SHRP2 C10: Metropolitan Transportation Commission
Quarterly Report for July 2017 – September 2017 (prepared 06-Oct-2017)

SUMMARY

The three-agency group implementing Fast-Trips has continued advancing work on network development, demand preparation, route choice estimation, and software development. Past quarter technical highlights include: further refinement of GTFS-PLUS and development of new data standard for vehicle performance attributes needed for validation and calibration activities; execution of a set of performance tests on the Fast-Trips algorithm based on recommendations from the TRL assessment; continued refinement of inputs and calibration of the SFCTA implementation; and development of additional data needed for the implementation at PSRC. The team also completed documentation of our dwell time parameters (see attachment: Agreement Point Memo - Dwell Time Estimation.pdf) and finalized our decision not to pursue skimming integration at this time (see attachment: Focus on Forward Integration.pdf). Dissemination and communications activities conducted over the past quarter include: progress on finalizing the teaching materials packet and circulation of a draft glossary on dynamic transit assignment. We completed contracting procedures with the three travel demand researchers who will be assisting us with the parallel track of work on research problem statement development and kicked off this work in mid-September. We have also initiated a task order to one of the consulting teams on the pre-qualified bench in order to bring on additional support for the remainder of the software implementation task.

IMPLEMENTATION

Work accomplished for the period:

Task	Activities
Task 1 - Project Mgmt / Tech Oversight	● Continued to meet on a bi-weekly basis on management-level updates and issues ● Completed contracting activities with on-call partners who will assist with parallel research track ● Initiated task order process with on-call consultant to support remaining software development
Task 2 - Network Supply	● Augmented GTFS-PLUS standard with additional fields needed for validation ● Initiated development of new vehicle performance data standard needed for calibration of Fast-Trips ● Completed memo describing dwell time model and default approach for non-estimated agencies

Task	Activities
Task 3 - Transit Demand	
Task 4 - Transit Rider Behavior	● Continued test runs of Fast-Trips for calibration against OBS and CHTS data ● Documented standardized inputs to support calibration ● Finalized methodology and data standard for representation of crowding ● Developed outline for final deliverable
Task 5 - Transit System Performance	● Developed outline for final deliverable
Task 6 - Software Implementation	● Conducted multiple Fast-Trips runs to assess performance at full-scale ● Finalized and documented decision on skimming
Task 7 - Test Case Development	● Developed outline for final deliverable
Task 8 - Agency Implementation and Testing	● Continued updates to SFCTA implementation to fix issues identified during calibration testing ● Continued to refine input data for PSRC implementation ● Developed outlines for final deliverables
Task 9 - Communications and Outreach	● Refined teaching materials on dynamic transit assignment ● Circulated first draft of DTA glossary ● Initiated research track activities

Schedule status:

The team continues to make progress on implementation and calibration of the SF Bay Area version of Fast-Trips, and the PSRC version has now been successfully run using full-scale network and demand inputs. Our overall pace is steady on both technical and communications work. We have brought on additional resources in order to close out the project successfully.

Expenditures and budget status:

Reimbursements requested to date are detailed in the table on the next page. In the next quarter, the funds that are identified below as "To be determined" will be re-allocated among the partner agencies to cover staffing adjustments needed to close out all technical tasks on time.

Resource	FHWA/ In-kind	Encumbered / Committed	Invoiced to Date / Expended
SFCTA	FHWA	$336,800	$195,500
SFCTA	In-kind	$80,000	$49,600
PSRC	FHWA	$65,000	$45,700
PSRC	In-kind	$65,000	$45,700
MTC	FHWA	$5,000	$4,800
MTC	In-kind	$98,000	$98,000
Univ. of Texas, Austin	FHWA	$38,500	$14,600
Mark Hickman (Univ. of Queensland)	In-kind	$10,500	$0
Hood Consulting	FHWA	$18,000	$11,400
UrbanLabs, LLC	FHWA	$100,000	$52,900
RSG	FHWA	$100,000	$0
Shlomo Bekhor	FHWA	$5,000	$0
Hani Mahmassani	FHWA	$6,500	$0
AJH Associates	FHWA	$3,750	$0
To be determined	FHWA	$21,450	$0
Total	*FHWA*	*$700,000*	*$324,900*
Total	*In-kind*	*$253,500*	*$193,300*
Total	*All*	*$953,500*	*$518,200*

Summary of the quarter ahead:

In the next quarter, we will be focusing on closing out the project, including bringing the technical tasks to their conclusions and documenting the full results of our efforts. This includes: working to calibrate the SFCTA implementation and validate the PSRC implementation of Fast-Trips; implementing crowding accounting and stabilizing overall software performance; working with our academic colleagues to formally define the research problems that we encountered; completing the teaching materials and glossary; and completing written deliverables explaining our efforts for the benefit of others in the practitioner community.

Risks/Challenges/Obstacles:

The most significant challenge at this point remains schedule adherence. With only one quarter left on our project, we still have additional technical work to complete, and we will need to work quickly to document our final outputs. We have arranged for additional support from consultants secured via the on-call bench in order to advance the technical work more rapidly in the remaining months.

One other risk that we have been monitoring is our ability to fully expend all funds by our project deadline. We have now identified the total amounts needed for the contracts required for the researchers and on-call consultants who are supporting us for the rest of the project. We will now turn our attention to final funding reallocations in order to match remaining scope and budget with available staffing resources at the three partner agencies: MTC, PSRC, and SFCTA.

MEASURES

Our performance measures tracking tool shows current values for all metrics, including the developments in the past quarter specifically noted below.

Implementation and Deployment:

Our two primary achievements in this past quarter include finalizing the methods and data standards for representing crowding in Fast-Trips for use in policy analysis and documentation of our decision not to pursue skimming integration at this time.

Capacity and Partnership:

A total of 27 people are currently using our collaboration tools: the Asana project management system, our code repositories on GitHub, and cloud storage on Google Drive and Box.

Dissemination:

Team members received an inquiry from staff at CUTR-USF regarding our new vehicle performance data standard (GTFS-STAT) and how it will relate to other existing standards such as GTFS-RIDE.

CATEGORY	DEFINITIONS	METRIC	TARGET	TOTAL	Jan-Mar 2016	Apr-Jun 2016	Jul-Sep 2016	Oct-Dec 2016	Jan-Mar 2017	Apr-Jun 2017	Jul-Sep 2017	Oct-Dec 2017
Tool Implementation and Deployment	**OUTPUT MEASURE**	**METRIC 1**	**TARGET 1**									
	Agency and project partners participate in all required calls/meetings.	Number of calls/meetings attended	Minimum: Participation in group kick-off, project kick-off, and 2 additional scheduled calls per year	**10**	1	2	1	0	0	1	0	
	Project deliverables are submitted to Volpe/FHWA on time and on schedule.	Quarterly progress reports submitted by specified due date	Quarterly progress reports submitted by specified due date.	**10**	1	1	1	1	1	1	0	
		Final deliverables submitted by due date	Final deliverables submitted by due date.	**3**	0	0	0	0	0	0	0	
	Agency identifies desireable refinements (i.e., suggestions for future research) for tools created from the C10 project.	Documentation of desireable refinements within existing project deliverables	Information about desireable refinements included within final report.	**0**	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	Agency supplies lessons learned from participating as a C10 grantee.	Documentation of lessons learned	Information about grantee experience included within final report.	**0**	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	OUTCOME MEASURE	**METRIC 2**	**TARGET 2**									
	Travel demand model contains new sensititivities suitable for policy analysis.	Number of progress reports that document new variables / modeling options available	At least one	**0**	0	0	0	0	0	0	0	
	Methodologies, work processes, key decisions, problems encountered, & lessons learned are sufficiently well documented that peers can follow the work and repeat the results.	Number of issues and lessons documented in on-line tools	At least one	**4**	0	0	0	0	0	3	1	
Capacity Building and Partnerships	**OUTPUT MEASURE**	**METRIC 1**	**TARGET 1**									
	Agency practitioners (staff, contractors, consultants) and assigned partner staff are engaged with project and familiar with results.	Number of users of online collaboration tools	Staff from each partner agency makes contributions to archive of project knowledge.	**27**	22	23	23	23	24	24	27	
	OUTCOME MEASURE	**METRIC 2**	**TARGET 2**									
	Agency and partner staff acquire additional skills and expertise.	Number of progress reports that document new skills / expertise acquired	At least one	**2**	0	1	0	0	0	1	0	
	Improved work processes, data, analysis tools, and decision information are in use by our agencies.	Number of progress reports that document uptake of new processes, data, tools, methods	At least one	**3**	0	1	0	1	0	1	0	
Technology Transfer / Research Dissemination	**OUTPUT MEASURE**	**METRIC 1**	**TARGET 1**									
	Project data and information is shared with the academic and practitioner communities.	Number of presentations delivered (conferences, technical meetings, TRB)	1 TRB paper or poster, or participation in a panel/workshop that recounts the information	**9**	1	1	0	0	3	3	0	
		Number of papers/memos/articles written about the project experience	1 Presentation prior to project closeout to FHWA or other interested communities	**9**	0	6	0	0	2	1	0	
	OUTCOME MEASURE	**METRIC 2**	**TARGET 2**									
	Peer agencies in the state/region expresss interest in or begin to deploy C10 tools.	Number of agencies that contact C10 team about the project and/or express plans to pursue implementation	At least one	**4**	0	1	0	1	0	0	1	