

Work Plan No. A.11 2022 BART Role in the Region

Scope:

Task 1: Project Management and Meetings

Consultant will host a project management kick-off meeting to establish administrative parameters and lines of communication. Consultant will develop a schedule within the first month of the project.

Consultant will host a Comms kick-off meeting with BART communications and marketing staff to establish communication and graphic expectations, standards, and style.

Consultant will participate in regular (biweekly) project management meetings (up to 30) and submit timely progress reports and invoicing. In the first two months of the project, project management meetings will be held every week. Consultant will develop meeting agendas and take notes.

Deliverable 1.1: Project schedule (1 round of review).

Deliverable 1.2: Project management meeting agendas and notes.

Deliverable 1.3: Monthly invoices.

Task 2: Narrative Development

In the spirit of working backward from the end, Consultant will map out the likely narrative for the report at the outset. Consultant will consider how each topic might resonate differently across key audiences. Consultant will develop the story points that will drive the report and how these will be communicated via text, graphics, and figures through an annotated wireframe outline of the final report. The 2016 Role in the Region report was 95 pages. A more succinct and less text-heavy report would be ideal for reader engagement and Consultant is assuming a total of 30-40 pages for the final Role in the Region deliverable.

Key narrative elements include those listed below and others as identified as the task progresses:

1. Supporting regional equity goals
2. Economic/social value created by public transit
3. Regional economic competitiveness and cities success
4. Environmental sustainability and resilience
5. How a robust BART fits into a multi-decade arc, and into regional transportation priorities as established primarily by MTC (through Plan Bay Area), Caltrans (through the State Transportation Plan and State Rail Plan) and other regional/state agencies.
6. BART's winning aspiration – what does success look like for BART?
7. Others TBD

Consultant will schedule a workshop with BART project staff. The workshop will contain the following components:

- Consultant will present a synthesis focused on what Consultant deems relevant from: the RTA report², 2016 Role in the Region report, BART FY23 Reimagined SRTP, SEPTA Operating Budget Proposal FY 2023, 2023 California State Rail Plan (if available), Caltrain Business Plan, and trends from the 2022 BART Customer Satisfaction survey results.
- Presentation of a draft matrix of audience/topic priorities and subsequent discussion and development of story points that will drive the report. Consultant will come to meeting with some idea seeds for the overall narrative and ideas on pertinent data sources that could be available to help explain current trends for each.

Deliverable 2.1 – 30-40 page Role in the Region annotated wireframe outline. This contains high-level outline of the narrative/stories but without complete data to back them up. In some areas, provide a set of hypotheses (lines of enquiry) to test with data in place of having final stories (1 round of review).

Task 3: Current Travel Trends

At the outset of this task, Consultant will host a workshop with BART staff to brainstorm potentially useful data sources related to current travel trends. This brainstorm will include BART staff and Consultant team sharing respective experience using the data sources, the availability of the data for pre- and post-pandemic conditions, and the resources needed to process the data. Once agreed upon, Consultant will submit a formal data request for data to BART (for BART-specific data only).

Consultant will produce a set of notes summarizing the workshop which will contain the proposed methodology (i.e. specific metrics or topics that warrant study based on known data, information, or latest trends.) This would be in the format of a bulleted list with justification of each included item.

The intent of the Current Travel Trends task is to answer the following questions. Potential datasets are shown in **bold**.

Primary questions

1. How are “new reality” travel markets and patterns different to pre-pandemic? (the “who”, “why”, “when”, and “where”) **Streetlight3 (who, why, where, when); Near.com dataset (when)**
2. How is BART ridership different to pre-pandemic? (the “who”, “why”, “when”, and “where”) **Customer Satisfaction surveys⁴; BART OD data (potentially by groupings of OD), high-level BART crowding data**
3. For Q1 and Q2, why?
 - How and why are “new reality” residential and employment patterns different to pre-pandemic (including remote work)? Potential sources/datasets are:
 - **recent reports, newspaper articles, and other data sources to survey general information as to how real estate markets are shifting and employment patterns are changing**
 - **recent quality of life studies prepared by other transit agencies or MPOs which also provide potential metrics BART could use to measure its value to the Bay Area.**
 - **literature regarding downtown and regional employment center recovery patterns in other regions around the U.S**

- residential sources may include: US Census⁵, CA Dept of Finance⁶, Redfin⁷
- employment sources may include: US Census pulse⁸, Hansen et al⁹, Chapple¹⁰, Kastle¹¹, research by Nicholas Bloom¹², SF Chamber of Commerce data on job postings¹³
- How are travel costs and travel times in the “new reality” different to pre-pandemic? **Gas price data, car ownership cost, GTFS fare data, Streetlight (auto travel time)**

Secondary questions using datasets from Q1, Q2, Q3 analyses

4. How has equity priority population travel/ridership changed? Why?
5. Why is highway travel back but BART ridership is not?

Deliverable 3.1 – Workshop meeting notes containing proposed methodology (1 round of review)

Deliverable 3.2 – Set of annotated spreadsheets that will serve as the record of the data analyzed and sources referenced (no rounds of review)

Further documentation of Task 3 will be in factsheet form as described in Task 8.2.

Task 4: Supporting Regional Equity

Consultant will assess how BART serves equity priority populations across the Bay Area by speaking directly with current and former riders. In addition to a demographic overview of existing riders under Task 3, Consultant will lead the planning and execution of up to six focus groups and four one-on-one conversations, which may be in-person or virtual.

Approach Memo - Consultant will develop a draft approach memo for BART review. This will include the key equity demographics the project team intends to reach through six focus groups and four one-on-one meetings, as well as the proposed agenda and list of topics/questions that Consultant intends to cover in those meetings. The following demographics are likely to be considered:

- Low-income riders/essential workers (including those living in affordable housing)
- Riders without a car
- Women
- Students
- Riders of color

Consultant anticipates that questions would focus on how these participants rely on BART and how BART supports their travel and livelihood.

Participant Identification - Consultant will work with BART to solicit rider interest in participating in these engagement opportunities. Consultant will develop flyers that BART staff may hand out or hang up in stations that will include a link and QR code to a form for interested riders to fill out, which will include a brief list of questions about their identity, availability, and contact information. Consultant and/or BART will utilize BART's existing databases to reach potential participants.

Focus Groups and One-on-One Meetings - Consultant will coordinate the scheduling of, facilitate, and take notes for each focus group and one-on-one meeting. The facilitation guide will be informed by areas identified in Tasks 3, 6, and 7 that would be worthwhile for further exploration, to the extent those tasks are completed at the time the facilitation guide is developed. Each focus group will include approximately six participants.

Deliverable 4.1 – Approach Memo (1 round of review)

Deliverable 4.2 – Flyer to attract participants (1 round of review)

Deliverable 4.3 – Scheduling, attendance, and notetaking at six focus groups

Deliverable 4.4 – Scheduling, attendance, and notetaking at four one-on-one conversations

Further documentation of Task 5 will be in factsheet form as described in Task 8.2. Factsheet content to represent Task 5 findings will include a summary of equity findings, including key themes and quotes from community members. It will also include statistics on diversity of BART employees (staff, contractors, intern programs) as provided by BART as well as a supporting narrative related to BART's role in supporting regional equity as an employer.

Task 5: Regional Economic Value

Task 5a: Literature Review to Identify Possible “Story Lines” or Metrics Regarding BART’s Role in the Region

Consultant will review the available results from Tasks 2, 3, 4, 6, and 7 as well as recent reports, newspaper articles, and other data sources to survey general information as to how real estate markets are shifting and employment patterns are changing in the Bay Area in ways that may suggest how BART is or will add value over the coming years. Consultant will also review recent quality of life studies prepared by other transit agencies or MPOs which also provide potential metrics BART could use to measure its value to the Bay Area. In addition, Consultant will conduct a scan of literature regarding downtown and regional employment center recovery patterns in other regions around the U.S. Finally, BART will provide Consultant with information about BART ridership patterns by station since the 2020 lockdown, and other input data for this task will be data from Task 3 related to regional mobility patterns based on cell phone tracking data that can help identify additional activity trends related to BART.

Deliverable 5.1: Consultant will prepare a power point presentation presenting key findings, proposed next steps for further data analysis and qualitative information gathering through interviews. This information will be presented to BART staff as needed.

Task 5b: Initial Information Gathering Regarding Trends and Potential Futures for the Region

This task will focus on developing basic metrics for the region, and for BART stations related to:

- o Employment trends near BART stations and in the region
- o Office real estate and market trends near BART stations and in the region
- o Multi-family housing market trends near BART stations and in the region, including RHNA targets and housing element opportunities sites near BART stations.
- o Household incomes or other demographic characteristics related to BART and equitable job access
- o Other metrics of data to be determined based on the outcomes from Task 2

Consultant will prepare various analyses to see what kinds of broad metrics, benchmarks or story lines emerge from this first quantitative data analysis.

Deliverable 5.2: Consultant will prepare a power point presentation showing emerging trends or patterns, possible metrics or benchmarks, and potential story lines that BART could use to demonstrate its role in the region.

Task 5c: Economic Impact Analysis

Consultant, with input from subconsultants as necessary, will estimate the economic impact of BART as an employer and major potential source of capital investment on the regional economy including direct economic impacts, household impact, and to the extent, resources allow other “societal” impacts.

Deliverable 5.3: The output from this task will be included in the power point Deliverable 5.2.

Task 5d: Conduct additional analysis and Refine/Explore Metrics, Benchmarks, or Story Lines

Based on input from Task 5b, Consultant will conduct additional data analysis and, as appropriate, conduct interviews or focus groups to add a qualitative dimension to the work. This process will be iterative and will result in identifying the ten story lines or metrics BART will use to demonstrate its value to the region.

Deliverable 5.4: Consultant will hold regular weekly or bi-weekly meetings with BART and to share work and identify appropriate next steps until up to ten metrics, benchmarks and/or story lines have been identified to demonstrate BART’s value to the region. Final output for this task will be tables, graphics, charts, and/or maps, along with a supporting narrative for up to 10 metrics or story lines demonstrating BART’s role in the region for inclusion in the final report.

Further documentation of Task 5 will be in factsheet form as described in Task 8.2.

Task 6: Consequence of Not Funding BART

The purpose of this task is to determine the potential impacts of not securing stopgap and/or permanent funding to the region, using up to two artificial “Downsized BART” scenarios to drive the analysis. BART will develop up to two “Downsized BART” service scenarios, consistent with achieving the narrative/story points in Task 2. If the MTC model is to be solely used, then two scenarios will be analyzed. If a different methodology is desired, the number of scenarios may be reduced. The scenario(s) would represent significantly reduced BART service and define BART operating characteristics such as train travel times, headways, fares, lines and stations in operation, span of service, and service by time of day. The most appropriate analysis year will also be determined. Scenario development will be informed by various sources, including the Reimagined SRTP, BART Metro, near-term budget constraints, and support for the narrative/story points.

Consultant will schedule a working meeting with BART project staff to advise on the scenarios as it pertains to the tractability of analysis and targeting of the metrics in Task 7. BART will finalize the definitions of the “Downsized BART” scenario(s).

Consultant will then develop an evaluation methodology and data collection strategy to produce results that are of most use in supporting the narrative/story points developed in Task 2 and metrics defined in Task 7. Methodologies are expected to use practical transportation analysis tools to yield high level planning results; MTC Travel Demand Model, BART Ridership Model (BRM), and others (including spreadsheet based off-model adjustments) will be considered. The MTC Travel Demand model and BART Ridership Model do not currently consider the effect of COVID and differing approaches to accounting for COVID would be discussed at the working meeting.

Consultant will produce a set of notes summarizing the Downsized BART scenarios, the modeling methodology, data collection strategy, and final metrics. This would be in the format of a bulleted list with detail on tools and processes to be used for the evaluation.

Consultant will execute the methodology and produce a summary of results, that will be used in Task 7 to analyze regional benefits/metrics.

Deliverable 6.1 – One set of notes from the Working meeting, containing scenario development/definitions and proposed methodology (1 round of review)

Deliverable 6.2 – A set of tables containing outputs from the modeling process that would be used as input into Task 7 (1 round of review)

Task 7: Analysis of Regional Benefits/Metrics

Consultant will lead a meeting with BART project staff to determine the final set of metrics to be used for analysis. Many metrics will be quantitative although some may be qualitative – for example emission reduction mostly follows VMT reduction and therefore could be measured qualitatively. The metrics will be selected to help tell the story identified in Task 2. Potential metrics include those used in the USDOT Cost Benefit Analysis for federal discretionary transportation.¹⁴ Examples of potential metrics include the following:

- 1) Travel Time Savings - Defined as peak period travel times between key origin-destination pairs
- 2) VMT Reduction - Defined as VMT on roadways within each BART county, and catchment area as defined by BART staff.
- 3) Emission Reduction Benefits - Convert VMT outputs to GHG emissions by converting VMT by speed bin to GHG emissions (via EMFAC or equivalent). Other metrics under this subcategory are: document the percent of sustainable energy sources used to power BART. Qualitative discussion of reduced exposure to emissions by riding BART compared to driving along freeways.
- 4) Congestion Benefits – Defined as region-wide vehicle hours of delay.
- 5) Safety Benefits - Compare crashes per million vehicle miles for BART to autos using safety data provided by BART.
- 6) Operating Cost Savings - Compare cost of using BART to cost of driving for individuals.

- 7) Health Benefits - Increasing walk/bike mode share, plus average level of walking for transit riders, leads to improved cardiovascular health and other positive outcomes. Key health outcome is a reduction in mortality risks.
- 8) Reliability - Include any reliability metrics available from BART. Qualitatively discuss factors that affect variability of travel time of taking BART vs driving.
- 9) Regional Connectivity - Qualitative discussion on how BART enhances the connections between communities, people, and businesses. Discussion on BART’s effect on connecting transit agencies.

Upon finalizing the specific approach to Task 7, Consultant will first calculate aggregate metrics for business-as-usual BART-service and submit these results to BART. At a later stage, once the “Downsized BART scenario(s)” has been run, Consultant will develop comparative metrics for inclusion in the deliverables.

Deliverable 7.1 – Set of annotated spreadsheets that will serve as the record of the data analyzed and sources referenced (no rounds of review)

Further documentation of Task 7 will be in factsheet form as described in Task 8.2.

Task 8: Summary Graphics and Report

This graphic and report deliverables task is structured to serve BART’s desire to communicate progress and findings for this study (to stakeholders and the public) on an ongoing basis while the report is being developed. The first deliverable is modular graphics that summarize key findings and could come in the form of infographics, tables, charts, or maps.

Secondly, the technical findings from Tasks 3-7 will be summarized in the form of four factsheets that will display key findings, narrative elements, and will include some of the modular graphics.

Thirdly, Consultant will produce a highly visual final report that is intended to be standalone and contain key findings from all previous tasks. Some pages may be modified from the factsheets, and some of the modular graphics may be included and/or adapted for the report.

Deliverable 8.1 – To support Tasks 2-7, Consultant will develop modular graphics summarizing key findings that can be excerpted for standalone use in presentations, social media, and website content.

Deliverable 8.2 – Consultant will develop four factsheets (2-4 pages each), similar in style to BART’s [Fiscal Cliff factsheet](#) dated 2/21/23. These factsheets will contain key findings and graphics from Tasks 3-7 and are intended for public consumption. Each factsheet will have 2 rounds of BART review.

Deliverable 8.3 – Consultant will adapt findings and materials from previous tasks into a highly visual final report (30-40 pages) that will be targeted to engage an audience of decision makers and the public. (1 round of review)

Prime: Fehr & Peers

Subconsultant	Amount	DBE (Y/N)	SBE (Y/N)
InfraGarden LLC	\$ 14,850	N	N
Strategic Economics	\$ 55,049	Y	Y

Total Work Plan Value: \$ 448,571