary paratransit providers may need additional support in various forms. In addition to the customer needs referenced in Table 4, Ride-On, the PMT, and TMCCAC/subcommittees will further investigate and address additional internal and external support areas necessary to operate the TMCC. The following are potential impact areas to be considered in the High Level System Design deliverable.

5.3.1 Administrative

- Inter-local agreements
- Finance (accounting, technology, other)
- Staffing (CSR's, front office, finance, other support positions)
- Technology (current and future needs)
- Training (TMCC administrative, operational, and technology elements, customer needs specific, other)
- Marketing (TMCC name change, TMCC public information, vehicle logo for partnering agencies, other)
- Inter-agency interactions (financial, reporting, audit support, other)
- After business hours' telephone call support
- "One-Call" TMCC telephone number – cost and support

5.3.2 Operations.

- Drivers
- Routing and scheduling
- Customer needs assistance
- Inter-agency business rules (tip booking, day of service trip management, other)
- Vehicle maintenance/break down issues

5.3.3 Other

- Secondary stakeholder support and training (how to access the system, what is the TMCC, how to provide customer services using the TMCC's services, etc.)
- Emergency management support

6 Operational Scenarios

The following section illustrates a sample of the TMCC's proposed normal and expanded (or unconventional) operational scenarios to be implemented during the project.

6.1 Normal Operational Scenarios

The following are proposed potential TMCC normal operational scenarios based on stakeholder needs and project goals and objectives.

6.1.1 Scenario 1: Customer Schedules Trip by Telephone

The following normal operations scenario provides a sample process of how a customer schedules a DRT trip by telephone today and as proposed through the TMCC.

- **Today's Experience:**
 - The customer telephones the DRT Provider to schedule a trip.
 - The DRT Provider's Customer Service Representative (CSR) determines the person's eligibility for the DRT Provider's service (depending on DRT Provider's services).
 - The CSR uses the DRT Provider's existing Computer Aided Scheduling and Dispatching (CASD) ITS technologies to determine resource availability to meet the customer's trip request (with its own resources). If none is available, they may seek other DRT Provider assistance options by phone, if available.
 - Once the CSR confirms the customer's trip, the customer is provided a scheduled pick-up date, time, and location.

- **Proposed TMCC Experience:**
 - The customer either telephones the proposed TMCC's "one-call" or a DRT Provider telephone line.
 - Trip booking. The customer requests to be transported tomorrow at 3:00 pm from their home to the doctor. The CSR discusses potential transportation provider and pick-up time options with the customer. Once a provider and utilizes the agency's web portal to book the trip. The web portal provides a format for the CSR to enter vital customer information, seeking program eligibility (if appropriate), and provides trip booking options. Trip option cost/fare information will be provided to general public (non-human service sponsored) customers and human service agency stakeholders.

- Customer trip acceptance. Once the customer approves the trip, it will be marked as accepted and sent through the TMCC's master database and data dictionary to the appropriate paratransit provider for service provision.

6.1.2 Scenario 2. Customer Schedules Trip by Website.

The following normal operations scenario provides a sample process of how a customer schedules a DRT trip online today and as proposed through the TMCC.

- **Today's Experience:**

- The DRT Providers all have customer trip booking and information request forms on their individual websites. Ride-On requests a three-day advance notice for all trip requests booked online.

- **Proposed TMCC Experience:**

- The following is a proposed TMCC online customer trip scheduling process.
 - Customer reaches the TMCC website home page.
 - Customer Status (existing or new customer). The proposed TMCC website requests customers to log-in or create a new user profile (if a new first time customer). The customer profile may list all key information needs about the customer, such as program eligibility, user name and password, address, mobility needs, trip confirmation communication preference, and other information necessary to receive services. Sponsored customers (i.e. Medi-Cal, Runabout ADA Paratransit) will be evaluated by the sponsoring agency to determine which program they may be eligible. General public customers will be eligible to book trip with all eligible DRT Providers.
 - Trip Scheduling. Customer clicks on the proposed trip scheduling tab and enters the requested information such as pick-up date, time, and from/to locations. The information is submitted to the proposed TMCC for review.
 - Trip Options. After considering the customer's trip request, the proposed TMCC provides the customer with a list of available trip options, such as provider, seat availability, vehicle type, travel time, and cost. In the event the customer is only eligible for a specific DRT Provider's services, only that provider's information will be shown.

- Preferred Trip Selection. Customer selects their preferred/ eligible trip option.
- The customer's trip preferred trip selection is then sent to the DRT Provider for trip confirmation.
- DRT Provider confirms the requested customer trip.
- Customer Trip Confirmation. The proposed TMCC sends the customer information related to the confirmed trip and DRT Provider by either e-mail, or text (preference listed in their profile). This option is envisioned to be scalable to include other notification services such as outbound IVR.

6.1.3 Scenario 3. Eligible Sponsor – Customer Trip Scheduling.

The following normal operations scenario provides a sample process of how a customer's eligible sponsor may schedule a DRT trip both today and as proposed through the TMCC.

- **Today's Experience:**
Eligible sponsors (i.e. family members, human service agencies, etc.) have the capability of scheduling trips for customers through the current DRT Provider trip scheduling options. Sponsors and customers received confirmed trip requests directly through the DRT Provider.
- **Proposed TMCC Experience:**
The customer's eligible sponsor will be able to leverage the ability to schedule trips through the proposed TMCC processes as outlined earlier in this section. Sponsors will also have the capability to fund the customer's trip through the DRT Providers as well.

6.1.4 Scenario 4: Customer Seeks In-Person DRT Provider Information.

The following normal scenario provides the proposed process of how a customer seeks DRT Provider information both in person and through the proposed TMCC system.

- **Today's Experience:**
 - Ride-On and RTA are the sole DRT Providers that enable in-person service access at their offices during regular business hours.
 - Other project stakeholders such as Regional Rideshare, SLO Transit, CHC, and a number of human service agency and other community organizations also provide in-person assistance with transportation information requests made by the public during business hours.

- **Proposed TMCC Experience:**

- Through the proposed TMCC Ride-On, RTA, Regional Rideshare, SLO Transit, CHC, and interested human service agencies secondary stakeholders are proposed to continue assisting the TMCC customer with in-person transportation service information. The proposed TMCC's scalable design and access solutions (i.e. website, app, telephone) will enable other potential stakeholder agencies to provide similar in-person transportation services for their customers as well.

6.1.5 **Scenario 5. Customer Seeks Ride Arrival Status Information Though Mobile APP.**

The following normal operations scenario provides a sample process of how a customer seeks day of service ride arrival status information via mobile APP today and as proposed through the TMCC.

- **Today's Experience:**

- Customers of SLO Safe Ride may view real-time ride status information via mobile APP. Otherwise, customers contact DRT Providers by telephone or in-person to Ride-On and RTA for this information.

- **Proposed TMCC Experience:**

- The proposed TMCC will feature a mobile APP solution designed for easy customer use for access to transportation information and services. The proposed TMCC APP envisions the capability for customers to check on their current (day of service) and future scheduled trips. For day of services, it is envisioned the customer will be able to view the status of their trip (data and spatially) and receive real-time alerts with arrival announcements.

6.1.6 **Scenario 6. Customer Telephones Ride-On and Needs to Contact Another DRT Provider.**

The following normal operations scenario provides a sample process of how a customer experiences a telephone transfer between DRT Providers both today and as proposed through the TMCC.

- **Today's Experience:**

Customers who call Ride-On and fellow DRT Providers seeking information and services that are not provided by that DRT Provider must hang up and directly dial that stakeholder. Ride-

On and other DRT Provider CSR's will seek to provide the customer with the appropriate provider contact information.

- **Proposed TMCC Experience:**

The customer will experience "one-call" service through the proposed TMCC to reach the appropriate DRT Provider. Ride-On and fellow DRT Provider staff will "one-call" transfer the customer's call to one another and other project stakeholders to ensure a high level of customer service. The TMCC's DRT Providers all have VOIP-based telephone systems with the capability to transfer customer calls.

6.2 Expanded (Unconventional) Operational Scenarios

In the developing the Concept of Operations, the PMT and TMCCAC understand the normal operations of the proposed TMCC system will be impacted by potential unconventional operational scenarios. The following are sample expanded scenarios that may impact the proposed TMCC's operations.

6.2.1 Scenario 1: Emergency Road Closure - US Highway 101 closed through the City of San Luis Obispo for 2 Hours.

The following expanded scenario provides an example of how DRT Providers today and as proposed through the TMCC address a major regional highway closure impacting "day of" system operations and customer service.

- **Today's Experience:**

- DRT Providers learn of Highway 101 closure through various potential sources, including drivers, other DRT Provider staff, 511, local news, emergency management, CalTrans, law enforcement, and other outlets. To address the road closure, DRT Providers typically seek to reroute and detour all resources away from the affected area to maintain customer pick-up schedule integrity. Subject to how much of an impact the closure will have on the current service schedule, DRT Providers inform customers by telephone (as necessary) of any delays and/or discuss necessary schedule changes.

- **Proposed TMCC Experience:**

The methods for learning of a closure to Highway 101 may not change. However, through the proposed TMCC, customers and DRT Providers are proposed to experience the following customer service and operational changes.

- Customer Experience.
 - TMCC Website – DRT Provider Service Alerts. The proposed TMCC website envisions links to 511 and 211 along with ability to receive important service alert messages from the DRT Providers on the home page.
 - Service Update Alerts. Receive electronic alerts from DRT Providers regarding arrival status and schedule changes.
 - Telephone calls from DRT Providers. Same as above.
 - View schedule/trip status on the proposed TMCC website and APP.
 - Customers will also have the capability of managing their online booked trips and making day-of service changes within an acceptable timeframe per the policy of their service provider.
- DRT Provider Operations.
 - DRT Trip Coordination (sharing). DRT Providers are envisioned to coordinate customer trips prior to and during day of service as needed. This higher level of customer service to ensure greater on-time performance.

6.2.2 Scenario 2: New DRT Provider Joins the TMCC.

The TMCC is proposed to accommodate changes in participating DRT Providers. In this scenario, a new DRT Provider is interested in becoming a TMCC project partner. The following is an overview of potential steps taken currently and in the proposed TMCC.

- **Current Experience:**
 - Ride-On meets with the new DRT Provider to better understand their services, existing technologies, and business interests.
 - New DRT Provider is invited and participates in the TMCC project, including TMCCAC and subcommittee meetings.
- **Proposed TMCC Experience:**
 - The new DRT Provider experiences becomes fully engaged of proposed TMCC system, including the proposed provider database - API connection with master database and data dictionary along with customer access solutions. Administrative and operational interactions with other primary paratransit stakeholders are in full activity.

6.2.3 Scenario 3: Ride-On Loses Electricity during Daily Operations.

The following scenario addresses the current and proposed TMCC process in the event Ride-On loses power for an extended period of time during daily operations.

- **Current Experience:**
 - When Ride-On loses power at the office, after a brief period of time, a portable generator activates to return all powered systems to operational status. Ride-On's ITS systems also leverage "cloud-based" technology to ensure local power loss does not impact data back-up and security during a local power outage.
- **Proposed TMCC Experience:**
 - For the proposed TMCC, the current Ride-On experience during power outages is envisioned for all DRT Providers – leveraging portable generator power. In the event of a sustained power outage and generator failure, DRT Providers may leverage one another to coordinate and share customer trips as needed. The TMCC's proposed system is envisioned to be "cloud hosted" with off-site data services.

6.2.4 Scenario 4: Emergency Response - Earthquake.

The following scenario illustrates the current and proposed TMCC's benefit to the community in the event of an emergency, such as wild fire or earthquake.

- **Current Experience:**
 - DRT Provider equipment and services are leveraged as needed by SLO County Emergency Services in the event of an emergency response situation.
- **Proposed TMCC Experience:**
 - Continued DRT Provider support of SLO County Emergency Services as needed.
 - Utilize DRT Provider resources (staff, vehicles, etc.) as needed.
 - Leverage DRT Provider CASD ITS technologies to identify customers in need of evacuation and transportation to medical facilities, emergency shelters, and other locations.
 - Coordinate emergency operations and collective available DRT Provider resources for transport.
 - Leverage proposed TMCC access methods to communicate information with customers, such as providing information by telephone, announcements on the website, trip and schedule changes, etc.

7 SUMMARY OF IMPACTS

The proposed TMCC's implementation may have a lasting impact on customers and DRT Providers across SLO County. The following section provides a summary sample of potential institutional, technical, and regional mobility impacts for further consideration during the proposed TMCC's design process. Additional impacts will continue to be addressed by Ride-On, RTA, and the TMCCAC in the design process.

7.1 Institutional Impacts

In designing the proposed TMCC, DRT Providers and other project stakeholders may have to implement changes to the way that current business practices are conducted to accommodate the project's goals and objectives. The following are potential institutional impacts that may need to be addressed in support of the proposed TMCC.

- Creation of inter-local agency agreements between DRT Providers.
- Develop DRT Provider operational protocols to support inter-agency trip coordination and TMCC service provision.
- Develop DRT Provider standards for driver training, vehicle maintenance, vehicle insurance, and others.
- Use of multi-agency transportation information.
- Develop DRT Provider inter-agency accounting and trip payment process.
- Determine a DRT customer fare payment system.
- Create a coordinated marketing plan.
- Develop a single TMCC brand and logo.
- Include TMCC logos on all participating DRT Provider vehicles.
- Cross train DRT Provider staff on all TMCC services.
- Internal DRT Provider policy and procedure changes.
- Create a process to enable future DRT Providers to participate in the TMCC.
- Identify TMCC system support staff.
- Create an ongoing TMCC DRT Provider communications process.
- Develop plan to support emergency management service needs.
- Develop TMCC operations contingency plan.
- Customer education campaign.

7.2 Technical Impacts

The TMCC is proposed to bring changes to current technical systems utilized by customers and DRT Providers. The following are potential

technical impacts that may be experienced by customers and DRT Providers through the proposed TMCC.

- Creation of a DRT Provider “one-call” telephone service.
- Customer calls to a single TMCC telephone number and DRT Providers.
- Creation of a TMCC website and mobile APP with services and information.
- Online customer profile and “new” customer registration.
- Single location to compare DRT Provider travel options, including cost, travel time, and vehicle capacity.
- Customer may schedule a trip through the TMCC and the DRT Provider.
- Customer trip confirmation (telephone and electronic).
- Current, future, and historical customer trip view capability.
- Sponsoring agencies may schedule client trips.
- Customer journey planning (DRT to fixed route to train, etc.).
- Expanded access to fixed route trip planning, 511, 211, and other information resources.
- Development of a fare payment system.
- Online links through stakeholder websites.
- DRT Provider trip coordination.
- Provide “day of service” information to customer.
- Provide DRT Provider “owner” with coordinated customer trip status information.

7.3 Regional Mobility

The proposed TMCC may impact personal mobility throughout SLO County in many different ways. The following are potential regional mobility impacts that may be experienced due to the proposed TMCC.

- Expanded DRT Provider service coverage throughout SLO County.
- Address the questions of how to “find a ride” and “who to call” for a ride.
- Expanded methods to access DRT Providers and other transportation resources, 24/7.
- A single telephone number to call for TMCC services.
- DRT customer trip scheduling flexibility.
- Centralized transportation information (demand response & fixed route).
- Coordination of DRT Provider resources and customer trips.
- Leverage existing resources to provide additional transportation services.
- Further leverage fixed route services for DRT customer access.
- Customer travel training and access to greater transportation options.
- Human service and community organization stakeholder access to greater transportation options.

8 References

The following are local and other supporting documents, along with MSAA systems engineering references, utilized by the PMT in development of the Concept of Operations.

8.1 Local and Other Supporting Documents

8.1.1 **TMCC Advisory Committee and Transportation Provider, Technology, and User/Rider Subcommittees meetings notes**

8.1.2 **Ride-On MSAA Website** (<http://ride-on.org/msaa.php>)

8.1.3 **SLOCOG:**

- Regional Rideshare – Know How to go Trip Planning Guide (<http://knowhowtogoslo.org/>)
- Mobility Management (<http://knowhowtogoslo.org/>)
- San Luis Obispo County Coordinated Human Services Public Transportation Plan, SLOCOG, March 15, 2016, (<http://knowhowtogoslo.org/>)

8.1.4 **Draft SLO Transit Short Range Transit Plan, City of San Luis Obispo, March 15, 2016** (<http://www.slocity.org/government/department-directory/public-works/slo-transit>)

8.1.5 **Stakeholder Websites (listed in Section 2)**

8.1.6 **Human Service Advisory Committees - Meeting Presentation Notes (March-May 2016)**

- SLO County Department of Social Service
- Adult Services Policy Council of SLO County
- CenCal Health
- SLO County Senior Commission
- SLOCOG Social Services Transportation Advisory Committee (SSTAC)

8.1.7 **City of San Luis Obispo Mass Transportation Advisory Committee**

8.1.8 **Central Coast Intelligent Transportation Systems (CCITS) Strategic Deployment Plan, ITS Architecture Maintenance Plan; SLOCOG, 2007**

8.2 MSAA and Systems Engineering References:

- 8.2.1 **Final Project Management Plan (PMP), The San Luis Obispo County Travel Management Coordination Center (TMCC) Project, Ride-On Transportation, January 27, 2016**
- 8.2.2 **The San Luis Obispo County Travel Management Coordination Center (TMCC) Application to FTA, Ride-On Transportation/RTA, July 2014**
- 8.2.3 **USDOT MSAA Website: <http://www.its.dot.gov/msaa/index.htm>**
- 8.2.4 **USDOT MSAA Generic Concept of Operations: http://www.its.dot.gov/msaa/TMCC_ConOps.htm**
- 8.2.5 **USDOT/FHWA ConOps Process: https://www.fhwa.dot.gov/cadiv/segb/views/document/sections/section3/3_4_3.cfm**
- 8.2.6 **USDOT/FHWA ConOps Template: https://www.fhwa.dot.gov/cadiv/segb/views/document/sections/section8/8_4_5.cfm**
- 8.2.7 **FTA MSAA Deployment Planning Project - Kickoff Meeting, October 26, 2015**
- 8.2.8 **FTA MSAA TMCC Project Site Visit meeting notes, Ride-On, December 15, 2015**
- 8.2.9 **FTA MSAA Deployment Planning Webinar #3: An Overview of Concept of Operations, March 2, 2016**
- 8.2.10 **Mobility Services for All Americans (MSAA) Phase 1 - System Development and Design: Travel Management Coordination Center (TMCC), Lower Savannah Council of Governments, October 31, 2007**
- 8.2.11 **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)**
- 8.2.12 **Systems Engineering Guidebook for ITS, Version 3.0, USDOT/FHWA, November 2009 (<https://www.fhwa.dot.gov/cadiv/segb/files/segbversion3.pdf>)**
- 8.2.13 **USDOT workshop: “From Demand Responsive Transportation to Mobility on Demand: The Impact of Technology on DRT in the era of Smart Cities,” May 3-4, 2016, Denver, CO**
- 8.2.14 **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	05.16.2016	Draft Document	Submitted to FTA for review and comment.
02	08.15.2016	Revised Draft Document	Submitted to FTA for review and comment.

Appendix B: TMCC Advisory Committee Meeting Agenda

San Luis Obispo County MSAA TMCC Project – Advisory Committee Meeting
Tuesday, April 26, 2016 - RTA Conference Room
1:00 – 3:00 pm PDT

Committee Chair: Mark Shaffer, Ride-On

AGENDA

1. **Welcome and Introductions** Mark Shaffer, Ride-On

2. **MSAA Project Update** Mark Shaffer, Ride-On

3. **Subcommittee Updates**
 - a. Transportation Provider Geoff Straw, RTA
 - b. Technology Justin Bradshaw, UCP
 - c. User/Rider Mark Shaffer, Ride-On

4. **Draft Concept of Operations – Overview** Todd Allen,
RouteMatch Software

5. **TMCC Project Draft Goals, Objectives, and Phases** Mark Shaffer, Ride-On

6. **Questions and Comments** Committee Members

7. **Next Steps** Mark Shaffer, Ride-On
 - a. FTA ITS Workshop: MSAA Presentation, May 3-4, Denver, CO
 - b. Draft Concept of Operations – submit to FTA: May 15
 - c. Subcommittee Meetings – May (dates to be determined)

8. **Closing Remarks**

Appendix C: TMCC Subcommittee Meeting Notes – Sample

San Luis Obispo County MSA Project – Technology Committee Meeting Wednesday, April 13, 2016 - RTA Conference Room, 3:00 – 4:00 pm PDT

Committee Chair: Justin Bradshaw

AGENDA and Notes

1. Introductions

Justin Bradshaw

- Welcome. Mark Shaffer, Ride-On, welcomed all members to the RTA and asked attendees by telephone and in-person to introduce themselves.
- Attendees: Stephanie Hicks, SLOCOG; Omar McPherson, RTA; Mark Shaffer and Jason Portugal, Ride-On; Murat Omay, Battelle/Federal Technical Team, Todd Allen, RouteMatch Software, and Justin Bradshaw.

2. MSA Project Update and Recent Activities

Mark Shaffer, Ride-On

- a. Public Involvement Survey and Meetings
- b. Commenced Draft Concept of Operations preparation

Mark provided a brief overview of the other committee meetings this week and discussed the public and stakeholder comments received to date. Mark stated the purpose and referenced the upcoming Concept of Operations that is in initial development at this time.

3. Public/Stakeholder Input Received to Date – Review

Mark Shaffer, Ride-On

Mark stated that 25 public comments have been received to date and other surveys are being submitted soon. Mark stated that he and Jason Portugal have attended countywide, regional, and local human service, City of San Luis Obispo Transit advisory, and other committee meetings to promote the project and seek feedback. Mark stated that stakeholder and public feedback is critical to this project.

4. TMCC Project Draft Goals, Objectives, and Phases

Mark Shaffer, Ride-On

- a. Information Review. Mark referenced the draft Goals-Objectives-Phases worksheet that was sent out as part of the Excel file to all committee members. Mark reviewed the project's two draft goals (from the grant application and Project Management Plan) and discussed the draft objectives created by the Management Team corresponding to all feedback received to date. Mark stated that some of the tasks listed under each objective still needs to be further illustrated and organized.

He mentioned that others may be added with new surveys coming in and committee feedback received.

- b. Committee Feedback. The committee provided the following comments.
 - i. Resource.
 - 1. “Know How to Go.” Prepared as a transportation information resource for the community by Ride Share. Stephanie will send the link to Mark for the committee. Mentioned that staff is discussing creating a static website with this information as well.
 - 2. Fixed Route. Trip planner capability is available through 511.
 - 3. 511 Trip Planner. Transit and ride sharing capability.
 - ii. Social Service Partner transportation data inclusion.
 - iii. Need to create an API that allows other services (such as Hadoop) to connect with it. Discussed what other web services use as critical to consider in advance.
 - 1. Need for API to connect 511 with other database. Look at Phase 2 or 3. The SLOCOG trip planner developer is local. Stephanie to connect Jason and Justin with the developer.
 - iv. Phases. Mark stated the Phases may fall into different years.
 - v. Website.
 - 1. Pull from open data for TMCC website.
 - 2. Justin shared an example for how each Partner can interface with a web service to then build a website, app, etc.
 - 3. Provide support to Partner agencies that need additional support in developing the appropriate database for the TMCC interface.
 - 4. Phase 1 – create a TMCC website as a “stop gap” as information for the community.
 - 5. Stephanie suggested, like MTC, the committee enable data being open from all providers (non-customer or HIPPA sensitive information) to allow the private sector/market to create applications.
 - 6. Jason referenced an API discussion with taxi firms through Flitway.
 - 7. Need – know what language all Providers’ databases are coded.
 - vi. Referral Call Service. Ensure this is addressed in the plan.

5. Questions and Comments

Committee Members

6. Next Steps

Mark Shaffer, Ride-On

- a. Feedback for Phases comments by 4/20. Send to Mark.
- b. TMCC Advisory Committee Meeting: April 26, 1:00 pm, RTA
- c. FTA ITS Workshop: MSAA Presentation, May 3-4, Denver, CO

7. Closing Remarks

Appendix D: Adult Services Policy Council - Member Agencies

Adult Services Policy Council of SLO County Members 2015-2016	
Adult Abuse Prevention Council	
Access Support Network	Peoples' Self Help Housing
Alzheimer's Association	Probation Department of SLO County
Area Agency on Aging	Retired Senior Volunteer Services (RSVP/ CCCV)
Arts for Living	Ride-On Transportation
Bates Care Management	Ridership Development Consultants
Behavioral Health Board	San Luis Coastal Adult School
Behavioral Health/Mental Health Services	Senior Legal Services Project
Bella Vista Transitional Care	Senior Living Consultants
California State Assembly 35th District	Senior Nutrition Program
California State Senate 17 th District	Sheriff's Department of SLO County
CenCal Health	Sierra Vista Regional Medical Center
Central Coast Hospice	SLO County Board of Supervisors
Coast Caregiver Resource Center	SLO County Commission on Aging
Community Action Partnership of SLO County (CAPSLO)	SLO County Dept of Public Health: Health Care Services; Health Promotion Divisions
Community Health Centers of the Central Coast (CHC)	SLO County Department of Social Services/ Adult Services
French Hospital Medical Center/A Dignity Health Member	SLO County District Attorney / Victim Witness Assistance
Health Commission	SLO Regional Rideshare
Home Instead Senior Care	SLO Supportive Housing Consortium
Hospice of San Luis Obispo County	Transitional Food & Shelter
Independent Living Resource Center	Transitions-Mental Health Association
Long Term Care Ombudsman Services of SLO County	Tri-Counties Regional Center
Lifesteps Foundation	United Cerebral Palsy of SLO County
Mariposa Music Therapy	United Way of San Luis Obispo County
Maxim Healthcare Services	Wilshire Community Services
North County Connection	211 Hotline

Appendix E: Unduplicated Customer Needs/Comments Received

Comment #	Customer Need/Comment
7	Minimum level of technology. How do we have a real person who is available around the clock? Idea of sharing a phone line manned by different agencies throughout different times of the day. How can we provide a "live person" most of the time? Continually work with transportation providers to see how feasible this is.
9	Three phases. Phase one emphasizes on soft agreements and finalizes planning grant. Phase three would be the ultimate technology experience. How does phase two look?
15	Marketing of the TMCC. Community awareness is important. Branding is key.
16	Branding. Xerox meeting displayed importance of ensuring both branding and a strong marketing campaign is critically important.
21	This is why a phone screener is key. Efficiency and training is important for live phone operators. Ride-On and RTA should train potential phone operators in how to properly handle phone calls, ride requests.
23	Potential certification - training of phone screeners.
24	Joint training opportunities.
27	TMCC provider logo for all vehicles (admin./operations categories).
28	Soft agreements being in place.
30	Business rules. Ability for providers to determine who is eligible to use their services as appropriate.
31	RTA interest for ADA passengers to use fixed route as a cost effective alternative.
38	Omar suggested looking at the project in different phases (3 phases)
39	Mark suggested looking at initial opportunities, such as fare charts.
40	User beneficial. Increase access of persons with special needs. Tie into current agency apps. Understanding underlying motives of all providers. Increase access of all riders of our community.
43	Acknowledge that barriers may be institutional. Determining the institutional barriers and then how the challenges will be acknowledged; the soft challenges. E.g. RTA has ADA requirements. How to best work on meeting soft requirements.
46	Private provider. Current system is pushing the Taxi Cab companies out of business. Acknowledged other cab companies have folded recently. Wants to join system/organization and is invested in seeing it successful.
49	Education and community awareness. There is an identified need where individuals in our community do not know all of the services and benefits for the riders. Must help care providers in community understand benefits from transportation providers
55	No region performs 211 through funding from the state of California.
59	Concern to ensuring that this system provides the same level of transportation regardless of provider; e.g. taxi to Runabout guidelines
60	Advantage of TMCC system over Uber is this transportation minimum requirements guideline for training, maintenance, and insurance.
67	Concerned that potential future grant funding will preclude taxi services.

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Comment #	Customer Need/Comment
69	Institutional issues – largest item to address.
70	Agency Board of Directors should be involved early with any recommendations.
53	Enable an Uber type option but with vetted drivers. Leverage vetted services with safe drivers, especially for persons with disabilities & seniors.
1	Provide a service to easily access coordinated ride options including social service transportation agencies.
26	Dispatching. Costs Yellow Cab a lot to manage a 24/hour system. Bobby is open to saving money on dispatching. (technology/operations categories)
2	User profiling option
3	<i>Don't want users to see services that they are not eligible for.</i>
4	Should the TMCC display various options to people who do not necessarily qualify for the discounted rates - as a learning tool for what is available for themselves if they age into a category, or for a family member they could potentially represent?
5	The TMCC should only show the options that are available for that particular individual, their profile, and what rides they can qualify for.
6	Comparing fares. Public transportation options available. Offer people fares and travel time. Profile would handle accessibility issues. Potential symbol or logo that shows wheelchair accessibility. Also mention of the minimum level of service seal that qualifies: minimum insurance, wheelchair accessibility, etc.
8	Immediate ride response is another important aspect and possible function of the TMCC.
10	Phase two can leverage the power of the coordination group and get the low technology option - a live phone call in center.
11	Live person must be available. The phone tree may be complicated for general public. How can MSA/TMCC group work with current 511 system to coordinate efforts?
12	511. Accessing will be unique and different depending upon the type of an individual's disability. The different scenarios create different needs and requirements for the MSA system.
13	The user committee will look at this user experience and determine how to best be available for the range of disabilities.
14	Evening phone screener will likely be in the field - one who is able to provide transportation and answer the phone directly. Accessibility must be available for these evening phone screeners. These questions can and should be answered in phase one.
17	511 has finally arrived to a certain awareness. 511 is already launched; the numbers are rising. Let's keep two channels; "GO FAST" and "511" working concurrently.
18	511 doesn't have a standardized utilization in San Luis Obispo. How is 511 working for the Senior Community?
19	The phone menu can be challenging. Tested herself. Not confident seniors will be completely capable of utilizing this technology. (511)
20	The 511 dates are not current.
22	Verifies that placing a ride request can be confusing for senior population. (511)
25	Telephone transfers – “one call” (under technology category).
29	ADA clients being certified. How to feed data to the chosen technology?
32	illustrate available seating capacity for service options.
33	Build a core service to speak with the TMCC's generic API.

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Comment #	Customer Need/Comment
34	Interagency technologies. Need for communication or integration efforts.
35	511. Stephanie referenced use of the multi-modal trip planning (transit, bike, etc.). Can integrate 511 use with an open API. SLOCOG manages their own 511 system. There is live person availability. Many of the 511 systems are moving to automated systems.
36	211. Utilizes live staff to provide information and referral services.
37	511, 211, and Ride-On as human service/paratransit mobility managers
41	Ability for public to utilize by fortifying something that is simple and clean.
42	SLOCOG Addressed technology challenges and confusion. 511 is an already existing program that perhaps already exists to provide this. Providers will need to connect back-end data to one another. Concerned with potential duplication. Regional 511 model throughout California is not standardized however SLO County's model is advanced and has many of these mentioned functionalities.
44	All agencies have call centers. Purpose of project is to seek how to leverage all agencies and call centers.
45	Concern of not reinventing the wheel with 511 and TMCC.
47	Acknowledgement that all the providers will need to allow access to each other's data. How will this take place?
48	Create an app or platform to compete with Uber - make the front end simple and clean to utilize. 511 needs to be a stakeholder. Make the user experience a priority.
50	Uber is breaking rules in CA. Believes app should show the 3 top trip booking options for simplification purposes.
51	App would be best served for community and for provider's purpose to allow for all options to be shown. All options demonstrate transportation community's involvement and also act as a marketing tool for involved organizations.
52	Many provider options will be available and should be available to be seen in app.
54	United Way runs 211. 211 leverages business in Ventura County.
56	Focus on simplicity. Many of CHC target population don't have access to a smartphone app. Creates the need for Call Center. Need something simple.
57	Negotiating trip time specifics at the time of initial contact. TMCC should not show agency's trip availability if agency cannot provide specific ride with the specific details requested.
58	Important aspect will be determining what is important: front end user side and back end coordination side. Determine what the group is trying to achieve?
61	Log-In vs. Non-Log in on app and/or website. Log-in to save user profile/preferences.
62	Verify details. How does this take place?
63	All organizations do a verification of details on first ride.
64	Acknowledge that this is a specialized slice of the transportation total which also includes: driver training, 511, etc. Question of calling the project a TMCC – is it too large a topic?
65	Technology transfer is part of the project. Could an idea be for providers to log in to RM to provide data/schedule/demand availability?
66	Can TMCC/projects include all transportation providers?
68	Create a "white label" app illustrating transportation options across the county.
71	Customer technology interest? Need to involve the stakeholders.
72	RTA – need for service after operating hours

Appendix F: Customer Constraint Comments Received

Collated Customer Constraint Comment
1.0 Administrative/Policy
1.1 Each transportation partner provides different services with different requirements.
1.2 Community knowing it exists
1.3 Memory problems of clients
1.4 It doesn't seem to address the low income issues as well. I may have over looked that aspect of TMCC.
1.5 Coordination of all the resources. Making it easy for persons who are not technologically savvy.
1.6 Coordinating is only as good as the partners - requires a real commitment.
1.7 funding to sustain the TMCC
1.8 Cost. It seems like it would be expensive.
1.9 Older adults especially with cognitive impairment need 1 on 1 in person help. Not more technology.
1.10 Community awareness. With any new program, it is the public awareness that it is available that is usually the issue. A well-developed marketing and outreach plan is a must.
2.0 Operational
2.1 RTA and SLO Transit have union labor/service agreement requirements.
2.2 Joint decentralized dispatching opportunities?
2.3 RTA - Need for after-hours services
2.4 Cambria's distance up the coast can be problematic getting services.
2.5 Lack of resources for actual wheels on the ground; if it can help multiple agencies pool to an economy of scale that can free resources for service at needed times, it would help
2.6 Coordinating several providers as integrated system
3.0 Technology
3.1 Operations/Administrative back-end solutions and customer-facing solutions to address.
3.2 Technology breakdown - making sure system is available 24-hour/day + is user-friendly; follow-up is clear; training of staff who answer the phone, reply to digital communication to communicate effectively for people disabilities & older adults.
3.3 Difficult for seniors + the disabled to navigate through the system.
3.4 Delivering "low level" tech options for the aging community. You should look at the ClassPass model for data aggregation: they use multiple backend software platforms, but aggregate schedule, and pricing across millions of providers.
3.5 Cities that are spread out. Multiple entities that would need to be brought into the system. Leadership that can manage such a complicated system.
3.6 Change scares people, especially new software. I could see push-back from agencies who want to maintain the status-quo
3.7 Is this all going to be in Spanish?
3.8 Cost, access to technology needed to use service
3.9 Friend has no internet access. Hope it will be available via telephone.