



Memorandum

TO: BARC Executive Board

DATE: November 17, 2017

FR: David Vautin, MTC/ABAG

RE: Vital Signs Performance Monitoring Initiative – Key Climate & Resilience Findings

Launched in early 2015, the Vital Signs performance monitoring initiative is a key implementation action of Plan Bay Area, allowing residents to track trends for 40 indicators related to transportation, land & people, the economy, the environment, and social equity. To date, over 82,000 Bay Area residents – ranging from elected officials and public agency staff to members of the public and policy advocates – have used Vital Signs to learn more about their communities and their region (<http://www.vitalsigns.mtc.ca.gov/>). The website makes it possible for users to zoom in and explore localized trends, while simultaneously comparing regional and national conditions for the same indicators.

Managed by MTC/ABAG, Vital Signs involves close cooperation with other project partners including the Bay Area Air Quality Management District (BAAQMD), the Bay Conservation and Development Commission (BCDC), and the Bay Area Regional Collaborative (BARC). Datasets and narratives are updated on a rolling basis with the latest available information, and all data presented on the site is made available through an open data portal for technical experts.

Focusing in on two specific indicators at the core of BARC's mission, this memorandum presents the latest findings related to **greenhouse gas emissions** and **vulnerability to sea level rise**, both of which were updated as part of the September 2017 Environment release.

Greenhouse Gas Emissions

While the region still has a long way to go to meet the ambitious targets established by various state climate laws, recent trendlines are certainly pointed in the right direction. Thanks primarily to reduced consumption of electricity and natural gas, combined with a much cleaner power mix from major utilities, the Bay Area's greenhouse gas footprint has decreased by six percentage points on a per-capita basis between 2010 and 2015 – a notable achievement.

Despite this relatively positive news, challenges remain in the transportation sector. Emissions from cars and trucks have not declined at the same pace as electricity and natural gas consumption. This is due in part to rising vehicle miles traveled caused by rising commute distances, which have canceled out the beneficial effects of improved fuel efficiency and growing market share for electric vehicles. Surface transportation remains the largest source of greenhouse gas emissions in eight of the nine Bay Area counties, with San Francisco being the notable exception.

Overall, the fact that the region is experiencing an economic boom without significantly increasing its greenhouse gas emissions demonstrates the value of an economy powered by knowledge sector jobs. Over the five-year period between 2010 and 2015, the Bay Area's economic output grew by 22 percent, and the number of jobs in the region soared by 18 percent. The Bay Area continues to show how it is possible to grow the economy while simultaneously protecting the environment.

Vulnerability to Sea Level Rise

Leveraging new sea level rise maps produced by BCDC earlier this year – and pairing them with the latest microdata on Bay Area population – allowed the Vital Signs team to update its population analyses for sea level rise risk. The results highlight the challenges the region faces in the decades ahead. Even with a one-foot sea level rise scenario – a middle-of-the-road forecast for 2050 – roughly 200,000 Bay Area residents would be living in communities impacted annually by flooding from rising tides. Even more communities would be affected in future decades, especially in three-foot or four-foot sea level rise scenarios.

As expected, impacts are not evenly distributed across the region. In the next few decades, Marin County and Solano County have the highest number of residents living in at-risk areas, including communities like San Rafael's Canal District, Benicia's historic downtown, and Vallejo's Mare Island. Notably, one in five Marin County residents lives in communities that will be regularly affected by sea level rise by 2050. With higher levels of sea level rise in later decades, neighborhoods in other counties, including Alameda and San Mateo, would be increasingly affected by this regional challenge.

Similar to other indicators, Vital Signs also explored the potential impacts of sea level rise for the nine other most populous metropolitan areas in the United States. In the medium term – with just a one-foot rise in sea levels – the Bay Area would be the most vulnerable of any major metropolitan area, with just under 3 percent of all residents affected by rising tides. At higher levels of sea level rise though, Miami unsurprisingly rises to the top of the list given its flat topography and proximity to the Atlantic Ocean.

To explore localized trends in your city or county, you can access the interactive sea level rise map featured here: <http://www.vitalsigns.mtc.ca.gov/vulnerability-sea-level-rise>

Next Steps

September's release of the latest Environment data marked the completion of the 2016-17 cycle for Vital Signs, over which time nearly all 40 indicators were updated. MTC/ABAG staff intends to continue updating and enhancing the website as a resource for the public in 2018, including the integration of new federally-required performance targets and the establishment of a stronger linkage to the 2021 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) process.