2021 Regional Plan: Overview of the Data Used in the Planning Process

Action: Discussion

The Board of Directors requested additional detailed data underlying the development of the draft 2021 Regional Plan. A panel of SANDAG staff will describe the data and methods used during the planning process.

Fiscal Impact:

Funding for development of the 2021 Regional Plan is included in Overall Work Program Element Nos. 3102000 and 3102005 in the FY 2021 Program Budget

Schedule/Scope Impact:

The draft 2021 Regional Plan and draft Environmental Impact Report (EIR) are expected to be released for review by the Board of Directors and public comment in spring and summer 2021, respectively.

Overview

On February 22, 2019, the Board of Directors unanimously approved an action plan to develop a bold new vision for San Diego Forward: The 2021 Regional Plan (2021 Regional Plan).

From April 2019 through August 2020, staff delivered a series of presentations to the Transportation Committee, Regional Planning Committee, Borders Committee, and Board of Directors on topics related to the Regional Plan. Presentation topics included our regional economy, data-driven planning, Big Data, regulatory requirements, environmental impact reports, transportation modeling, impacts of COVID-19, and concluded with the Vision for the 2021 Regional Plan. On February 12, 2021, staff presented how SANDAG will move from a Vision to a Plan and how the 2021 Regional Plan reimagines the transportation system in the San Diego region.
On February 26, 2021, the Board of Directors requested additional details on the data-driven planning process used to develop the draft 2021 Regional Plan.

Key Considerations

Based on previous Board direction, data analysis combined with stakeholder input has guided the development of a comprehensive vision for a transportation system that leverages technology to create a safe, adaptable, and equitable transportation network with fast, fair, and clean choices to move around the region seamlessly. Staff has used a data-driven planning process that began with identifying the region's challenges, collecting data, ensuring the validity and reliability of the data, concept development, network development, and network refinement.

In the early phases of the Five Big Moves development process, staff used Longitudinal Employer-Household Dynamics (LEHD) data from the U.S. Census Bureau and anonymized location-based (cell phone) data aggregated to the census tract level to gain a high-level understanding of the critical connections needed to access jobs, services, education, healthcare, places of recreation and major attractors. Because work commutes are generally the most consistent and predictable trips and are a primary cause of peak-period congestion and delay, staff also analyzed empirical data that revealed how people are traveling to major employment centers and points of interest each day. In addition to the analysis performed using observed data, feedback from residents, employers, and stakeholders across the region has been collected through focus groups, surveys, interviews, and workshops to understand the transportation challenges that our residents and businesses face.

Critical to the development of the 2021 Regional Plan is the iterative process to evaluate and refine the network and verify whether the proposed network and strategies can address the region's needs. This required a series of detailed analyses in which data related to existing population and jobs, regional growth forecasts (population, households, housing units, jobs), land use assumptions, demographics, and more were repeatedly analyzed.

Planning staff, data, analytics and modeling staff, and a team of consultants worked together throughout this iterative process to create key input assumptions for the Activity Based Model 2+ (ABM2+) to evaluate elements of the Plan such as transportation system infrastructure and operations, demand management strategies, pricing strategies, land use assumptions, and integration of regional zero emission vehicle programs. In addition, independent reviews of data, assumptions, and conclusions were conducted through the agency's Peer Review Process (PRP) and Office of Quality Assurance/Quality Control, processes that were created, implemented, and refined as part of the agency's Plan of Excellence.

Next Steps

Prior to releasing the draft 2021 Regional Plan in May 2021, more information on the following components of the Regional Plan will be presented to the Board in April 2021:

- Social Equity
- Technology Considerations
- Alignment of State, Regional, and Local Planning

The Board will be asked to consider adoption of the 2021 Regional Plan and certification of the final environmental impact report in the fall of 2021.

Hasan Ikhrata, Executive Director

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Attachment: 1. Vision for the 2021 Regional Plan: Documentation of Presentations and Draft Data Analysis

Vision for the 2021 Regional Plan: Documentation of Presentations and Draft Data Analysis

All data, analysis, and performance results are subject to change prior to the release of the Draft 2021 Regional Plan.

Presentations to SANDAG Board of Directors, Policy Advisory Committees

- April 26, 2019: Introduction of the 5 Big Moves (Report, PPT)
- July 12, 2019: Regional Assessment of Employment Centers, Overview of the 5 Big Moves (Report, PPT)
- September 27, 2019: Airport Connectivity Report (Report, PPT)
- January 10, 2020: Regional Plan: Putting the Pieces Together (Report, PPT)
- January 24, 2020: Big Data: Harnessing the Benefits of Data Powered Governance (Report, PPT)
- February 14, 2020: Greenhouse Gas Emissions and Vehicle Miles Traveled: An Overview of State Requirements and SANDAG Modeling Tools (Report, PPT)
- February 14, 2020: Airport Connectivity MOU (Report)
- March 6, 2020: SANDAG Modeling Tools (Report, PPT)
- June 5, 2020: Comprehensive Multimodal Corridor Plans (Report, PPT)
- July 24, 2020: What We Are Learning from COVID-19 and How it Could Impact Transportation Planning in the San Diego Region (Report, PPT)
- August 14, 2020: The Vision for the 2021 Regional Plan (Report, PPT)

All staff reports and presentations related to the 2021 Regional Plan are available at: https://sdforward.com/about-san-diego-forward/staff-reports.

Additional Information on the 5 Big Moves

- 5 Big Move One Pagers
- Network Development Summary Report
  - https://sdforward.com/docs/default-source/2021-regional-plan/summary.pdf?sfvrsn=15dbfe65_12
- Data Viewer Applications
  - A Transformative Transportation Vision
  - Una Transformadora Visión de Transporte
- Data Viewer Feature Services (access to item description and service URL)
  - Adopted Regional Bike Network
  - Complete Corridors - Connectors and Ramps
  - Complete Corridors - Highway
  - Complete Corridors - Regional Arterials
  - Concept Animations
  - Major Transfer Points
  - Mobility Hubs and Flexible Fleets
  - Transit Leap
  - Transit Leap - February 2021 update
- Data Viewer REST services
  - Existing Transportation Network

  - Existing Land Use (2018)
  - SANDAG Population Estimates 2018 and Urbansim Jobs 2016 by MGRA
  - Employment Centers (Outlines)
  - Origin-Destination Bands
  - Commercial Vehicle Origin-Destination Lines (Streetlight)
  - Employment Center Hexbins
- Five Big Moves Development Data Archive
  - https://gis.sandag.org/docs/5BM_DevelopmentDataArchive.zip

San Diego Regional Travel Demand Model (ABM2+) Model Documentation, Survey Reports, Computer Code, Presentations and DRAFT networks and performance metrics

- Technical Methodology to Estimate Greenhouse Gas Emissions for San Diego Forward: The 2021 Regional Plan and Sustainable Communities Strategy from the San Diego Association of Governments, submitted to the California Air Resources Board February 2021
  - https://gis.sandag.org/docs/DRAFT%20Technical%20Methodology%20to%20Estimate%20GHG%20Emissions_with%20appendices_February%202021.pdf
- Key survey reports used to develop ABM2+:
  - 2016-2017 San Diego Regional Transportation Study: Household Travel Behavior Survey https://www.sandag.org/uploads/projectid/projectid_540_26829.pdf
  - 2015 On-Board Transit Passenger Study https://www.sandag.org/uploads/projectid/projectid_494_21412.pdf
- ABM2+ Wiki with description of model structure and methodologies https://github.com/SANDAG/ABM/wiki
- ABM2+ Code
  - Model Code Repository: https://github.com/SANDAG/ABM
  - Reporting Code Repository: https://github.com/SANDAG/ABM-Reporting
- ABM2+ reports with descriptions: https://github.com/SANDAG/ABM/wiki/Reports-and-Documents
  - ABM2+ enhancements for 2021 RP and 5BM https://github.com/SANDAG/ABM/wiki/files/ABM2PReportV2.pdf
  - ABM2+ sensitivity testing report: https://github.com/SANDAG/ABM/wiki/files/SensitivityReportV3.pdf
- Transportation Model Forum Presentations
  - Dec 2020 – Social Equity Analysis Regional Models (sandag.org)
  - Dec 2019 – ABM2+ Model Development Regional Models (sandag.org)
  - July 2019 - ABM2+ development Regional Models (sandag.org)
- Transportation Model Data
  - Draft output performance measures
    - https://sandag.maps.arcgis.com/home/item.html?id=a8031ec54dbb47b59e97814b0767c07b
  - Draft Transportation Networks
    - https://sandag.maps.arcgis.com/home/item.html?id=f7a2888d08124ad19056bb987ac24654

Forecast Documentation

- https://gis.sandag.org/docs/DRAFT%20Regional%20Growth%20Forecast%20and%20LU%20Scenario%20Appendix%20F.pdf

SCS Land Use Scenario

- https://sandag.maps.arcgis.com/home/item.html?id=9dc69ab8a4aa497ca91d507a76f2dc2b

Employment Centers

- Employment Center Methodology
- Employment Center Reports
  - https://www.sandag.org/index.asp?classid=16&subclassid=127&projectid=581&fuseaction=projects.detail

Information on Goods Movement

The SANDAG team is currently working on the 2021 Freight Gateway Study Update which will provide a look at freight tonnage movements through and within the region. In the meantime, the below information is from datasets that the team pulled together from public and internal sources:

I-5 Highway/Freight Significance:

I-5 is one of two critical North / South Interstate distributions arteries serving San Diego County (I-15 is the other). I-5 is a critical freight distribution corridor because:

- San Diego draws much interregional freight that enters and exists the County on I-5; we also receive truckloads and return empties to the other Southern California counties as well as the Ports of Los Angeles/ Long Beach.
- The majority of our region's population resides along the densely populated coastline served by I-5, and there is a high concentration of retail outlets and home deliveries along the I-5 corridor that is the byproduct of this coastal population density.
- While significant freight gateway truck tonnages from the border ports of entry and the Port of San Diego rely on I-5 as a distribution artery, the majority of goods moving on 1-5 are driven by domestic consumption and production.
- Traffic on I-5 varies in density by area and by time of day, but using Caltrans Traffic Census Program/Average Annual Daily Truck Data Source (2018) we have these counts:
  - Basilone Road at I-5 at the County Line = 10,411 Truck AADT
  - Leucadia Road and I-5 which is about mid-county = 13,592 Truck AADT
  - I-5 and SR 15 Merge area near the Port of San Diego = 10,750 Truck AADT
- Using a conversion rate for mixed-freight, that translates to the following tonnage*:
  - Basilone Road at I-5 at the County Line = approximately 148,000 tons
  - Leucadia Road and I-5 which is about mid-county = approximately 193,000 tons
  - I-5 and SR 15 Merge area near the Port of San Diego = approximately 153,000 tons

NOTES:

- AADT= Average Annual Daily Trucks
- *This tonnage assumption is from materials related to the 2016 Freight Gateway Study Update.

North Coast Corridor Rail Freight Significance:

North Coast Corridor freight rail services are also of great significance because it is our only rail distribution corridor and is also our primary passenger rail corridor. It is a shared passenger and freight rail asset. It is the second busiest freight rail corridor in the country (after Northeast Corridor).

It is our only Class I freight rail corridor and is vital for goods movement in general and it is also a strategic distribution corridor for the Port of San Diego as it carries almost half of their imported automobile distribution.

- Using BNSF/NCTD data, we have the following freight rail information:
    - For 2018:
        - Total rail tonnage moving on the LOSSAN Corridor was approximately 4,248,000 tons for 2018
        - There were approximately 1,200 freight trains operating on the LOSSAN Corridor in 2018
    - For 2019:
        - Total rail tonnage moving on the LOSSAN Corridor was approximately 4,448,000 tons for 2019
        - There were approximately 1,100 freight trains operating on the LOSSAN Corridor in 2019