

BACKGROUND

The South Bay Cities Council of Governments (SBCCOG) has been working with its member cities on climate action planning in the South Bay since 2008. When embarking on this project, the SBCCOG recognized that while many of its member cities wanted to initiate climate action planning, they did not have the resources, budget, or staff to devote to such activities. In response, the SBCCOG adopted a sub-regional approach to the management and coordination of inventorying local government and communitywide emissions and climate action planning. The South Bay cities began the process of assessing their greenhouse gas emissions by joining ICLEI—Local Governments for Sustainability, an international association of city and county governments committed to sustainable development. Through ICLEI, the South Bay cities gained access to tools and resources, such as the Clean Air Climate Protection (CACP) software, which enables cities to quantify their emissions.

The South Bay cities have committed to ICLEI’s Five Milestone Climate Protection Methodology, which includes:

1. Conducting a baseline emissions inventory and forecast
2. Adopting an emissions reduction target for the forecast year
3. Developing a local Climate Action Plan
4. Implementing the local Climate Action Plan
5. Monitoring and verifying results.

SCOPE OF WORK

The purpose of this scope is to identify metrics of success, targets, projections of service penetration, and assumptions about the potential impact of the mobility services bundle on vehicles per household, emissions, and vehicle miles traveled. The services that will be examined (pending data availability) include: carsharing

(roundtrip, one-way, and peer-to-peer models); ridesharing (i.e., carpooling and employer and neighborhood vanpools); ridesourcing (e.g., uberX, Lyft, Sidecar); taxi services; bikesharing and other low-speed connections to public transit (e.g., Segway, e-bikes, scooters etc.); existing public transportation services; and future public transportation innovations (e.g., demand responsive services, employer shuttles and jitneys).

TASK 1 - DEVELOP DRAFT OUTLINE OF STRATEGY T1: MOBILITY SERVICES BUNDLE SECTION OF THE TRANSPORTATION CHAPTER

The first task will be to determine the metrics desired and the level of detail to be included in the transportation chapter for the SBCCOG Subregional Climate Action Plan. The consultant team will advance and augment the development of a detailed outline of a strategy identified as T1 “Mobility Services Bundle”, which shall be a section of the broader transportation chapter. The outline will provide the framework and direction for both the consultants and SBCCOG during the mobility services climate action planning process.

TASK 1.1 - REVIEW DRAFT OUTLINE WITH SBCCOG STAFF

Consultants will review the draft outline for the Mobility Services Bundle provided by the staff and comment before detailed research and analysis begins. SBCCOG staff is ultimately not responsible for implementing the climate action plan but will assist and facilitate the implementation in conjunction with their member cities, so their input and feedback on the outline is essential for authoring an effective transportation and land use component.

Timeline: 30-45 Days

Deliverable: Comments (Either Written or PowerPoint form) on Draft Outline for SBCCOG Staff

TASK 1.2 - REVISE OUTLINE BASED ON STAFF COMMENTS

The consultant team will compile comments and incorporate revisions to the outline prior to commencing work on the mobility services transportation strategy.

Timeline: 15 Days

Deliverable: Revised outline

TASK 2 - REVIEW BASELINE GHG INVENTORIES AND EMISSION REDUCTION TARGETS

The consultant team will work with SBCCOG and other team members to review surface transportation emission reduction targets for SBCCOG based on California's forecasted target for statewide emissions reduction. These targets will be based on the latest guidance issued by the California Air Resources Board (CARB).

SBCCOG will provide the consultant team with baseline transportation-related GHG inventories. The baseline GHG inventories will provide critical information about the SBCCOG's existing emission sources and can help the consultants identify which actions will be most effective at reducing emissions within SBCCOG. During this task, the consultant team will review the baseline inventories of all quantifiable emissions associated with all surface transportation activities taking place within the SBCCOG. The review will serve to inform the consultants of the existing benchmarks from the inventories as derived from the ICLEI methodology, as well as the specific datasets that were applied to generating them. Consultants may comment on the benchmarks, but will mainly use them as background to inform the generation of appropriate strategies in subsequent steps.

Timeline: 120 Days

Deliverable: A one-page document describing the components of the inventory reviewed and how they will be used to complete the work. If necessary, a call with client to ask questions about the inventories.

TASK 3 - IDENTIFY AND EVALUATE EMISSION REDUCTION MEASURES OF MOBILITY SERVICE BUNDLES

The majority of the research and analysis required to develop the mobility services transportation strategy will be performed during Task 3. After reviewing the inventories provided by SBCCOG, the consultant team will make recommendations for emission reduction targets that could be achieved with mobility service bundles. The measures to be included within the context of mobility service bundles will consist of carsharing, ridesharing, ridesourcing, shuttle services, paratransit, bikesharing, and other related subcategories of similar services. The consultant team will recommend to the client emissions reductions targets that are realistic and achievable within the given timeframe and consistent with California's AB32 and Executive Order S-3-05 guidance. The consultants will attempt to forecast the impacts of carsharing, ridesharing/ridesourcing, vanpools, taxis, bikesharing (and other low-speed modes), and future transportation innovations on key metrics such as vehicles owned/leased per household, emissions from transportation activity, and overall vehicle miles traveled. These forecasts will be based upon what is known about the environment of deployment and based on what is known from existing data generated by previous studies, information from expert interviews, and an analysis using Geographic Information Systems (GIS) pending data availability.

Timeline: 270 Days (9 months)

Deliverables:

- Review of existing research and literature on services defined within mobility service bundles.
- Identify and evaluate services that have emissions reduction potential.
- Interview carsharing, ridesharing/ridesourcing, vanpools, taxi, bikesharing representatives, and other transportation experts on an as

needed basis to augment and assist in the development of mobility service scenarios.

- Identify specific deployment scenarios of mobility service bundles that are plausible within the SBCCOG region. Deployment scenarios are specific types of mobility service bundles, such as IT-based bikesharing of a given size over a given region. The deployment scenarios will define the scope of plausible systems and scenarios that could provide emissions reductions to the region.
- Calculate the GHG reductions for each deployment scenario based on existing data, ARB emission factors, and prior knowledge of these services. Where data and knowledge is missing, the consultants will make a good faith assessment as to whether an estimate is possible, and if so, define bounds of uncertainty around such estimates.
- Define market penetration scenarios within the context of deployment scenarios defined above. This task involves defining an estimate or forecast of market penetration for each of the mobility services (e.g., carsharing, ridesharing, bikesharing, etc.) that are to be outlined in the plan. It also involves an analysis of how the services complement each other and how many of each are needed and in what quantity to make a service 'bundle'.
- Based on existing data and knowledge, develop and inventory the aggregate best-estimate of impacts from the mobility services defined (e.g., carsharing, ridesharing/ridesourcing, bikesharing, etc.) on travel and emissions based on the market penetration scenarios defined above.
- Develop adjustment factors to estimate enhanced impacts of mobility service bundles, if deployed in conjunction with land use changes and improvements to transit service.
- Estimate aggregate impacts of mobility service bundles deployed within the SBCCOG region based on stated assumptions and derived impact factors.

TASK 4 – DEVELOP RECOMMENDATIONS FOR SBCCOG

The consultant team will use the information obtained from Task 4 to develop recommendations for the transportation chapter of the subregional climate action plan to meet GHG reduction targets. The team envisions developing “levels” of recommendations appropriate for implementation at various levels of governance and rates of deployment? For example, some recommendations may include ways that SBCCOG can facilitate emission reduction measures being implemented. Other recommendations may include policy guidance at the SBCCOG/regional level to encourage its members to achieve emission reduction measures. These recommendations shall in part cover actions that the SBCCOG and cities can do to expand mobility service bundles to better achieve these projected emissions impacts. Lastly, the team will work with SBCCOG to identify measures that are most suitable for direct implementation by its member cities and specifically for certain cities or areas of the subregion, if applicable.

Timeline: 90 Days

Deliverable: Development of draft transportation and land use recommendations for potential implementation at the subregional and city level as well as identify areas of opportunity based on land use changes and the implementation of mobility service bundles.

TASK 5 - PRIORITIZE ACTIONS & DEVELOP IMPLEMENTATION TIMELINE

The consultant will work with SBCCOG staff to prioritize recommendations and propose an implementation timeline of mobility service bundles that will assist SBCCOG to meet its short-term (2020) and long-term emission (2050) targets.

Timeline: 60 Days

Deliverable: Development of a prioritized implementation plan for mobility service bundles

TASK 6 – WORK WITH SBCCOG STAFF TO DRAFT AND COMMENT ON TEXT FOR THE TRANSPORTATION CHAPTER OF THE SUBREGIONAL CLIMATE ACTION PLAN

The consultant team will work closely with SBCCOG staff to draft the mobility service bundle strategy section of the subregional transportation chapter and comment on existing text. This section will likely contain a review of the baseline emissions, the emission reduction targets, forecasted impacts of carsharing, ridesharing/ridesourcing, vanpools, taxis, bikesharing (and other low-speed modes), analysis of how the services scale and future transportation innovations, and recommendations for implementing the transportation and land use components of the climate action plan.

Timeline: 90 Days

Deliverable: Provide draft sections as well as comments on the other sections of the draft subregional transportation chapter

TASK 6.1 - INCORPORATE STAFF CHANGES INTO CHAPTERS

The consultant team will work with staff to incorporate the necessary changes.

Timeline: 30 Days

Deliverable: Revise the mobility services bundle transportation chapter as needed

TASK 7 - DEVELOP FINAL MOBILITY SERVICES BUNDLE SECTION OF THE TRANSPORTATION CHAPTER OF THE SUBREGIONAL CLIMATE ACTION PLAN

After incorporating staff changes, the consulting team will draft the final mobility services bundle section of the transportation chapter.

Timeline: 60 Days

Deliverable: Final mobility services bundle section of the transportation chapter

BUDGET

This work would be performed for not to exceed \$50,000.

BACKGROUND OF TEAM

Adam Cohen (MCRP) has approximately ten years of experience as a consultant and a Research Associate with the Transportation Sustainability Research Center at the University of California, Berkeley. He holds a Masters of City and Regional Planning from the Georgia Institute of Technology. He currently conducts research in the areas of shared-use mobility including carsharing, bikesharing, ridesharing/ridesourcing, and related existing public transportation services and future public transportation innovations.

Dr. Susan Shaheen is a nationally- and internationally-recognized research expert in innovative mobility research, having successfully managed more than 60 research projects totaling over \$16 million dollars. She has over 20 years of experience in sustainable transportation and behavioral research. She has conducted some of the first large-scale evaluations of socioeconomic impacts of carsharing and bikesharing in North America and worldwide, along with smart parking management. This research has influenced policymaking at state and regional levels. At present, she is researching on-demand ride services, as well as casual carpooling in the Bay Area, and peer-to-peer carsharing and one-way carsharing systems in California and throughout North America. Her travel behavior methods have been replicated in studies conducted by other researchers on the behavioral response to transportation innovations.

Dr. Elliot Martin has nearly ten years of experience as a consultant and an Assistant Research Engineer with the Transportation Sustainability Research Center at the University of California, Berkeley. He holds a PhD in Civil and Environmental Engineering from UC Berkeley. He currently conducts research in the areas of ITS and truck parking, transit, shared-use mobility, travel behavior, transportation energy, and urban parking.