City of Bellevue

Transportation Commission Study Session

DATE: June 3, 2021

TO: Chair Marciante and Members of the Transportation Commission

FROM: Kevin McDonald, Principal Transportation Planner, 425-452-4558
kmcdonald@bellevuewa.gov

SUBJECT: Mobility Implementation Plan

DIRECTION REQUESTED

	Action
X	**Discussion/Direction**
	Information

Discussion: This memorandum introduces a concept of how the Mobility Implementation Plan will evaluate equity as part of transportation planning and project prioritization.

INFORMATION

On January 4, 2021, the City Council approved a scope of work, budget, and direction to the Transportation Commission to prepare a Mobility Implementation Plan (MIP). As one of the most diverse cities in the state (as measured from an economic, ethnic, racial, and age perspective), Bellevue values its diversity and understands that everyone who lives in or visits the city has different mobility needs and perspectives. With this in mind, a key element of the MIP is the integration of equity into Bellevue's transportation planning and prioritization of projects. This memorandum describes the staff and consultant team's recommended approach to measuring equity in Bellevue. Specifically, this memo outlines the metrics that will be defined to measure equity and a potential framework to identify the characteristics of equity that most warrant attention from a mobility and transportation investment perspective. Material in this memo is distilled from a best practice review of transportation equity analysis frameworks from across the country. More information on best practices can be found at the end of this memo.

EQUITY ANALYSIS FRAMEWORK

Based on a review of equity analyses developed by peer cities and other regions in the country, staff and the consultant team have identified that a composite "equity index" is the best way to consider a wide range of equity characteristics and apply those to identify mobility gaps and to prioritize transportation investments. A key finding of this research is that people in Bellevue would benefit by transportation planning that more comprehensively considers data completeness, data availability, and adjustment to local conditions. These three elements are described further below:

- **Completeness**: Stemming from the best practice analysis, the type, number, and depth of the indicators considered by peer jurisdictions varies based on the questions the jurisdictions are trying to answer, available resources, and the jurisdiction's balance of complexity versus simplicity. Most jurisdictions share a common set of variables focused on identifying the most vulnerable/disadvantaged populations within the community, typically: people of color, low-income, senior, and disabled populations.
- **Data availability**: The variables included in the index should be available for the City of Bellevue and expected to be collected consistently. This will ensure that the City can follow the methodology and compare the evolution of the index into the future. Research has shown that some inconsistent or proprietary data on equity can create challenges in comparing subsequent equity analysis results. National, state, and regional data sources tend to have the greatest availability.
- **Adjustment to local conditions**: The research indicates that Bellevue should develop its index to account for its specific context and specific needs. This means, for example, to opt for an index that compares the different areas relative to the city itself and not the larger region. Additionally, some locally important equity considerations that are not common for peer jurisdictions should be considered. The consultant team's experience on other projects has shown that a common tool of scaling a regional or countywide equity analysis framework can miss key findings at the city level. A case in point for Bellevue is an overly simplistic evaluation of people of color. As a highly diverse city, much of Bellevue shows high proportions of people of color compared to the King County average, but when taking a closer look at the distribution, there are no clear patterns of need/concentration/or modal usage that would suggest that areas with higher proportions of people of color should be considered for additional investment of different modal priorities. Therefore, adjusting the factors included in the equity index and the specific weights is required to get the most insight.

Specific Equity Index Metrics

Based on the best practices research and the considerations surrounding completeness, availability, and adjustment to local conditions, the Table 1 summarizes the staff and consultant team's recommended metrics to include in the equity index.

Table 1

Indicator	Description	Source	Geographic Scope*
Low-income households	Percent of households below poverty line in the last 12 months	ACS 2018 five-year estimates Table B17019	Census tract/census block group
People with disabilities	Percent of population with a disability	ACS 2018 five-year estimates Table B18101	Census tract/census block group
Female-headed households	Percent of households headed by mothers only and with children under 18 years old	ACS 2018 five-year estimates. Table B11003	Census tract/census block group
Limited English-speaking households	Percent of households with limited English-speaking	ACS 2018 five-year estimates Table C16002	Census tract/census block group
People of color	Percent of people who do not identify as both white and non-Hispanic/Latino	ACS 2018 five-year estimates Table B03002	Census tract/census block group
People over age 64 and under the age of 17	Percent of population over the age of 64 or under the age of 17	ACS 2018 five-year estimates Table B01001	Census tract/census block group
Housing cost burden (Renters)	Percent of households that spend 50% or more of their annual income on gross rent	ACS 2018 five-year estimates Table B25070	Census tract/census block group
Low-car households	Percent of households age 16 and over with access to one or fewer vehicles	ACS 2018 five-year estimates. Table B08141	Census tract/census block group
Low-income jobs	Location of the jobs where workers earn less than $1,500 per month	2018 LEHD Origin-Destination Employment Statistics (LODES), Block Group. Total jobs	Census tract/census block group

* The preferred geographic scope is Census Block Group; this can highlight more granular differences. However, some of the variables might not be available at block group level, hence a hybrid approach can be implemented.

Based on an initial review of the metrics in Table 1, the staff and consultant team have several additional recommendations about relative weighting of the different equity metrics to best match with the local context:

- **We recommend that the index place a higher value to the low-income, limited English speaking, and low-car households**. Low-income households typically face greater transportation burdens than the population at a whole, hence, most equity indexes heavily weight this variable. It is also typical for other peer-community equity indices to weight people of color similarly to low-income households. However, as noted earlier, a review of the data in Bellevue shows a relatively even distribution of people of color, which would not lend itself to being a valuable equity metric—our team recommends continued tracking of this variable, but not heavily weighting the metric "people of color". A more detailed review of the data reveals that concentrations of limited English Speaking and low-car households show distinct patterns that are also correlated with higher non-auto usage. Therefore, we recommend these two variables for heavier weights in the equity index. All these heavier-weight metrics are readily available from the US Census Bureau. Census data are generally robust, accurate, and available at small geographies, which increases the reliability of the index. This can be implemented in two main ways:
    - Similar to the Bay Area's Metropolitan Transportation Commission Equity Evaluation, if a selected geography (e.g., census block group) scores above the low-income, limited English speaking, and low-car thresholds it is defined as an "equity priority geography."
    - It is also possible to create an index in which low-income, limited English speaking, and low-car household proportions are more heavily weighted than other indicators, for instance a combined 50% of the index.
- **We recommend using the statistical concept of standard deviation to define the threshold for each indicator**. Although this approach is more technical and harder to communicate to the public, it has the advantage of defining the limits based on the specific distribution of each indicator. As an example, the block groups one standard deviation above the average share of low-income households in the city, would contain approximately 15% of the block groups with the highest concentration of low-income.
    - To more easily communicate this concept to the public, it is possible to explore a simpler 1-10 index similar to the one used in the City of Los Angeles' Transportation Equity Index case.

NEXT STEPS

At the Transportation Commission meeting on June 10, 2021, the consultant team will show maps of the different equity metrics and expand on how the weighting can highlight areas of Bellevue that have higher concentrations of households or employment that have

transportation challenges. Looking further forward, staff and the consultant team will use the equity evaluation framework to analyze how well existing MMLOS performance matches with the equity groups highlighted in this memorandum. For example, do higher income areas generally rate better when it comes to existing conditions MMLOS performance? Do areas with better bicycle access align with parts of the city that have lower vehicle availability? In addition to this existing conditions analysis, future Transportation Facilities Plan projects will be evaluated to determine if certain parts of the city are receiving a disproportionate level of investment relative to their MMLOS performance and growth rates. These equity analyses will be presented alongside the MMLOS results for existing conditions and the TFP analysis over the next several Transportation Commission meetings.

EQUITY ANALYSIS BEST PRACTICES

Several jurisdictions have recently developed an equity index or equity analysis to aid in transportation decision making. The examples are meant to give the Transportation Commission a brief overview of how other agencies are evaluating equity. This section shares equity index examples from King County Metro, Tacoma, Los Angeles, San Francisco Bay Area, the Southern California Associations of Governments (SCAG), and King County Metro. The examples for each jurisdiction include a short description and a table of the indicators used to develop the equity index.

King County Metro, WA

Through the Mobility Framework and policy document updates, King County Metro formed an Equity Cabinet that guided development of a methodology to identify areas of greatest need. The high-level analysis focuses on priority populations and helps to identify areas where Mobility Framework recommendations and policy updates have the potential to improve mobility for all King County residents. Recognizing the need to account for places where people live and work, areas with high concentrations of low-income jobs were also included. By targeting investments first in communities with the greatest needs, Metro can best improve prosperity for customers throughout King County.

Category	Metrics	
Socioeconomic	▪ Limited-English speakers ▪ Immigrants and refugees ▪ People with disabilities	▪ Low- and no-income households ▪ Black, indigenous, and people of color
Accessibility	▪ Number of jobs reachable by transit within 60 minutes	▪ Low-income jobs

San Francisco Bay Area, CA

The 2020 update of Metropolitan Transportation Commission's (MTC)1 Communities of Concern follows the Adopted Communities of Concern (CoC) Framework for Plan Bay Area 2040 and is based on 2014-2018 American Community Survey (ACS) 5-year tract level data. MTC defined "communities of concern" for the RTPs adopted in 1999, 2003 and 2007 as areas with a concentration of either 70% minority or 30% low-income households. For Plan Bay Area 2013, CoCs were defined either as census tracts with a concentration of 70% minority population AND 30% low-income households OR as census tracts that have a concentration of four or more of the disadvantage factors listed in the Table 1 below. The concentration threshold for each

1 MTC is the regional planning organization for the Bay Area – equivalent to the Puget Sound Regional Council (PSRC)

disadvantage factor was based on its current share of the region's population plus half a standard deviation above the regional mean.

Table 1: Communities of Concern Framework for Plan Bay Area 2013

Disadvantage Factor	*% Regional Population*[6]	*Concentration Threshold*
1. Minority	54%	70%
2. Low Income (<200% Federal Poverty Level - FPL)	23%	30%
3. Limited English Proficiency	9%	20%
4. Zero-Vehicle Household	9%	10%
5. Seniors 75 Years and Over	6%	10%
6. People with Disability	18%	25%
7. Single-Parent Family	14%	20%
8. Cost-Burdened Renter	10%	15%
Definition – census tracts that have a concentration of BOTH minority AND low-income households, OR that have a concentration of 4 or more factors listed above.		

This methodology is a discrete approach to identify areas with the highest equity concerns. First, it establishes the shares of each factor based on the region's total population, and then it establishes an upper threshold using the concept of standard deviation. It is possible to set different levels or tiers, in the latest update for Plan Bay Area 2050, MTC has created three levels of COCs; High, Higher and Highest, based on concentration thresholds 0.5, 1, and 1.5 standard deviations above the mean respectively.

Category	Metrics	
Socioeconomic	▪ Minority ▪ Low Income (< 200% Federal Poverty Level -FPL) ▪ Limited English Proficiency ▪ Zero-Vehicle Household	▪ Seniors 75 Years and Over ▪ People with Disability ▪ Single-Parent Family ▪ Severely Rent-Burdened Household

Tacoma, WA

Working with Ohio State University's Kirwan Institute of Race and Social Justice, Tacoma complied an Equity Index to help facilitate data-driven decision-making processes to better focus resources and plan funding of programs and services to minimize inequities and maximize opportunities. The Equity Index is an interactive tool that visually highlights disparities in Tacoma. It uses 29 data points sorted into five determinant categories to determine where community members are not able to access services or where services do not meet community needs. It is one of the primary tools that City staff, partners, and other decision makers use to help ensure they are making data-informed decisions to improve access to opportunity for all community members.

Category	Metrics	
Livability	▪ Nuisance/Neighborhood Index ▪ Crime ▪ Median Home Value for Owner Occupied Units	▪ Housing Cost Burden ▪ Life Expectancy ▪ Urban Tree Canopy
Economy	▪ Employment Index ▪ Unemployment Rate	▪ Poverty Ratio ▪ Median Household Income
Education	▪ Student Mobility Rate ▪ 3rd Grade Reading Proficiency	▪ 7th Grade Math Proficiency ▪ Highest Educational Attainment
Accessibility	▪ Parks & Open Space ▪ Healthy Food Index ▪ Transportation Access	▪ Voter Participation ▪ Road Condition ▪ Household Internet Access
Environment	▪ Ozone Concentration ▪ Pm 2.5 Particles ▪ Diesel Emissions ▪ Heavy Traffic Roadways ▪ Toxic Risk	▪ Toxic Substances ▪ Superfund Site Proximity ▪ Hazardous Waste Site proximity ▪ Lead Risk from Housing

Los Angeles, CA

The City of Los Angeles developed its Equity Index to look at some of the most important factors – socioeconomic, environment, education, and access to resources – that contribute to a broad array of challenges facing Angelenos, including transportation. The Index's goal is to illustrate the level of equity and opportunity in each neighborhood so that City leaders and all residents have a data-driven understanding of community needs throughout Los Angeles.

The Index looks at the city from the ground up. It was created by examining a series of indicators individually, scoring them, and bringing everything together in a composite index – the L.A. Equity Index. The Equity Index scores each census tract in the city on a scale of 1 to 10. A lower score indicates areas where residents experience less equity and opportunity; a higher score means an area with more equity and opportunity for Angelenos.

Category	Metrics	
Socioeconomic	▪ Rent Burdened ▪ Home Ownership	▪ Residents below Poverty Line
Environment	▪ Air Quality ▪ Toxic Releases from Facilities	▪ Traffic Density
Education	▪ High School and College Degrees	▪ Early Education Achievement
Access to Resources	▪ Access to Internet ▪ Access to Health Insurance	▪ Access to Food Resources

Southern California Associations of Governments (SCAG)

As part of a broad-based equity evaluation, SCAG has highlighted transportation equity zones (TEZs) in the region where socio-demographic, transportation-related, and environmental disadvantages intersect. The purpose of identifying these areas is to identify communities where residents are already experiencing disproportionate impacts of an inequitable transportation system, and there are concerns that mobility innovations such as road pricing have the potential to exacerbate these inequities. TEZs provide implementing agencies in the SCAG region a tool for designing mobility innovation programs with an equitable foundation along with considerations to mitigate the negative impacts of the mobility innovations.

Specific to Bellevue, TEZs are identified using an index method that highlights census tracts that are impacted by transportation-related structural disadvantages within the SCAG region. The TEZ index consists of thematic components, each of which represents a type of structural disadvantage that provides context for assessing the impacts of road pricing and new technologies on a given community. However, our team also feels that the framework works well for identifying gaps in the transportation system from an equity perspective and transportation investment prioritization. These index components are:

- **Socioeconomic disadvantage**: Disadvantage caused by sociodemographic characteristics such as race, income, or household structure.
- **Rent burden**: Disadvantage caused by disproportionate expenditure of income on housing costs.
- **Pollution exposure**: Disadvantage caused by exposure to dangerous pollutants from transportation sources.
- **Transportation access**: Disadvantage caused by reduced access to transportation.

These components are made up of subcomponents, which are the quantitative census tract-level measures that compose the TEZ index. These subcomponents are drawn from publicly available datasets assembled by federal and state government agencies.

Category	Metrics	
Socioeconomic	▪ Low-income households ▪ People with disabilities ▪ Female-headed households ▪ Limited English-speaking households	▪ People of color ▪ People over age 64 and under age 17 ▪ Households spending 50% or more of income on rent
Environment	▪ Diesel particulate matter	▪ PM 2.5 Particles
Access	▪ Traffic density ▪ Zero and one-car households	▪ Transit service provided ▪ Pedestrian infrastructure