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Active Transportation Study – Task 4 Data Framework Memo

BACKGROUND

The purpose of the Data Framework is to establish critical metrics & criteria used for building of multiple bike network scenarios for final modeling and analysis. This Data Framework builds off of previous work conducted in Task 3 Geospatial Analysis – which established a series of geographic zones, corridors, and corridor segments across the city.

The Data Framework was aligned with the larger ConnectSF goals, ensuring a measure of alignment with parallel efforts being taken by the TCS and SFS teams.

The Data Framework will be applied across zones, corridors, and corridor segments to develop profiles of the populations within each geography, the trips originating/ending within each geography, and the trips traveling through each geography. The purpose of developing such profiles allows comparisons between zones, corridors and corridor segments, identifying geographies with the greatest potential for mode shift to active modes, and identifying geographies that may best align with a particular typological active transportation network option.

TERMINOLOGY

As described in previous memos, the Data Framework relies on a series of geographical criteria. These are:

Zone - The city is split up into 13 separate geographic zones, largely based on topography, contiguous communities, and existing active transportation networks.

Corridors - The city is crisscrossed by 20 corridors, designated along existing active transportation routes, as well as potential routes that act as logical desire-lines due to topographic challenges.

Corridor Segments - Corridors divided into segments according to Zone boundaries, with modifications explained in the "Corridor Segmentation and TAZ Allocation memo". Corridor segments are the base unit for the application of active transportation typologies when building a potential bike network.

Typologies – Active transportation network treatments, applied at the corridor segment-level. The Active Transportation Studies has identified three typologies: best practices bike network, car-free street network, and mobility hub network. Network builds for final analysis and comparison will be created from typologies applied to corridor segments citywide.

Terminology is further explored in the ATS Analytical Framework draft development document.

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PURPOSE

The Data Framework is meant to serve multiple purposes, all of which are designed to support the successful modeling of citywide impacts and outcomes from a limited number of network builds. In this initial stage, the Data Framework is meant to develop "profiles" of Zones, Corridors, and Corridor Segments. These profiles will allow for:

- Comparisons of populations, destinations, and trips between Zones
- Identification of areas that have the greatest discrepancies between existing mode share and potential mode share (based on other factors within the profile)
- Identification of Corridors and Corridor Segments most and least likely to contribute substantial impacts if included within a network build
- Identification of Zone and Corridor Segment characteristics that suggest preference for a certain type of Typology

In parallel with the development of profiles for Zones and Corridors, the following tasks will be pursued:

- Case study research for how typologies may influence route choice and mode choice within SF CHAMP modeling
- Develop thematic approaches for network build scenarios. Potential themes include:
    - maximize bike mode shift,
    - maximize equitable access,
    - maximize synergy with transit network investments,
    - maximize citywide access
- Develop framework for assigning typologies to corridor segments based on data contained within Zones & Corridor profiles

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ConnectSF Goal Goal Area	ATS Goal Statement *To build a citywide bike network that can…*	Objectives	Metrics/ Criteria
Equity	Provide equitable access to goods, services, and destinations; Expand affordable travel options for low- and moderate income households	Improve network access for low-income residents	CoC coverage
		Provide travel options for accessing services, jobs, and destinations	Access to destinations (within 30-minute bike trip or less)
Environmental Sustainability	Support sustainable trip choices and support community resiliency	Prioritize high-ridership corridors	Number of bicycle trips
		Support transit trip-chaining	Access to Muni Rapid Network by biking 1 mile or less
		Reduce congestion on streets	V/C on streets
Economic Vitality	Increase access to job & service centers within San Francisco and the region	Prioritize bike investments in dense job & housing centers	Residential density, employment density
		Support connections to regional transit	Number of regional trips (that start or end outside of San Francisco)
		Alleviate transit crowding	Transit crowding on transit lines within corridor
Safety and Livability	eliminate traffic fatalities for people walking and biking, support livable neighborhoods and strengthen community bonds	Reach Vision Zero goals	High Injury Network (HIN) coverage
		Facilitate short trips	Number of short trips (2 miles or less)
		Create neighborhoods that are attractive and convenient for bike trips	LTS 1/2 bike network (2020)
		Provide safe connections	Number of bike-through trips
		Provide travel options for healthy lifestyles	Number of bike trips by trip purpose
Accountability and Engagement	Directly respond to needs and values expressed by the public, utilize public resources effectively, and is eminently deliverable	Reflect community values	
		Maximize cost/benefit	
		Maximize feasibility/deliverability	
		Partner with under represented communities and groups	