



**REGIONAL PLANNING COMMITTEE  
FEBRUARY 2, 2018**

**ACTION REQUESTED: DISCUSSION**

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**SAN DIEGO FORWARD: THE 2019-2050 REGIONAL PLAN – DRAFT PERFORMANCE MEASURES**      File Number 3102000

**Introduction**

The Regional Plan is a federally- and state-mandated document that presents the overall vision for how the San Diego region will grow through 2050, including all of the transportation-related investments that will be needed to support that vision. It is updated every four years, and must be fiscally constrained, meaning the cost of projects and programs included must be supported by current revenue sources as well as reasonably expected new sources.

In order for the SANDAG Board of Directors to determine the final combination of projects to fulfill the vision of the Regional Plan, several scenarios are developed for evaluation and consideration. Once the scenarios are developed, performance measures are used to evaluate the various combinations. The performance measures help answer key questions in order to provide a “scorecard” that compares and contrasts how the different combinations of transportation projects help support innovative mobility and planning; a vibrant economy; and a healthy environment and communities in the San Diego region.

Over the past three months, staff has sought input on the performance measures from SANDAG working groups, stakeholders, and the public. In January 2018, a peer review panel, comprised of professionals from academia, other metropolitan planning organizations, and the private sector was convened to provide additional input to further strengthen the performance measures. The Regional Planning Committee is asked to provide feedback on the draft performance measures created through this process.

**Discussion**

***Background***

Performance measures are used to answer key questions that help to evaluate multimodal transportation network scenarios against one another. Based on this comparison, the Board of Directors will be asked to select a Preferred Transportation Scenario, which is the final mix of projects and programs that will be used as the basis of San Diego Forward: The 2019-2050 Regional Plan (2019 Regional Plan). Throughout this process, staff also evaluates whether the various scenarios meet the regional per capita greenhouse gas (GHG) emissions reduction targets for cars and light trucks established by the California Air Resources Board per Senate Bill 375 (Steinberg, 2008). A Title VI analysis, which measures the comparative distributions of benefits and burdens of the transportation network scenarios to ensure there is no disproportionate impact on disadvantaged populations, also will be performed.

The performance measures from the 2015 Regional Plan were used as a starting point for the development of the draft performance measures for the 2019 Regional Plan. Initial updates were made to the draft performance measures to align with federal measures included in the Fixing America's Surface Transportation (FAST) Act and feedback from stakeholders from throughout the region, the public, SANDAG Policy Advisory Committees, and the Board of Directors.

## **Summary of Input Received**

### ***SANDAG Working Groups and TransNet Independent Taxpayer Oversight Committee***

Staff sought input on the draft performance measures from stakeholders at meetings of the Active Transportation Working Group, Cities/County Transportation Advisory Committee, Interagency Technical Working Group on Tribal Transportation Issues, Freight Stakeholders Working Group, San Diego Regional Military Working Group, Regional Planning Technical Working Group, San Diego Regional Traffic Engineers Council, Social Services Transportation Advisory Council, and *TransNet* Independent Taxpayer Oversight Committee. Interest was expressed in performance measures that quantify network connectivity, goods movement mobility, air quality and climate change, and financial sustainability. A summary of comments provided at these meetings is included in Attachment 1.

### ***Community-Based Organizations***

SANDAG has partnered with 13 community-based organizations (CBOs) to assist with outreach to traditionally underserved communities throughout the development process for the 2019 Regional Plan. Staff sought input from the CBOs at its November and December 2017 meetings. Meeting participants expressed interest in metrics that measured accessibility to jobs and other key destinations via transit, safety for transit users, and GHG reductions. A summary of comments received from the CBOs is included in Attachment 2.

### ***Public Outreach: Public Workshop and Online Survey***

On December 4, 2017, a public workshop was held at Caltrans to solicit public input on the draft performance measures with more than 100 participants. Attendees participated in facilitated discussions (in English and Spanish) and comments received included requests for measures of congestion, vehicle miles traveled, health outcome metrics, transit frequency, bicycle and pedestrian facility quality, and first mile/last mile concerns. A summary of the feedback received at the public workshop is included in Attachment 3.

An online survey also was launched on December 4, 2017, to gather additional input. More than 300 individuals participated in the survey, which was available in English and Spanish. Comments received included requests for measures of congestion relief, vehicle miles traveled, air quality and climate change, transit accessibility and use, and active transportation. A summary of the feedback received via the online survey is included as Attachment 4.

### **Peer Review Panel**

A peer review panel also was convened to provide feedback on opportunities to further strengthen the performance measures and key questions. The panelists were provided with the 2015 Regional Plan performance measures; draft 2019 Regional Plan performance measures; and comments from the SANDAG working groups, CBOs, public workshop, and online survey in advance of the meeting. The panelists, which included professionals from academia, the U.S. Federal Highway Administration Resource Center, metropolitan planning organizations, and the private sector, met at SANDAG on January 17, 2018. After a day-long meeting, the panel provided recommendations for revision and enhancement to the draft performance measures.

The recommendations of the panel focused on three overarching themes: (1) Include fewer metrics, which measure what is most important and are supported by quality data; (2) Focus on creating distinct transportation network scenarios that include different combinations of projects, technologies, or funding strategies; and (3) Provide simple graphics and text to convey the results of the measures and why they matter.

The panel recommended that SANDAG create a two-tiered system of performance measures with a limited number of primary key questions and performance measures, which would be used to compare the performance of the transportation scenarios in the areas of mode share, delay, safety, social equity, GHG reductions, and public health. The additional metrics could be modeled and included in the 2019 Regional Plan for informational purposes. A brief biography for each panelist and a summary of the panel's findings are included in Attachment 5.

### **Draft Performance Measures**

Based on the recommendations of the Peer Review Panel and input received from the SANDAG working groups, stakeholders, and public, staff has developed two tiers of draft performance measures for review and discussion by the Regional Planning Committee.

Attachment 6 provides a draft list of 12 performance measures which would be used to answer eight key questions in order to compare and evaluate the various multimodal transportation scenarios. Attachment 7 provides a set of additional metrics which could be modeled and also included in the 2019 Regional Plan in order to demonstrate how the Plan helps to serve the transportation needs of the region. Additionally, the FAST Act requires that certain federal metrics in the areas of mode share, delay, safety, infrastructure condition, and air quality be monitored with current field or observed data (instead of estimated for future years) and be reported separately in the 2019 Regional Plan.

## **Next Steps**

Based on feedback from the Regional Planning Committee, the Board of Directors is scheduled to review the performance measures at its March 23, 2018, meeting.

CHARLES "MUGGS" STOLL

Director of Land Use and Transportation Planning

- Attachments:
1. SANDAG Working Groups and *TransNet* Independent Taxpayer Oversight Committee Comments
  2. Community-Based Organization Comments
  3. Public Workshop Comments
  4. Online Survey Comments
  5. Peer Review Panel Biographies and Comments
  6. Key Questions and Draft Performance Measures
  7. Additional Draft Performance Measures

Key Staff Contact: Rachel Kennedy, (619) 699-1929, [rachel.kennedy@sandag.org](mailto:rachel.kennedy@sandag.org)

## SANDAG Working Groups

No.	Working Group/Advisory Council	Comment
1	Active Transportation Working Group	Can the performance measure for question #6: "Change in percent of income consumed by transportation cost" be calculated by mode?
2	Active Transportation Working Group	Commented on language in Mobility Choices policy objectives and recommended updating to "safer and more secure ..." or something similar.
3	Active Transportation Working Group	For on-road SMOG forming pollutants a total number, rather than one scaled per person, would make the most sense for this measure
4	Active Transportation Working Group	Mention of new methodology shown on APBP regarding AT trip modeling on low stress routes.
5	Active Transportation Working Group	Recommending question #3 performance measure on number of non-motorized serious injuries and fatalities be separated by mode (bike and pedestrian).
6	Active Transportation Working Group	Request for health benefit to be looked out separately in addition to the Cost/Benefit analysis.
7	Active Transportation Working Group	Request inclusion of Climate Action Plan (CAP) goals at the jurisdiction or regional level to help understand if approaching CAP goals with each network scenario.
8	Active Transportation Working Group	Request question #8 performance measure on percent of population within 30 minutes of jobs or higher education to list driving and transit separately.
9	Active Transportation Working Group	Request that mode share performance measure be calculated separately for Transit Priority Areas (TPA) and non-TPA's.
10	CTAC	Likes the cost effectiveness score idea.
11	CTAC	Recommends measure to look at number or density of routes parallel to interstates and other major routes. Getting to question of system resilience or network density to ensure safety during a significant event.
12	CTAC	Would like to see a cost effectiveness score for a project. Also asks if there is a transit ridership target the plan is shooting for? How do we judge if we are investing enough or too much into any particular mode?
13	Freight Stakeholders WG	In the meeting yesterday, I suggested adding measures regarding truck parking. I looked up some materials on that measure, as well as freight mobility, and have put them below. Please pass them on to your colleague Rachel, and I'm happy to discuss further if it's helpful.  I was looking at FHWA's freight performance measures page, and they have a full appendix on parking performance measures: <a href="https://ops.fhwa.dot.gov/publications/fhwahop16089/appf.htm">https://ops.fhwa.dot.gov/publications/fhwahop16089/appf.htm</a> . The page also mentions a fluidity index in a number of places, and I would suggest that a fluidity index should be the end goal for our freight performance measures. See here: <a href="https://ops.fhwa.dot.gov/publications/fhwahop16089/chp4.htm#chp4012">https://ops.fhwa.dot.gov/publications/fhwahop16089/chp4.htm#chp4012</a>  I was thinking about good measures for truck parking. One measure is the number of spaces (see p. 122 of the Rhode Island plan). See page 50 of the Ohio State Freight Plan for a proposed system on truck parking availability ( <a href="http://www.dot.state.oh.us/Divisions/Planning/SPR/StatewidePlanning/Documents/ODOT_FreightPlan_FINAL_1.30.17.pdf">http://www.dot.state.oh.us/Divisions/Planning/SPR/StatewidePlanning/Documents/ODOT_FreightPlan_FINAL_1.30.17.pdf</a> ).
14	Freight Stakeholders WG	Recommends a truck safety metric.
15	Freight Stakeholders WG	Recommends tracking spending on supporting infrastructure for new technology.
16	Freight Stakeholders WG	Under the vibrant economy goal recommends an increase freight volume measure primarily with freight only projects.
17	Military Working Group	Adding to the idea of a connected system metric is the last mile issue.
18	Military Working Group	Commented on inclusion of technology to reduce barriers to transit use such as pre purchasing tickets, tickets on a mobile device etc.
19	Military Working Group	Freight does not only consist of trucks. Recommends adding to the freight reliability to include additional freight modes.
20	Military Working Group	Metric missing on how well connected the system is especially between modes.
21	SANTEC	Follow up to comment #1 on average cost per rider per year as an idea for a performance metric.
22	SANTEC	Interest in financial sustainability, particularly possible performance related to transit.
23	SSTAC	Does the System Safety measurement (Question #3 "Is the transportation system safer?" under Innovative Mobility and Planning goal) include personal security? Suggestion made that personal safety be accounted for in this measure in terms of feeling secure when taking public transit.
24	SSTAC	Support for a measurement that evaluates personal security when using transit.
25	SSTAC	Support for a measurement that evaluates personal security when using transit.
26	SSTAC	Support for a measurement that evaluates personal security when using transit. Expressed interest in question #4 including transit assets (rolling fleet).
27	TWG	Letter included separately



## CITY OF LEMON GROVE

"Best Climate On Earth"

### Community Development Department

December 14, 2017

SANDAG  
401 B Street, Suite 800  
San Diego CA 92101

Re: 2019 Regional Plan Performance Measures

To our peers at SANDAG:

City of Lemon Grove staff reviewed and discussed the 2019 Regional Plan Performance Measures and would like to offer additional input on the matter. Though we appreciate the difficulty of crafting meaningful measures, City staff believe greater commitment to equity and adaptability is needed.

The importance of a transportation system that benefits communities equally cannot be overstated. Current measures must be revised to prioritize connectivity and new metrics that specifically assess equity should be developed. Examples might include:

- Average travel times to/from work for communities below San Diego Area Median Income;
- Aggregate investment dollars in areas below San Diego Area Median Income;
- A system wide connectivity index (links divided by nodes);
- Percent of eligible students and/or employees participating in discounted monthly pass programs; or
- Percent of transportation investment towards public transport subsidies.

The San Diego region should also be ready to adapt to new technology and evolving modes of movement. Disruptive technologies ranging from autonomous vehicles and digital platforms to drones and vactrains are on the horizon and performance measures should seek to provide flexibility of transportation investment dollars. Some options include:

- A shift from parking to loading areas;
- Average construction time of each mile added to the network of regardless of mode;
- Average cost of each mile added to the network regardless of mode;
- Projected system maintenance costs compared to projected revenues;
- The total number of required project phases resulting in useable segments or infrastructure;
- Percent of population using integrated transit and rideshare apps; or
- Percent of transportation investment towards rideshare subsidies.

Lastly, please consider a Class I pedestrian and bicycle active transportation route from Downtown San Diego on Market Street, through Lemon Grove and into El Cajon along the Orange Line. Investments in lower income communities offer great return on investment by these criteria and most others. Lemon Grove's adopted Connect Main Street plan would create a multimodal corridor along Main Street beginning at Lemon Grove Depot passing through the southern boundary of the City into Encanto along Akins. It is our hope to spur the planning and creation of a regional corridor providing opportunities for lower income communities to actively and safely commute to regional centers.

Lemon Grove staff are available should you like to discuss the City of Lemon Grove's comments. Thank you again for the opportunity to provide input on the 2019 Regional Plan Performance Measures.

Sincerely,

A handwritten signature in blue ink, appearing to read 'David De Vries', with a horizontal line extending to the right.

David De Vries  
Development Services Director

## TransNet Independent Taxpayer Oversight Committee (ITOC)

No.	Comment
1	For questions 1 and 2 looking at absolute numbers in addition to percentages will help us understand change even as the population continues to grow.
2	On question 4 and the related performance measure of percent of transportation investments towards maintenance and rehabilitation, comment was made that this is an output measure not an outcome measure and recommended revisiting this.
3	On question 9, regional air quality, it was asked if there are subregional analyses as well.
4	Recommendation that access to key destination by population be for transit and vehicles separately.

## Community-Based Organization (CBO) Comments

No.	Comment
1	Commented on including a youth breakdown for the social equity sections (elderly, low income, minority). Also requested ride share mode be calculated separately from other mode shares due to the different challenges associated with these.
2	Commented on safety and trolley use; also expressed desire to measure personal safety with transit use.
3	Expressed desire to incorporate idea and/or perception of safety at transit stations into the safety category.
4	In addition to the population serviced by high frequency transit, would like to see a performance measure on the proportion of the network that is high frequency.
5	<p>More global comments, relevant to performance measures and other information provided at the Dec. 4 workshop: Up to this new RTP round, my understanding is that the SANDAG Ridership model has not measured many of the things that actually drive ridership, notably, on a different network system.</p> <ul style="list-style-type: none"> <li>• While it's good to have performance measures, it is also necessary to understand how these measures themselves will be measured. Please add a column to the right of "Proposed 2019 Regional Plan Performance Measures" for disclosure of how each performance measure will be assessed; whether by computer model (and which one), or by other means (and which).</li> <li>• Related to travel times, frequency, and real-world access: In measuring distances and times, use door-to-door travel times, to or from select points throughout the region, rather from TAZ centroids. Using the "artificial" centroid of a TAZ can throw off measures of actual distances and times.</li> <li>• Use actual walking distance to true rapid transit; residences and jobs within a real quarter mile walk, not a simplified quarter mile radius.</li> </ul> <p>Finally, at the Dec. 4 workshop it was described how a set of "unconstrained network projects" have already been adopted by the SANDAG Board. I believe I heard that this closed set of projects are to be the only set of projects which will be reshuffled and reprioritized to make up the different transit system design scenarios to be defined this next Spring. This would appear to functionally exclude from consideration any alternative network design, and different projects in alternative designs. This is obviously an important point to be clear on. At the workshop I asked two different SANDAG staff if different projects can be submitted and included in this process at this time. I was encouraged to submit projects, if I knew of any. Referenced by this submittal, one or more said projects will be submitted to the SANDAG staff I have spoken with, and will be posted in the CBO Workspace set up for CBO work.</p>
6	Raised concern for how segments of the population may be affected by immigration enforcement as a safety concern related to question #3.
7	Recommendation for a fresh food or food accessibility metric.
8	Recommendation for inclusion in the plan in some fashion advising jurisdictions on zoning and food access.
9	Request for PM outputs at sub regional geographies such as zip codes, perhaps with the social justice focused PM's.
10	Supports ideas for perception of safety around transit and separate measure on high frequency transit as a proportion of the network.
11	<p>These comments are based on the information and discussion provided to CBO representatives on Performance Measures and shared at the Dec. 4 public workshop. Suggest add to or amend the list of draft/proposed performance measures:</p> <ul style="list-style-type: none"> <li>• Under Innovative Mobility and Planning, add route and service frequency for all modes of public transit. This relates to key questions 1 and 2. Frequency is currently referenced indirectly under draft measure 7A (without defining "high frequency" or the modes this refers to), but needs to be measured universally for all public transit services/modes. Frequency here means how often a service/route is available to a rider, e.g. every 15 minutes, 20 minutes, etc.</li> <li>• Draft measure 1B, suggest measure not just "peak-hour" but off-peak as well (since many work schedules today are "off-peak", and to measure non-work related trips, medical, commercial, etc.). And measure total hours of excessive delay, not just per capita.</li> <li>• Draft measures 7A and 7B, measure not for only "high frequency" transit stops, but for all transit stops and stations; and measure within 0.25 miles, rather than within 0.5 miles (a quarter mile distance being a widely accepted measure of accessibility). And note additional "global" comment below re: how distances are measured in assessing tools/computer models.</li> <li>• Draft measure 8A – Why 30 minutes, why not the 15 min. measure in 8B? Better, please measure and disclose percentages for several time distances, e.g. 5, 10, 15, etc. And as others commented, please measure for K-12 education as well as higher education.</li> </ul>
12	To aid in perception of safety associated with transit facilities data on lighting, emergency call boxes, reduced wait times and police presence could be used as proxies.
13	Will follow up with more detailed written comments, however, added desire to see a transit frequency performance measure added to goal area one (Innovative Mobility and Planning). Also requested more details on calculation processes.
14	Letter included separately

## **Comments on the SANDAG 2019 Regional Planning Process**

While participating in the recent workshop on Performance Measures, and studying the 2015 Plan and its appendices, I was struck by the disparity between the lofty goals and the fatally flawed planning process. Apart from any discussion of individual performance measures, I believe that SANDAG needs to reexamine the entire planning process. There are three kinds of metrics that are relevant to the planning process: 1. Mandatory Requirements, 2. Plan Performance Measures, and 3. Project Evaluation Criteria. I have heard a lot about the Performance Measures, a little about the Project Selection Criteria, and nothing about the Mandatory Requirements. My comments below discuss each of these kinds of metrics, and their roles in the development of a final plan.

### **Mandatory Requirements**

Mandatory Requirements are those measures that distinguish an acceptable plan from an unacceptable plan. To avoid embarrassment all around, staff should not submit a plan to the board that fails to meet the mandatory requirements. If they should do that, the board has an obligation to reject that plan. That obligation is enforceable by the courts, since the mandatory requirements are spelled out in the law.

While there have been some general mandatory requirements in previous cycles, AB805 introduces some new specific requirements on the plan. The relevant section of AB805 is included in Appendix A.

The new requirements that deal with the content of the plan are the most important. The 2019 plan must:

1. meet the greenhouse gas emissions reduction targets set by the State Air Resources Board.
2. include strategies that provide for increased mode shift to public transportation.
3. identify disadvantaged communities and include transportation strategies to reduce pollution exposure in these communities.

### **Performance Measures**

There is considerable attention given to performance measures in previous plans. However, it appears that the way the performance measures are applied is deceptive. There is no information on how they are weighted. They were only used to compare two very similar scenarios, and they were apparently not used to construct the scenarios.

The most significant performance measure in the 2015 plan is Greenhouse Gas Emissions. It is also used to distract and deceive. Reductions in GHG emissions resulting from state and federal actions are treated as if they are attributable to the plan. This distorts the comparison of alternatives and conceals the shortcomings of the plan.

The defined performance measures do not include vehicle miles traveled (VMT). VMT would be a much better way to evaluate alternative scenarios, since it is not susceptible to the distortion that affects GHG emissions.

## **Project Evaluation Criteria**

The presentation at the start of the workshop indicated that the project evaluation criteria are already being used to select projects from the unconstrained plan for inclusion in the candidate scenarios. However, the public has not yet had an opportunity to review and comment on the project selection criteria. This seems backwards. You should make sure that the selection criteria are sound before starting to use them.

The project evaluation criteria have more influence over the final plan than the Performance Measures. They are used to prioritize projects and thus to decide which projects from the unconstrained plan are included in the revenue-constrained plan. This is also deceptive, because the evaluation criteria are different for different kinds of projects. Different criteria are used for highway, transit, and active transportation projects. Projects in different categories are not evaluated against each other. This implies that in selecting projects there has already been a division of available funding between transit, active transportation, and highways.

The fundamental balance is between transit and traffic. More transit equals less traffic, less transit equals more traffic. SANDAG has consistently tilted this balance toward less transit and more traffic. There is no information on how the split between highways, transit, and active transportation was determined, and no justification for it is given. This makes a mockery of the pretense that the performance measures and project evaluation criteria are driving the planning process.

In light of the new mandatory requirements, the approach used in previous plans is no longer acceptable. The metrics used, and how they are used, must support achievement of the mandatory requirements to meet greenhouse gas emissions and increase the mode shift to transit.

While greenhouse gas emissions are included in the project evaluation criteria, they are limited to 5 points out of 100, so they are effectively ignored. Even that minimal use of GHG emissions is skewed by the misleading application of GHG reductions not actually attributable to the plan. VMT would be a more accurate way of measuring the real impacts of selecting particular projects.

VMT should be used in the project evaluation criteria instead of GHG emissions, and should be much more heavily weighted. VMT should be used to rank all projects against each other, instead of limiting the ranking to projects in the same category. That will more fairly determine the balance between traffic and transit.

To counter the argument that ZEVs will reduce the importance of VMT, I suggest that any project that increases VMT be deferred until at least two-thirds of the vehicles on the roads are ZEV, and the electricity supply is composed of at least two-thirds renewables.

I urge SANDAG to take a step back and review the planning process before continuing to use the outdated and flawed planning process you have embarked on. You need to restructure the planning process to provide the public with real choices and meaningful action to deal with the challenges of climate destabilization.

David Grubb  
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## Appendix A. Excerpt from AB 805

SEC. 17. Section 132360.1 of the Public Utilities Code is amended to read:

132360.1. In preparing and updating the regional comprehensive plan, it is the intent of the Legislature that:

- (a) The regional comprehensive plan preserve and improve the quality of life in the San Diego region, maximize mobility and transportation choices, and conserve and protect natural resources.
- (b) The regional comprehensive plan shall address the greenhouse gas emissions reduction targets set by the State Air Resources Board as required by Section 65080 of the Government Code and include strategies that provide for mode shift to public transportation.
- (c) The regional comprehensive plan shall identify disadvantaged communities as designated pursuant to Section 39711 of the Health and Safety Code and include transportation strategies to reduce pollution exposure in these communities.
- (d) In formulating and maintaining the regional comprehensive plan, the consolidated agency shall take account of and shall seek to harmonize the needs of the region as a whole, the plans of the county and cities within the region, and the plans and planning activities of organizations that affect or are concerned with planning and development within the region.
- (e) The consolidated agency shall engage in a public collaborative planning process. The recommendations resulting from the public collaborative planning process shall be made available to and considered by the consolidated agency for integration into the draft regional comprehensive plan. The consolidated agency shall adopt a procedure to carry out this process including a method of addressing and responding to recommendations from the public.
- (f) In formulating and maintaining the regional comprehensive plan, the consolidated agency shall seek the cooperation and consider the recommendations of all of the following:
  - (1) Its member agencies and other agencies of local government within the jurisdiction of the consolidated agency.
  - (2) State and federal agencies.
  - (3) Educational institutions.
  - (4) Research organizations, whether public or private.
  - (5) Civic groups.
  - (6) Private individuals.
  - (7) Governmental jurisdictions located outside the region but contiguous to its boundaries.
- (g) The consolidated agency shall make the regional comprehensive plan, policies, and objectives available to all local agencies and facilitate consideration of the regional comprehensive plan in the development, implementation, and update of local general plans. The consolidated agency shall provide assistance and enhance the opportunities for local agencies to develop, implement, and update general plans in a manner that recognizes, at a minimum, land use, transportation compatibility, and a jobs-to-housing balance within the regional comprehensive plan.
- (h) The consolidated agency shall maintain the data, maps, and other information developed in the course of formulating the regional comprehensive plan in a form suitable to assure a consistent view of developmental trends and other relevant information for the availability of and use by other government agencies and private organizations.
- (i) The components of the regional comprehensive plan may include, but are not limited to, transportation, housing, water quality and supply, infrastructure, air quality, energy, solid waste, economy, and open space, including habitat. Performance standards and measurable criteria shall be established through a public process to ensure that the regional comprehensive plan is prepared consistent with these measures as well as in determining achievement of the regional comprehensive plan goals throughout its implementation.

(j) Any water supply component or provision of the regional infrastructure strategy regarding water supply contained in the regional comprehensive plan shall be consistent with the urban water management plan and other adopted regional water facilities and supply plans of the San Diego County Water Authority.

# Summary of Input Received at December 4, 2017 Public Workshop on Potential Performance Measures



*The following is a summary of the comments heard at the workshop hosted by SANDAG. Participants provided feedback on the potential transportation network performance measures for San Diego Forward: The 2019 Regional Plan. Input gathered at the workshop is important to develop effective performance measures to evaluate San Diego's future regional transportation network.*

*Comments are organized by the three Regional Plan goal areas. Input from the Spanish discussion table has been summarized and translated into English, and complete notes from the facilitated Spanish discussion are on the last page.*

## Healthy Environment & Communities

- Include a health outcome metric to measure obesity, asthma, etc.
- Consider looking at the unmet travel needs through the US Department of Transportation website.
- Separate the average travel time metric by mode — do not combine all modes for the travel time metric.
- Measure Vehicle Miles Travelled (VMT) within jurisdictions like how the jurisdictional Climate Action Plans (CAP) measure VMT, e.g., for transit priority areas.
- In relation to Key Question 9 (Is the region's air quality improving?), consider how this measure affects the public: how many people are impacted by asthma? By cancer? Similarly, how many people benefit from improved air quality?
- Regarding Key Question 9, can we proceed further than state legislation (Senate Bill 375) and measure health outcomes/effects?
- Support for a VMT Performance Measure.
- Include a measure that addresses environmental justice and social equity.
- Include more background information in the Regional Plan about how certain performance metrics are defined.
- Key Question 7 (Does the transportation network support smart growth?) should measure distance by route access, as opposed to an as-the-crow-flies view to recognize topography and other boundaries to access.
- As we electrify, air quality should improve but public health is not necessarily being improved. Modify the key questions so that they are broader than air quality and address more health outcome measures/effects (asthma, obesity, cancer, etc.).
- Support for continuing to evaluate the disproportionate impact of an investment on disadvantaged communities.
- Data Collection: include self-tracking metrics. There is a lot of technology that allows the public to participate. Use apps to continue to enhance the walkability assessments and incorporating that data into the process.
- Set goals as standards for the metrics.
- Work with other regional partners (Caltrans, County of San Diego Health and Human Services, for example) to measure and monitor the plan.
- Focus on the under-served communities that are more at risk.
- Needs a new subsection called "Transportation Justice".

- Create a metric that looks at job creation, both in terms of direct jobs for infrastructure improvements and indirect jobs resulting from infrastructure that enhances the economic vitality of a community, as opposed to job access.
- Include a metric that looks at accessibility of services and facilities for all.
- Key Question 9 (Is the region's air quality improving?): consider measuring at a regional level versus per capita.
- Key Question 9 (Is the region's air quality improving?): continue to monitor at a per capita level.
- Commute mode share is a good metric to show actual use of facilities.
- Add a question – Are we supporting a connected transportation network that preserves natural lands to support the Multiple Species Conservation Program by means of the jurisdictions' climate action plan?
- Support for a smart growth metric that measures our regional jobs-housing balance.
- Key Question 8 (Is access to jobs and key destinations improving for all communities?): Access implies met needs, but what about the availability of transit?
- Key Question 8 (Is access to jobs and key destinations improving for all communities?): Mileage, as opposed to measuring travel times by minutes, is the better metric. Align Key Questions 7 (Does the transportation network support smart growth?) and 8.
- Measuring by minutes (travel time) and frequency are more quantifiable strategies. You shouldn't have to check the bus schedule.
- Include a measure to assess the economic impact of transit centers.
- General support for pollutant reduction measures and for the inclusion of VMTs as a performance measure.
- Congestion is irrelevant, measure VMT reduction and GHG impacts instead.
- Can people access their destinations by bike within five miles?
- No matter the mode, would like to be able to get a quart of ice cream and back before it melts.
- Measure senior access to healthcare. How long it would take for a patient to get to doctor's appointment?
- What percentage of people are carpooling?
- How many people are not driving alone?
- Measure the Jobs/Housing fit
- Jobs and where people live is not static, suggesting that the measurements ought to reflect future employment and housing areas.
  - Another participant responded, saying how a bus system is adaptable to changing job centers and housing needs since it is not on a fixed route.
  - Building public transit for future development is unwise because there may not be sufficient incentives to use public transit to warrant increased expenditure.
- The draft performance measures do not consider the needs of different populations, particularly seniors and/or retired. People have different travel patterns in different stages of life; retired people are not commuting, which has an impact on the needs assessment of the transportation network. They have a choice to not travel at peak periods.
- Measurement that the transportation network meets housing and low-wage jobs; too time-consuming for low-income individuals; difficult to getting to work.
- Churches or other places of worship are difficult to access with the current public transit system, especially for seniors. One participant gave an example illustrating how difficult it is to travel from North County to National City to attend church using public transit.
- Helpful to break into three groups (seniors, minority, low income) and by mode.
- The facilitator clarified that the "parks and beaches" measure is not limited to Balboa Park or other destination parks or beaches; it also can refer to neighborhood parks.
- How is ridesharing (Uber/Lyft) being measured?
- Land-use is changing; how is that being captured in the measures?

- Suggestion that public transit should be more available for public schools.
- Transit agencies and planners cannot design public transit around the needs of individual schools.
- By learning from school district bus employees, MTS can create a more efficient bus system.
- The Regional Plan should discard smart-growth as a measurement and instead opt for VMT reductions per dollars spent as a useable metric.
- Expand the category of education to include K-12 for Key Question 8.
- Performance measures should relate to how well public transit is accessible to all geographies or places.
- The performance measures should take into account safe routes to school.
- Using the number of bus or transit stops as a metric for accessibility is insufficient; recommend that the performance measures include bus miles traveled. The availability of bus stops is a viable metric only so long as there is enough frequency to service the bus stops.
- Include two separate sets of performance measures: one for urban areas and another for rural areas. This is necessary to capture drastically different mobility needs, standards, and goals in urban and rural areas.
- Include sub-regional differentiation for performance measures, do a sub-regional analysis of air quality and equity pertaining to air quality.
- For Key Questions 9 and 10 (Is the region's air quality improving? Are the greenhouse gas (GHG) emissions reduced?), it was suggested to include a measurement of absolute emissions as opposed to emissions per capita.
- Want to see connectivity mentioned in the draft performance measures.
- Include a metric for personal comfort for public transit.
- Include a metric "How many people are within a half-mile of public transit with a bathroom available?"
- Consider the number of assaults as a measure of safety.

#### Additional Comments

- Address public health (specifically the Hepatitis A outbreak) at the transit stop/station level by addressing cleanliness and the perception of safety.
- There is no public transit in Carmel Valley, Rancho Bernardo, and many nearby communities west of Interstate 15 and north of the Interstate 8.
- Support for emphasis on active transportation.
- Building more bus routes and public transit for future development will cause increased ridership in the future developed areas. People will not use public transit if they are not sufficiently incentivized to do so.
- Hepatitis A outbreak and insufficient bathroom facilities are both barriers to transit. The participant was under the impression that there were no plans for public restrooms for the Mid-Coast Trolley extension.
- Clarification is needed on why 20 minutes was selected for the performance measure "percent of population engaging more than 20 minutes of transportation-related physical activity" in Key Question 7 (Does the transportation network support smart growth?).
- Survey areas in which people are not taking public transit
  - Where do they go? Which days? What times?
  - Which bus could they take to commence their trip(s)?
- Public transit should be more accessible to disabled persons and recommended that there be audio as well as visual signs or indicators on public transit
- Recommendation that Caltrans' Right of Way (ROW) be used for tiny houses or other shelters for the homeless.
- For the definition of employment centers, Horton Plaza was once a vibrant center, but now is not as vibrant due to Amazon. What effect will the decline in retail have on future land-use decisions and employment centers?

- It's interesting that the employment centers that are referenced in smart growth are those that exist today, but not a plan for the future employment. City Heights does not have much access to jobs.
- Cars traveling at 60 or 70 mph (fast speeds) are not conducive or hospitable to biking.
- Consider incentives for businesses to incentivize transit use. The university model that includes a transit pass within school tuition is a useful structure to address this item.
- Consider partnerships to provide youth bus passes. Provide clean amenities at transit stations.
- Homeless issue: Address safe bike connections between transit stations.
- Consider facilities for homeless people.

## Innovative Mobility & Planning

- The question "Are transit times reduced?" doesn't address whether there is adequate transit within a community to connect them to the more transit saturated places.
- There is interest in improving community connections to the transit systems. For example, Rancho Bernardo has a new community college opening and community members have expressed concern over not having transit support for the influx of people. This goes beyond looking at the question "how long does it take to get there?"
- The travel times metric is important, and we do need to take it into account.
- Consider comparative travel times (transit vs. car).
- Something that may also be valuable is distance. Are people making shorter trips via transit? Longer trips? There is often a greater distance to serve in San Diego in terms of origins and destinations. The physical locations of destinations are very dispersed. Public transportation requires lots of intermediate stops, which contributes to making it slower than automobiles. Dispersed origins and destinations also make it hard to synthesize the system. Once we see distances reduced (e.g., distance from work to home) the system can become stronger. This could be a side metric related to trip times.
- For public transit to work, it must be convenient, quick, and cheap. A North County resident who uses the COASTER has found the COASTER doesn't meet any of those three criteria. Light rail might help if it went past UCSD up to Oceanside.
- Funding and costs of doing projects is an issue that was not in the performance measures.
- "Are travel times reduced?" is not a good question, because it could be looking at a reduction as small as a minute or two. This member would rather know if times across the board of biking/driving/transit have been made similar enough to help people make decisions across modes. This measure should be about ensuring all modes take the same amount of time to get from one place to another – and then it is just up to the user to weigh the decision of paying the gas/parking/transit fare. "Reduced" travel times doesn't seem like a tangible goal to this member. So, for example – a question here could be "Are travel times the same across all modes?" or "Can travel times be reduced significantly (e.g., by 20 minutes, 30 minutes)?"
- The Community-Based Organizations partnering with SANDAG have had discussions of wanting to expand the safety performance measures to include public safety on transit. Don't just measure vehicle crashes/fatalities types of safety, include public safety at transit stops, rates of crime/violence/ etc. at transportation hubs.
- In response to "Are more people walking/biking/sharing rides?", a group member noted that carpooling had not come up in the conversation, and suggested that this was an indicator that the group was more interested in walking and biking than ridesharing.
- Walking, biking, and transit are usually the modes that are connected to each other. Performance measures should address reducing single-occupancy vehicles, but prioritize walking/biking/transit first, and then measure carpooling separately, as a different measure of reducing single-occupancy vehicle use.

- How the measures were weighted – reducing VMT and increasing bike/walk transit important, so it is important to know that these are weighted appropriately and weigh into decision making process. SANDAG staff responded that the measures are not currently weighted.
- Safety should be measured beyond just crashes – periodic surveys of users would help with input into the feeling of safety since it isn't as tangible of a measure.
- In terms of the “Is the current transportation system being maintained?” measure – all the questions seem to be focused in the moment and less on the future. Would like to see “Are new communities being served?/Are we expanding adequately?/Are we studying population density and connecting growing populations to existing lines?” as examples of forward looking measures.
- Measure expansion, not just maintenance. The Mid-City Centerline took 35 years – at some point it had to be identified that City Heights was a big enough community to need a transit line. The Regional Plan should be looking at how the communities have changed and their future needs. For example, Pacific Beach has a very driving-based culture currently, but will they want to take more transit in the future?
- Do routes adequately connect people from where they live to where they work?
- Concern about the park and rides – whether it be for bikes, cars, etc. there is a need for more park and rides. This will reduce traffic. Should be well lit with surveillance cameras; bathrooms would be nice. The theme of safety and unsafe pickup areas was reiterated in relation to park and rides.
- Mobility choices should also include complete streets – such as measuring how many new streets being developed are utilizing complete streets ideas. SANDAG staff suggested this being phrased as a measure accounting for how miles of complete streets are being built, and the member agreed.
- Land uses have changed over time, and people are moving outwards because of affordability. People are leaving the urban core. People are further from their destinations right now, so it's a struggle to reduce travel time, but getting people from outlying areas that aren't used to transit onto transit should be looked at in performance measures. There has to be a look at what connections are available in the outer lying areas.
- Land use planning and housing should be done by SANDAG. A performance measure should look at mode share and use – if something's too dangerous, it won't be used. Does the safety change behavior? Does it encourage a community that biking/walking is safe enough to do? Simply saying a street is designed to be safe may not change the community's perception or actions.
- Safety is a perception issue – if transit is busy, it will be safer.
- The new requirement from AB 805 – that there be a strategy for increasing mode shift to transit - was not imposed on any prior Regional Plan. This should be recognized explicitly in the performance measures as it is imposed by law. This should be separate from the other performance measures.
- Telecommuting should have its own performance measure outside of the travel time measure.
- Separate travel time reduction into more questions. There should be a question like “Is time on transit reduced?” It could be easy for car data to dominate the travel times data; separate out by mode.
- Regarding “Is the current transportation system being maintained?”, participant didn't like using percent of investments as a measure. Putting money into something doesn't mean it's being successfully maintained.
- In looking at Key Questions 2 and 3 (Are more people walking, biking, using transit, and sharing rides? Is the transportation system safer?), an important step is to build out the Regional Bike Network committed to through the Regional Bike Plan Early Action Program. “Miles of facilities built” could be a measure.
- Take measures from bike plans of the City of San Diego, County of San Diego, etc., and ask if the Regional Plan is supporting the approved bicycle goals and plans from other jurisdictions. “Accounting of progress towards local bike plans” could be a measure.
- The City of San Diego's Climate Action Plan has a mode share commitment, so it would be good to measure if this is reflected by the Regional Plan.
- It was noted the measures had no specifics about seniors or their transportation needs. SANDAG might want to consider a specific question/measure around this.

- Interest in looking at needs of those with disabilities, children, and caregivers of any of these groups.
- Clarification on “Is the current transportation system being maintained?” was asked for – is this maintaining the system the way it is now, or is it considering ways that the system may be changed, which might entail not investing in maintaining certain aspects of the system? What is needed is a more itemized look at where money is going, such as how many roads are continuing to be maintained.
- A lot of transit is not accessible as it requires having to walk a long way and cross streets, etc. Would like to have a metric which takes the major destinations of the region, and measures how many are accessible by transit within a quarter mile.
- Comment building off access for elders – look at access for children. Many parents take their kids to school during the days which increases traffic. Look at trends of current society – e.g., removing school busses – as areas to address.
- In looking at shared systems and how to encourage biking, it was suggested that transit be moved off the ground by skyways/gondolas and other new transportation methods. These are quiet, low pollution emitters.
- Measures should not just look at fatalities but at what kinds of incentives would get people out of cars. For example, someone could survey school children to see what would get them excited about using transit. There should be a focus not just on those already using the system but also those interested but not using it yet.
- An interest in looking at shifts in health data was expressed - shifts in health indicators might help show that more people are using active transportation over time.
- The word “independence” was suggested for use in a question addressing serving seniors/disabled passengers/youth - using transit independently underlies the needs of all of these groups - “Independent mobility for all populations”.
- How many employers are offering transit perks that are equivalent to the more common free parking perks? Some employers are incentivizing transit use in this way. This would entail a survey of major employers to find out how many would be willing to make the switch to incentivizing transit. Free parking spaces are an incentive to drive currently. Want a metric that tracks transit incentives and participation.
- Key Question 3 (“Is the transportation system safer?”): there should be a measure concerning safety on transit and at stops, how safe people feel using transit as well as monitoring incidents around transit stops.
- Break car and non-car related modes out in Key Question 2: Are more people walking, biking, using transit, and sharing rides?
- Suggested new measure: “Is the existing system/future system accommodating to bicycles?” Asking if more people are biking doesn’t necessarily answer if the system is accommodating to biking. Look at miles of bikeway being built.
- The existing travel times measure doesn’t measure “transit frequencies” Every route should be measured for frequency under different scenarios and the frequencies could be averaged by network as a performance measure to determine which scenario provides the highest levels of transit service.
- Reduce VMT to reduce congestion and greenhouse gas emissions – VMT is the most significant measurement of all proposed measures.
- Do not lose sight of “level of service” metric (wait times/delay).
- Last mile - what’s a good metric?
  - 1 mile walk doesn’t consider topography of the walk.
  - Incorporate metrics such as percent of investments used on complete streets, especially walking improvements such as cross-walks near transit stations to facilitate access from transit stations to nearby destinations.
- Existing draft of performance measure references half mile, but quarter mile is a better measure for seniors, disabled, and business people.
- Support stabilizing climate at livable level.

- How are these projects being equitably distributed? Historically certain communities have been continuously negatively impacted by projects. How can we measure that equity of distribution of positive/negative impacts? (Potentially broaden Key Question 4 (Is the current transportation system being maintained? to include disadvantaged communities and distribution of transportation investments) – e.g., percent of overall investment bringing new or improved transit services to disadvantaged communities?)
- Prioritize safety with your metrics, including perceived safety.
- SANDAG needs further demographic study on transit usage (Mid-Coast Trolley) - transit serves different demographics (workforce, business, students, seniors). How will various modes be used by different demographics (who rides transit and for what purpose)? Incorporate a greater demographic breakdown into the transit usage performance measures.
- Look at VMT over time and cumulatively.
  - Road use cost - don't make it a regressive tax (tax on the poor).
- Include a metric on the distribution of average daily trips among all travel modes
- Are there measurements for people with disabilities? (Is the model capable of that level of detail?)
- Change Key Question 1 “Are travel times reduced?” to “How are travel times impacted?” (more open-ended questions, less yes/no questions)
- Ensure that Transit Oriented Development (TOD) efforts include lower-income, not just focused on high income business class. How can we measure if equity is built into these measures?
  - Where are people going regularly (by demographic?) - and is the network serving them well, is it prioritizing certain trips? (similar to Key Question 8. Not just how close to destinations, but how well are those destinations/areas served - measure not just by car. Multimodal measurements (e.g., average travel time for disadvantaged communities versus non-disadvantaged communities)
- Is the transit system safe? Measure perception of safety (sexual assault); Add metric related to percent of investments that go toward safety (e.g., amenities that provide safety such as lighting, sidewalks, access to the transit station from nearby streets)
- Measure access - if transit exists and serves an area, is it accessible (e.g., Oceanside platform very long, hard for seniors and disabled to walk to) - number of seniors and disabled in the service catchment area and how many actually use it as a measure?
- How is the model incorporating disruptive and future technologies (automated vehicles, connected vehicles, electric vehicles)? Are the performance measures capturing these investments?
- Peak travel time doesn't capture commuters in the off-peak. How are they affected (often low-income)? Equity issue.
- Modal measures are broken down by demographics (is this a choice or a necessity?)
- Disaggregate SANDAG travel maps that show percent of population that can access certain locations within certain timeframes - don't include public transit with cars on the maps, otherwise, the timeframes are too optimistic. Separate out the modes of transportation.
- Interest in expanding transit accessibility measures where transit does not already exist, such as North County.
- Separate metrics measuring travels by specific modes, i.e., public transit, private vehicle, active transport etc.

#### Additional Comments

- Traffic circles reduce congestion, climate impact. Incorporate more traffic circles into the plan.
- Travel time - better coordination of schedules; size of buses (articulated buses)
- Concern that SANDAG doesn't listen to feedback
- The transit system is too focused on commuters (work), but not enough to serve everyone (connecting to other community uses e.g., discretionary trips)

- Those who would voluntarily use public transit are discouraged to do so because it takes so long. Transit often takes more than twice as long as it would to drive. This makes it hard to encourage someone to get out of their car and start taking transit.
- The last mile is often a barrier. For example, it is helpful to get on *Rapid* services to get to major destinations more quickly, but there is need for innovation around the last mile and to incorporate more individualized type methods for the last mile (e.g., an Uber waiting station at a major transit stop). This would require parking at those areas, etc., depending on solutions being employed.
- Transit would be a more attractive option if it were more readily available. The Mid-City Centerline project took 35 years – the length of time it takes to get a project developed can be a concern in how quickly something that is planned becomes available to the community.
- Don't have a *Rapid* stop at a transit center in the center of a freeway with no connections – why not continue to have buses/trolleys/etc. connect to this location to help people navigate the last mile?
- How are organizations and cities using strategies to lower car use? The Mid-City push to get free bus passes for high schoolers was cited as an example to consider. Ideas like this can switch the norm to get kids excited about getting a free bus pass at a certain age instead of a car. Strategies to change these mentalities are needed.
- The *Rapid* routes were praised as an example of reducing travel times into downtown significantly
- Having more biking/walking facilities alongside transit was suggested. This would help community health and environment as well.
- Provide shuttles or routes like the *SuperLoop* to pick up riders alongside transit to help solve last mile issues.
- SANDAG was sued for a RTP 10 years ago, at which time a group from the outside came to San Diego to try to analyze the transit system. That's the last time outside folks came in. The urban area transportation strategy that came up then has not been implemented by SANDAG.
- The City of San Diego Climate Action Plan calls for 50 percent mode share. How do we get there in the next 10 -15 years? Currently, use is under 10 percent for modes other than driving. A concept that experts came up with is that the urban core be an area which corridors feed into efficiently/effectively/affordably. Within the urban core you shouldn't need a car – that's doable within 10 years in the budget that exists if it's a priority. Likes the idea of getting away from the idea of congestion relief, and suggested the goal should be to reduce VMT. Train travel is 17 times safer than car travel. Bus travel is safer, as well. Safety has to do with getting people out of cars.
- The Transit Optimization Plan from MTS will take away transit access for lots of people.
- Outside of youth, adults who are habituated to driving also need to learn to think of using transit differently. Looking at this might include asking: What are companies doing to incentivize employees to use transit? Are there innovative ideas that can be used? Are they letting people work at home?
- Outside agencies should participate in modeling, as well as SANDAG, staff to allow for diverse perspective when it comes to modeling.
- Many children in communities of color are undercounted in census data. Staff could emphasize the importance of the census while outreach is happening around the Regional Plan.
- MTS optimization plan - travel times measured by bus stop A to B; MTS eliminated stops near health centers (like Walgreens). Reducing the number of stops along a route means additional time needed for transfers and walking - incorporate that into 'travel time' metric calculation. Also incorporate "waiting time" for transfers and headways.
- What investment have we made in the Regional Plan? Can we be flexible with projects as technology evolves?
- Work to improve frequency of COASTER (double track and electrify the entire corridor).
  - Move money from widening I-5 to improving frequencies and speeds on the COASTER.
- Are we looking at private parking lots for transit usage, not just formal Park & Ride lots? How do we know where everyone is coming from?

- Have a transparent process for improving modeling - what are performance measures, how will they be measured, and how does the model work? How do we know that the modeling issues were fixed?
- Implement congestion pricing to reduce VMT, similar to other countries, and improve the way we pay for parking and use roads.
- Central to idea of innovative planning - where do SANDAG's unconstrained projects come from? Are other projects being frozen out? This process locks out new, innovative projects (like new network designs).
- Gondola/skyway system to help with beach traffic in the summer time (across the San Diego river to Pacific Beach, etc.) - innovative ways to address congestion to and from coastal areas
- How does the regional planning effort interact with other planning efforts (like Vision Zero)?
- Regional Plan outreach workshop is not engaging across all communities (not accessible to low income, minorities) - public participation process.
- Using transit officers as outreach opportunity to homeless people.
- Create better pedestrian access to stations (look at Seattle and Portland - creating pedestrian and bike bridges not used by cars. Creating safe spaces for non-motorized traffic).

## Vibrant Economy

- SANDAG should analyze the percentage of transit trips to the airport.
- The Regional Plan should measure access to jobs, delivery, and freight and determine if transportation investments provide access.
- SANDAG should work with businesses to determine how many employees use transit for the commute and the workforce's ability to get to work.
- Truck travel times will become more important as more goods are delivered directly to homes rather than retail.
- Partnerships should be formed with businesses to provide transit passes for employees. A metric for consideration could be the number of partnerships formed.
- Access to jobs within a community should be measured, and the current questions do not address this. Smart growth housing is being built, but where will new residents work? Investments are made in these communities, but there is no incentive for jobs to locate near housing. Vibrant communities are places where people can live, work, and play.
- SANDAG should study where people live and where they work. Apps can determine where people are commuting by bike and point out "hot spots" which show riders where the safest route occurs. This could be expanded to cars as well.
- Quantifying an individual's transportation on transit can be difficult. Coordination between agencies is needed. Companies like FedEx and UPS can track packages very well and school districts can reroute buses when needed. Delivery companies are always finding ways to ship cheaper and faster, so a conversation with them would be helpful.
- Transportation investments improve the economy, but what metric is being used, who's benefits are assessed, and what does "reliable" transit mean? Suggest looking at overall effectiveness. Measuring congestion should be replaced by reducing vehicle miles traveled.
- Add metrics based on generational use of transit.
- The "first mile/last mile" relating to origins and destinations not served by transit often are not measured, but should be.
- Track the economic development around transit hubs.
- Support for percent of income metric
- Metric on different levels of jobs such as minimum salary.
- Goal metric or target to different level of employment types or rather higher salaries.

- Number of employers that incentivize mass transit.
- Would be interesting to see the trend lines relating to these metrics.
- Would like to see travel times to and from Mexico.
- In general, would agree with Key Question 5: Do the transportation investments help to improve the regional economy?
- Reliability is a key metric, especially as it relates to transit.
- Why are we measuring “percent of VMT” and not simply “VMT”?
- Support for these metrics being quantified by goal targets.
- For truck travel time reliability, include other freight modes (i.e., rail, air, water etc.).
- Suggestion to define the Performance Metric better.
- Driverless car, bullet train other technologies that people have to navigate and cross to get to their destination. One idea is to bury them underground. People know not to cross freeways, but not the same for rail/mass transit.
- Consider how to evaluate job creation
- Could look at the federal grant program, New Starts. Would be interesting to compare how many people who move or move businesses to San Diego versus those that move out of the region.
- Single Occupancy Vehicle versus Transit Autonomous Vehicle Use.
- Include jobs in the Vibrant Economy goal area, in addition to Healthy Environment and Communities goal area.
- The Jobs metric in the Healthy Environment and Communities goal area, still do not have number of jobs, types of jobs, income level, etc.
- Key Question 5 (Do the transportation investments help to improve the regional economy?) seems like a yes/no question. Not very telling as written. Would like to know how the planned projects have impacted the local economy. Rancho Bernardo Transit, George Cook Parkway. It would be good to go there and see if that transit improvement helped the community.
- Questions the Travel Time Reliability Performance Measure regarding new legislation. Presumes freight by truck is most important, but that may not be the case in our region, should include other freight modes.
- Take into consideration negative health impacts as costs to different vehicle use, freight trucks etc.
- Look at amount of each dollar spent that stays in the region versus portion that leaves the region.
- Cost of transportation as a percentage of family income.
- Cost of housing as percentage of family income. Especially now that SANDAG has to work with housing.
- Many of the requests fall into the Cost-Benefit ratio. Perhaps breaking that apart to see the relative impact on different planning aspects (air quality, housing, jobs, etc.)
- Question on how much importance will be given to the federal Performance Measures?
- How do we define a transportation investment? Versus a transportation improvement?
  - Investment is a bigger picture
  - Improvement is slight bettering
- Suggest updating Key Question 6 “Are the relative costs of transportation changing similarly for all communities?” to “Are the relative costs of transportation changing *equitably* for all communities?”
- General confusion as to how a regional economy would be measured.
- Interest in breaking down costs of transportation on a smaller scale, such as by type of transit, rather than as one general classification.
- Not enough electrified transit options.

## Additional Comments

- Studies find that the speed by which a company manufactures goods and gets them to consumers is more important than cost. Companies are going to vendors for speed, rather than cost, so we need to help communities get industry into their areas by providing a transportation system that can move goods out.
- Car ownership and transportation has a cost. Communities without cars need to be served by public transit. Fares can have an impact on disadvantaged residents for those who rely on transit.
- SANDAG should consider the global implications of the Regional Plan. On the Mexican border, we can only control one side, and with improvements to San Ysidro and Otay Mesa entry points and the Port of San Diego, products will continue coming over the border. Goods movement is limited by inefficient transportation systems, so integration is needed. Political components also play a role in places like Barrio Logan. The maritime industry provides higher paying jobs, so the without shipyards, the alternative may be lower-paying jobs.
- San Diego Bay has been classified for mineral resources. To promote the economic development, mining the Bay and tidelands reclamation would maximize a resource in San Diego. Could also provide new underground spaces for transit to the Airport. SANDAG and the Airport should discuss using money from the Airport on off-site transportation improvements.
- Underserved communities and immigrant communities should receive transit subsidies while attending school and bettering their lives. Access to jobs can sometimes mean going to places like Sorrento Valley, where Coaster passes are even more expensive. Refugees should receive subsidized transit fare for five years to help with school or work.
- Communities overburdened by transportation costs should not see a similar increase in transportation costs as other areas.
- Safe Routes to School programs should be expanded to adults. Costs of *Rapid* buses or transportation to Sorrento Valley can be expensive for minimum wage workers.
- SANDAG should determine where transit bottlenecks occur, causing riders to be late. The lack of reliability in the transit system causes a time penalty for those who use it to commute. Excessive transfers also are an issue.
- The transit system does not run 24/7 making it unreliable for employees who do not work traditional hours.
- The SPRINTER and COASTER need to be double-tracked, electrified, and have more frequent service. Inviting more people to use transit will make it work. Shuttle systems from transit to employment areas have been successful in other areas.
- Residents without smartphones may not have information about transit. Bus stops do not identify where the bus is going and it can be difficult to know the exact stop near a destination. Map consolidation and new apps can help.
- The green initiatives are not discussed. Idea that economies grow when people think green, green jobs/employment and affect transportation/transit.
- Link transit hubs to what is there now so the rider knows where they are arriving.
- Job and housing balance, example of people commuting from south bay to Sorrento valley
  - What can cities do to get jobs that people are commuting to out of the jurisdiction?
- Millennial generation does not want to drive. Health and quality of life improve when not driving. An improved transit system can attract talented Millennials. Improvements to transit in New York, San Francisco, and Portland including safety for bike riders and sustainable transit is working.
- What goods are being transported via rail, shipping, and other freight modes? How much comes from out of state versus from within the region?
- Externalities (air quality) and operating expenses are less with Electric Vehicles (EV). Supporting EVs helps reduce transportation costs, environmental costs, costs of living.
- Some facilities don't allow for pedestrian crossing-- lack of sidewalks, unsafe therefore people are forced to use vehicle or transit.

# Resumen de los comentarios obtenidos el 4 de diciembre de 2017

## Taller Público sobre Medidas de Rendimiento Potenciales

*A continuación se encuentra un resumen de los comentarios que escuchamos en el taller que SANDAG organizó. Los participantes comentaron sobre las posibles medidas de rendimiento de la red de transporte para San Diego Forward: El Plan Regional 2019. La información que se obtuvo en el taller es importante para el desarrollo de medidas de rendimiento efectivas para evaluar las futuras redes de transporte regional de San Diego.*

### Medio ambiente y comunidades saludables

- ¿Apoya la red de transporte al crecimiento inteligente?
  - Sugieren una métrica que incluya a los niños que caminan a la escuela
  - También sugieren separar a los de mayor edad que tienen que viajar (al doctor etc.), que necesitan esperar a los autobuses
  - Ejemplo de City Heights: es muy difícil para que los estudiantes lleguen a la escuela
    - Métricas específicas sobre los jóvenes que usan autobús para llegar a la escuela
    - Medida enfocada en gente que usa transporte público pero que no es parte de la fuerza laboral
      - Dieron un ejemplo de estudiantes de National City que viajan a City College en vez de Southwestern porque no hay modos de transporte seguros en dirección a Southwestern
    - Métrica enfocada en acceso al transporte para gente con discapacidades
    - Se sugirió separar la distancia recorrida en promedio por tipo de transporte
    - Pregunta sobre cómo se usarán las métricas para comparar impactos regionalmente. El norte del condado no tiene iguales tipos de transporte público. Si el uso de transporte público es menos en el norte, ¿cómo se van a poder aplicar las métricas en los dos?
- ¿Está mejorando el acceso a empleos y destinos principales para todas las comunidades?
  - Sugieren que se diferencie entre cada tipo o modo de transporte (porcentaje de la población a 30 minutos del trabajo y centros de educación superior)
    - Sugieren separar el transporte no motorizado, sin incluir viajes compartidos en auto
- ¿Está mejorando el acceso a empleos y destinos principales para todas las comunidades?
  - Creen que esta métrica es importante
  - Hay demoras para cruzar la frontera de norte a sur. El tráfico causado por la fuerza laboral de Tijuana que trabaja en San Diego dificulta que el público general tenga acceso a viajes con tiempo razonable en dirección a Tijuana
  - Sugieren que las métricas midan más como las bicicletas agregan o ayudan al transporte no motorizado (tiempo, rutas etc.)
- ¿Está mejorando la calidad del aire en la región?
  - Todos creen que es importante porque hay más enfermedades causadas por la calidad del aire
  - Si esto va a ser considerado, quieren que el enfoque sea no solo en medir la calidad del aire en general, pero también en comunidades con menos apoyo

- ¿Cómo se puede medir la calidad del aire en comunidades que tienen peor aire? Si lo combinan todo o lo miden en área general, no representará bien a las áreas con más problemas de salud.
- CalEnviroScreen ayuda a identificar comunidades más afectadas por la calidad del aire
  - Sugieren una métrica que separe las rutas de carga de los otros transportes y monitorear los camiones de carga que no se trasladan en rutas designadas para camiones
- ¿Están disminuyendo las emisiones de gas de efecto invernadero?
  - Sugieren medir emisiones a lo bruto, no per cápita
  - Preguntan si se analiza cómo la frontera y la espera en la frontera afecta a la gente por el smog
  - ¿Cómo se va a medir la salud pública de la gente que vive junto a una autopista?

## Movilidad innovadora y planificación

- ¿Disminuyen los tiempos de viaje?
- Ejemplo: National City está localizado centralmente y tiene mucho acceso a transporte público y autopistas. La información sobre los tiempos de viaje lo tienen en línea, y el tiempo está estabilizado. ¿Cómo van a comparar de aquí al 2050 (modelar etc.)?
- Opinan que esta pregunta depende de los proyectos. Creen que esta pregunta es redundante.
- Sugieren: ¿Cómo quieren ver la ciudad en el futuro?
- El tiempo viajado depende de las otras preguntas
- Es importante diferenciar entre los diferentes medios de transporte. Es más importante enfocarnos en los medios de transportación pública
- No hay rutas donde viven las personas que no tienen bicicleta, no todos tienen modos de transporte
- Sugieren que se incluya si las rutas van a dar servicio donde no hay. ¿Cómo se agregarán servicios?
- Agregar algo relacionado con: competencia cultural
- La primera pregunta es importante
- En hora pico es más difícil disminuir el tiempo. Saben de las propuestas de nuevos caminos con cuota
- ¿Hay más personas trasladándose a pie, en bicicleta, usando el transporte público y compartiendo el viaje?
- Se debe separar los viajes compartidos de los transportes no motorizados. Es mejor para el medio ambiente el transporte no motorizado, y viajes compartidos no lo son. Si se combina, esto no es representante de lo positivo que hace un modo de transportación y el daño que causa el otro
- ¿Es más seguro el sistema de transporte?
- Tenían gran interés en accesibilidad para personas que no tienen acceso, en específico gente con discapacidades. Quieren que la métrica incluya la seguridad de esta gente
- Sugieren ver lo que hacen las ciudades que tienen infraestructura para ayudar con acceso
- Las estaciones de transporte público no son seguras, ¿cómo van a medir si no están cambiando o midiendo los factores que afectan la seguridad y la equidad de transporte?
- ¿Recibe el sistema de transporte actual el mantenimiento adecuado?
- Quieren diferenciar entre cada tipo o medio de transporte porque tienen diferente peso
- ¿Cómo vamos a reflejar la tecnología inteligente, automóviles independientes, etc.?
- Las medidas están bien, pero quieren ver más sobre equidad.

- Los choferes no quieren hablar con los que no hablan bien el inglés, o los hacen sentir avergonzados por su falta de lenguaje. Esto causa que los que necesitan usar el medio de transporte no lo hagan
- Quieren más educación de los choferes en diversidad cultural
- Los Trolleys no son seguros, hay peleas, o hay situaciones que cambian la imagen de uso
- Entre más gente usa el transporte público, más seguro se hace
- Hay vías alternas de emergencia señalizadas en áreas como en La Jolla, pero no hay ese tipo de información en otras áreas de San Diego. Eso es importante para la seguridad.

## Economía vibrante

- ¿Ayudan las inversiones en transporte a mejorar la economía de la región?
- La métrica sobre el porcentaje de ingresos gastado en transporte es muy importante porque ayuda a las personas de bajo recursos
- Pedido de clarificación ¿Cómo se mide costo-beneficio en transporte?
- ¿Se va a medir el impacto de construcción o el impacto en el medioambiente? Ejemplo: hay muchos arroyos en National City. Están construyendo cerca de los arroyos. ¿Dónde se va a medir el impacto? ¿Cómo se va a medir el costo al ambiente y en la tierra con todo el desarrollo?
- Hay muchas preguntas sobre cómo se va a modelar, pero no hay mucha información sobre el modelo. ¿Cuál es el peso o la ponderación que se va a dar a cada variable o parte de la métrica de costo-beneficio?
- ¿Cuál es la “economía” de la región?
- ¿Están cambiando de forma similar los gastos relativos de transporte para todas las comunidades?
- Sugieren que se incluya una métrica sobre el impacto ambiental (¿incluir en el EIR?)
- Sugieren una métrica sobre el impacto económico
- ¿Cómo se distribuirán los fondos con equidad? ¿Cómo reciben fondos las comunidades diferentes? ¿Con cuál métrica se decide?
- Si no está claramente dicho, ¿cómo van a poder ver o mantener en seguimiento

## Workshop Comments Cards

No.	Comment
1	Healthy Environment and Communities- Nothing is less healthy than human extinction. That is where we are headed. Light Duty Vehicles (LDV's) emit the most GHG of all categories. For LDVs to support climate stabilization we need more fleet efficiency and less VMT. VMT is SANDAG's responsibility. Top 3 PM's: 1.) VMT Reduction 2.) VMT Reduction 3.) VMT Reduction.
2	I strongly support electrification of LOSSAN Corridor, to increase frequency and decrease emissions. I also support extension of the SR-56 bike path under I-5.
3	Vibrant Economy, how do we measure 'improvement in the regional economy'? Are we looking at overall cost of transportation (cars are, by public investment and cost to users, the most expensive mode) and the economic impact of increasing, or not, bike/walk/transit? Congestion should no longer be a performance measure—VMT reduction, GHG reduction, and bike/walk transit mode share should be prioritized. What's the definition of disadvantaged communities? Low income, minority, senior disabled.
4	Include the concept of generational (e.g., millennials) preference in transportation and land-use patterns. This is also a huge economic driver for relocation of profitable companies (e.g., Amazon). This could translate to loss of human capital of very talented individuals.
5	Vibrant economy measures: Does the project improve sales at local businesses? Does the project support ecotourism? Is the project a collaborative effort with city, community, and other stakeholders? Cost analysis of project to public and environment health and future liabilities? * pens did not work well—all only got a few writing.
6	Thank you for creating the space for consultation and reflection of potential performance measures. One suggestion for the future is to take the time in break-out groups to clarify and define each of the potential measures and try to build on them/clarify them so that members in the discussion can stay focused on the measure rather than sharing anecdotes on their own hopes for the transportation plan. But hearing people's anecdotes were helpful too. Thanks!
7	Vibrant Economy- Cost per mile traveled, by any mode and by specific individual modes. Affordability of commute-(comment: \$2.50/ 1 mile ride no transfer is too much).
8	Healthy Environment: Number of vehicle miles actually traveled by mass transit equipment. - Money Spent for public transit/ money spent for highway construction and MTCE. Measure the safety of transit: number of assaults, number of hours patrolled by law enforcement.
9	It's good that SANDAG wants to hear from a wide range of our San Diego population representatives -- good to start-- now take comments into smaller working groups based on groups that have similar needs and requirements of those groups for more ideas. Thank you for starting this.
10	Thank you for hosting today's meeting. Please consider incorporating the following comments: for vibrant economy include creation of jobs that pay a livable wage and utilize skilled and trained workforce. Please separate question 1.A. by mode, challenges to carpooling, and walk/bike/ mass transit are very different. For question 9.A LG's measure smog-forming pollutants at regional hotspots. Keep question 6.A. in there; cost is important. Keep question 7.D. in there; active transportation and public health is key. For 5.B. lets measure port/rail transit times. Glad VMT is in there. Let's elevate that.
11	Please implement public transportation in the large area of North County that lacks transit: Carmel Valley, Del Mar Heights, Pacific Highlands Ranch, Black Mountain Ranch, Del Sur 4S Ranch, Santaluz, Fairbanks Ranch, Del Mar Mesa, Torrey Highlands, etc. Also west side of Ranch Bernardo west of I-15.
12	Measure frequency of all routes/services/modes. Measure split of ADTs among private autos, and all modes of public transit. How will performance measures be measured? Faults in SANDAG's analyses/ computerized models.
13	Bus performance measures: Metrics- transit travel time not just point-to-point for a vehicle but also walking time, wait times for transfers. Community service access metrics- identify key community destinations- government offices, schools, hospitals, libraries, parks, bases, senior places, clinics, etc. Measure how many are served by transit within a quarter of a mile walk and with 1 day and all day services. Bus access to destination metrics related to complete streets. How many buses stop at safe crossing places for key community destinations, how many don't.
14	Innovative Mobility and Planning- A vision is nice, but there should have been a requirement to support climate stabilization. However VMT-reduction is a performance measure that solves other problems beside climate stabilization (Note: fleet efficiency is the responsibility of the state, not the MPO, like SANDAG) Three top PM's: 1.) VMT reduction 2.) VMT Reduction 3.) VMT Reduction.
15	1) More bus stations (to bridge the gap between one station and the other) so it's more convenient for pedestrians. (2) Shorten the time between the trips (from 1 hour to 30 minutes, from 30 minutes to 15 minutes, etc.). (3) More chairs at the bus station and have a cover it (the bus station) and the chairs should be small, it does not need to be big.
16	More sidewalks for pedestrian exercise. More lights for easier driving and walking.
17	(1) More bus stations. (2) Having chairs at each bus station. (3) The chairs at the bus station should not be too close to the road. (4) Having the covers for bus stations. (5) More 44 buses for the Linda Vista route.

## Workshop Comments Forms

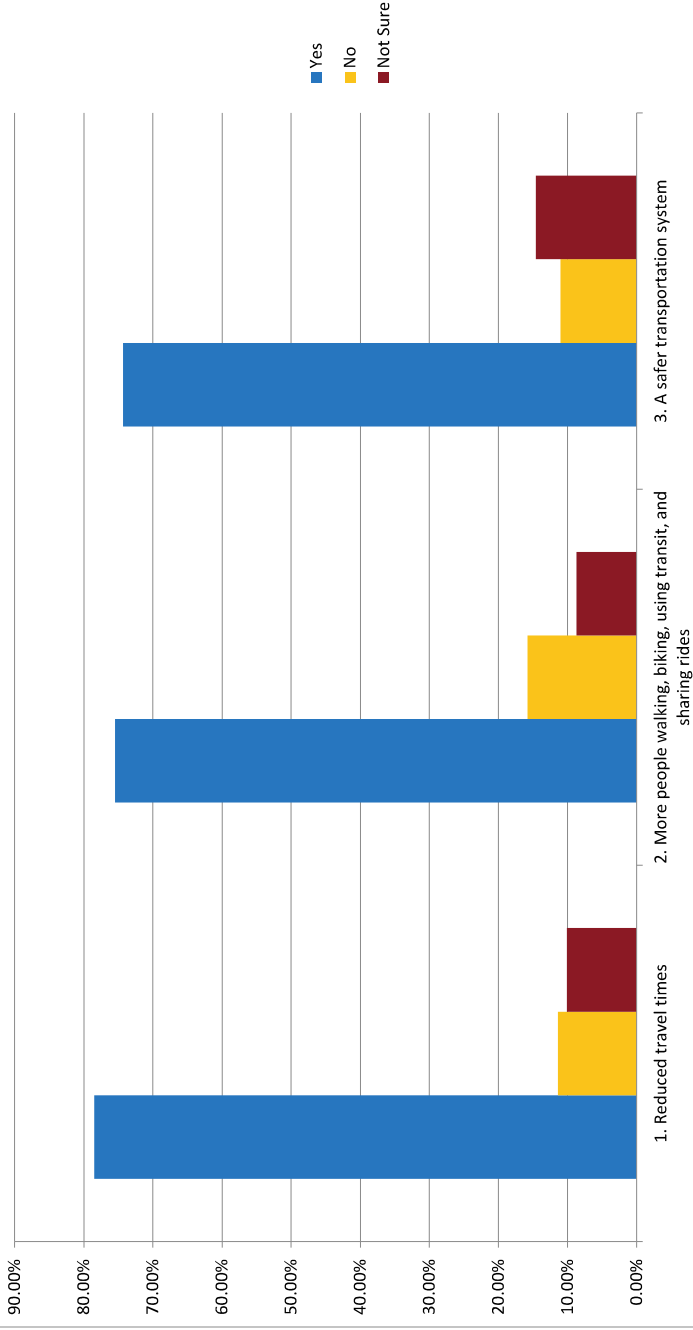
No.	Proposed Key Questions	Proposed Performance Measures	Irrelevant or Missing Measures
1		Do a measure (performance) on the Rancho Bernardo Transit Center better/worse economic value to area it serves.	
2	Question 6, "similarly" should be changed to "equitably."		Congestion should not be a performance measure. SANDAG should look instead at VMT reduction & GHG impacts.
3			Lack of public restrooms along transit lands. Use Caltrans right-of-way for homeless. Neil Good Day Center was to be a pilot county wide.
4	Wonderful questions, these are important topics to consider.	Great measures for performance.	You should consider services like Instacar, Uber, Lyft and how they contribute to the economy.
5	Include the community outreach and how they (or we) can access to that information.	The language needs to be re-stabilized for better, much better understanding.	All the questions are relevant but they are not prioritized, or specific.
6		Hard to express.	Internet on buses and trains (get better on trains).
7	Commitment to safety and shifting modes for increased bike/walk/transit dependent upon building out of regional bike network (early action program) committee to buildout some!	Need for mode share measure for bike/ walk and transit as percent of communities.	Measure shifts to bike/walk/transit similar to local city plans (climate action plans), number of bike miles per year.
8	Transportation system safer? Are facilities correctly lit. Are there enough enforcement officers? Are camera's positioned correctly? Is there significant amount of emergency notification boxes? Are car patrols more frequent? PTC implementation?		Missing: are plans, and project being completed as scheduled? Can projects be moved forward?

## 2019 Regional Plan Proposed Performance Measures

Do the following items help evaluate the Innovate Mobility and Planning goal?

	Yes		No		Not Sure		Total
	%	Count	%	Count	%	Count	
1. Reduced travel times	78.50%	241	11.40%	35	10.10%	31	307
2. More people walking, biking, using transit, and sharing rides	75.48%	234	15.81%	49	8.71%	27	310
3. A safer transportation system	74.35%	229	11.04%	34	14.61%	45	308

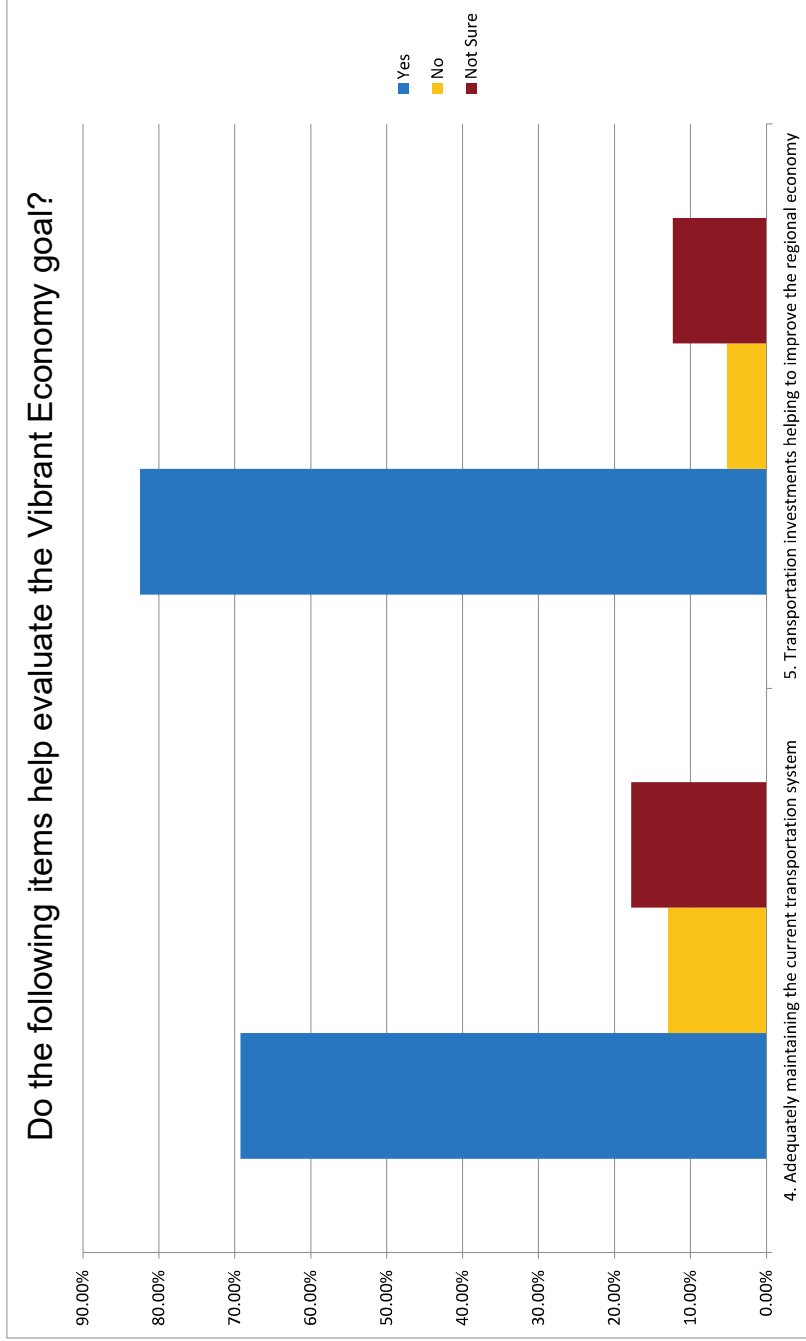
Do the following items help evaluate the Innovate Mobility and Planning goal?



## 2019 Regional Plan Proposed Performance Measures

Do the following items help evaluate the Vibrant Economy goal?

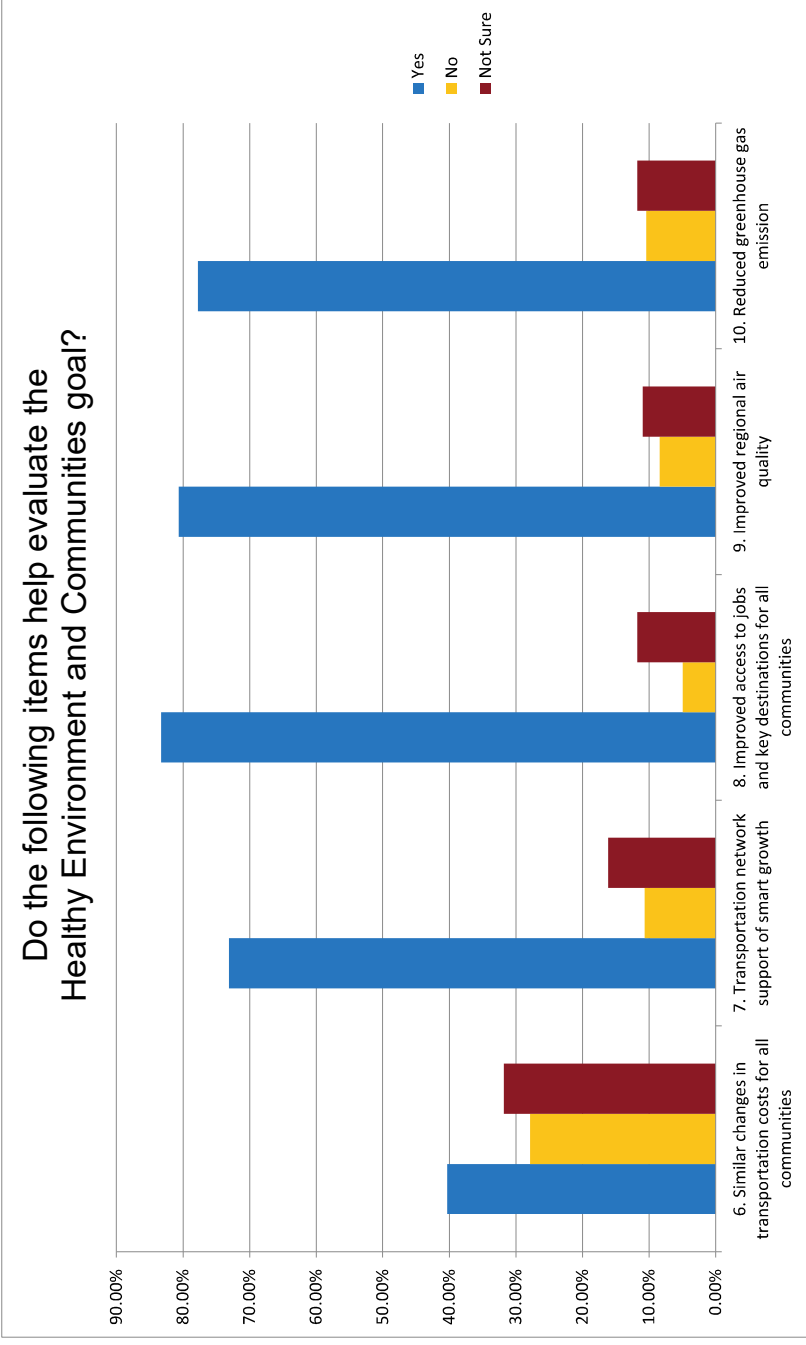
	Yes		No		Not Sure		Total
4. Adequately maintaining the current transportation system	69.26%	214	12.94%	40	17.80%	55	309
5. Transportation investments helping to improve the regional economy	82.47%	254	5.19%	16	12.34%	38	308



## 2019 Regional Plan Proposed Performance Measures

Do the following items help evaluate the Healthy Environment and Communities goal?

	Yes		No		Not Sure		Total
	%	Count	%	Count	%	Count	
6. Similar changes in transportation costs for all communities	40.33%	123	27.87%	85	31.80%	97	305
7. Transportation network support of smart growth	73.14%	226	10.68%	33	16.18%	50	309
8. Improved access to jobs and key destinations for all communities	83.28%	254	4.92%	15	11.80%	36	305
9. Improved regional air quality	80.65%	250	8.39%	26	10.97%	34	310
10. Reduced greenhouse gas emission	77.78%	238	10.46%	32	11.76%	36	306



## Online Survey - Comment Prompt 1

#	Q1: If there are other key areas that you think should be considered, please use the space below to provide your input.
1	SANDAG CBO Community Outreach Submittal from Alliance for Regional Solutions Performance Measures 12/12/2017 These comments are based on the information and discussion provided to CBO representatives on Performance Measures and shared at the Dec. 4 public workshop. Suggest add to or amend the list of draft/proposed performance measures: Under Innovative Mobility and Planning, add route and service frequency for all modes of public transit. This relates to key questions 1 and 2. Frequency is currently referenced indirectly under draft measure 7A (without defining "high frequency" or the modes this refers to), but needs to be measured universally for all public transit services/modes. Frequency here means how often a service/route is available to a rider, e.g. every 15 minutes, 20 minutes, etc. Draft measure 1B, suggest measure not just "peak-hour" but off-peak as well (since many work schedules today are "off-peak", and to measure non-work related trips, medical, commercial, etc.). And measure total hours of excessive delay, not just per capita. Draft measures 7A and 7B, measure not for only "high frequency" transit stops, but for all transit stops and stations; and measure within 0.25 miles, rather than within 0.5 miles (a quarter mile distance being a widely accepted measure of accessibility). And note additional "global" comment below re: how distances are measured in assessing tools/computer models. Draft measure 8A – Why 30 minutes, why not the 15 min. measure in 8B? Better, please measure and disclose percentages for several time distances, e.g. 5, 10, 15, etc. And as others commented, please measure for K-12 education as well as higher education. More global comments, relevant to performance measures and other information provided at the Dec. 4 workshop: Up to this new RTP round, my understanding is that the SANDAG Ridership model has not measured many of the things that actually drive ridership, notably, on a different network system. While it's good to have performance measures, it is also necessary to understand how these measures themselves will be measured. Please add a column to the right of "Proposed 2019 Regional Plan Performance Measures" for disclosure of how each performance measure will be assessed; whether by computer model (and which one), or by other means (and which).
2	Related to travel times, frequency, and real-world access: In measuring distances and times, use door-to-door travel times, to or from select points throughout the region, rather from TAZ centroids. Using the "artificial" centroid of a TAZ can throw off measures of actual distances and times. Use actual walking distance to true rapid transit; residences and jobs within a real quarter mile walk, not a simplified quarter mile radius. Finally, at the Dec. 4 workshop it was described how a set of "unconstrained network projects" have already been adopted by the SANDAG Board. I believe I heard that this closed set of projects are to be the only set of projects which will be reshuffled and reprioritized to make up the different transit system design scenarios to be defied this next Spring. This would appear to functionally exclude from consideration any alternative network design, and different projects in alternative designs. This is obviously an important point to be clear on. At the workshop I asked two different SANDAG staff if different projects can be submitted and included in this process at this time. I was encouraged to submit projects, if I knew of any. Referenced by this submittal, one or more said projects will be submitted to the SANDAG staff I have spoken with, and will be posted in the CBO Workspace set up for CBO work.
3	Level Of Service (LOS) measures should not be abandoned, regardless of additional analysis of Vehicle Miles Traveled "Per-Capita" measures of pollutants/emissions are irrelevant. They imply that today's total emissions are an acceptable baseline. "Total Emissions" is the only meaningful measure of pollutants. Can this region absorb the projected population growth without doing harm to the environment?
4	More bike paths and safety measures to protect bicyclists from motorists. Making signal lights bicycle-friendly. Providing low-cost or no-cost helmet cameras for bicyclists. Tax right-offs for bicycle commuters. Creating an easy to use app that allows bicyclists to photograph and report dangerous road hazards.
5	Measure total travel time for a transit trip, not just the speed of a bus from point to point. Include time needed for extra walking when eliminating bus stops, waits for transfer buses (better coordinate buses at transit hubs at night and on weekends so all leave at the same time) when truncating routes, what key community destinations are not served by route streamlines.. Also measure how many bus stops are at safe crosswalks--put crosswalks at bus stops or move bus stops to cross walks. Take an inventory of all types of key community destinations and measure how many are served by transit within a quarter of a mile of their entrances. Measure the equity of transit headways across the region so some people aren't waiting half an hour for a bus at a stop while they see other buses on a 10 minute headway pass by one after the other. Measure how many people are at isolated at home and how often and how many people are unable to access services because of inadequate transit services.
6	Transit trip times
7	Reduction of individual vehicular usage on a per capita basis.
8	Quality of Life - Transit time and access from work-home-parks-major events.
9	Consideration for efficient goods movement in all areas of the transportation plan.
10	Equal dollars spent on four modes: walk, bike, transit, single occupancy vehicles (SOV).
11	Shouldn't "safer" be part of "healthy environment"? And "innovate" means to make changes through new methods; what are the "new" ideas, or at least a mention of taking new approaches to solving old problems? "more people walking, etc." is rather abstract, but okay, keep it as a measure. I think, though, that there needs to be some focus on coming up with new ideas and a measure that evaluates that.
12	Instead of "similar" changes in transportation costs for all communities, I would suggest evaluating relative changes in transportation costs for all communities- meaning that transportation cost varies for communities of low-income and high need.
13	Some review of emerging auto-driven vehicles. The vast majority of San Diegans can't bike or bus to work or school. Maximizing new technologies for our roads and highways is a vital element in all of the above.
14	Reduction in Vehicle Miles Travelled (VMT), not just improved commute times.
15	Identification of coastal shoreline/lagoons sea level rise impacts using wildlife habitat vulnerability assessments for improvements to the current transportation system. Such as managed retreat and living shorelines that maintain habitats and human uses while protecting transportation infrastructure.
16	Access to food.
17	The extent that the transportation system will provide an economic, temporal, and quality of life incentive for people to adopt smart growth residences, work places, goods, and services.
18	5. The percent of miles traveled does not relate to improvement in economy. 7. Placing high density housing near transit stops does not encourage people to use transit. Need more information on why/why not people use the system.
19	1. Health Benefits with a mobility system that promotes active transportation. Measuring reductions in traffic-related death and injuries, reductions in obesity, diabetes and other disease attributed to reduced physical activity. 2. Increased use of transit/biking/walking. 3. Transit investments drives changes in land use.

## Online Survey - Comment Prompt 1

#	Q1: If there are other key areas that you think should be considered, please use the space below to provide your input.
20	Using vehicle miles traveled (VMT) as the standard.
21	Reduce vehicle miles traveled (VMT).
22	Meeting state green house gas (GHG) reduction targets and city/county Climate Action Plan targets. Reducing vehicle miles traveled (VMT). Shift significantly to transit (including percent funding spent on transit, shifting transit development forward in the schedule). Cost effectiveness of transportation modes. Health benefits (including reduced air pollution, health benefits of walking/biking, fewer accidents, etc.). A deep look into bringing accessibility to jobs, schools, services without a car.
23	Being culturally sensitive to avoid language barriers when users communicate with driver using city buses.
24	Healthy Environment & Communities should also reduce Vehicle Miles Traveled (VMT). And social equity should be a factor in all areas. Cost of transportation, safety, economic opportunity all vary depending on the community. SANDAG should strive to make the greatest improvements in the areas that are at the greatest disadvantage.
25	At the public meeting, I brought up measuring the quantity of people walking/biking to locations w/in 5 miles (or other various distances) of their home in different communities. I was shown to the "20 mins of physical activity in regards to transportation" metric, but I realize now why I think that the percent doing so within a certain radius of their home is also important. Mainly, a low percentage for the 20 mins, while an important metric, paints an incomplete picture - do people not feel safe, or is there nothing close-by? The distance metric would help resolve that question.
26	Number of jobs accessible by public transit within 30 minutes by TAZ
27	Vehicle miles traveled (auto), hours of delay,
28	Travel time reductions should not be a metric if that means investments will focus on increasing auto throughput and speed. Rather the focus should be on moving people and stoking transit-oriented development that improved access to jobs, housing, and services.
29	Cost
30	Innovate Mobility and Planning should include alternatives for handicapped, seniors and mobility challenged.
31	Calculate the amounts of gasoline and diesel fuel used per vehicle registered in the state and in the county for each kind of vehicle. Do the same with heating fuels. When those fall, we can begin to think we're making progress.
32	Measure how much fossil fuel is used year by year to see whether it's declining.
33	Reduce VMT
34	Resiliency of the transportation network for the climate chaos associated with Wild Fires, Earthquakes, Tsunamis, Tropical Storms, etc. and the upcoming Global Climate changes from Global warming.
35	Key innovations not mentioned in the SANDAG Summary from 12/4/2017. SANDAG should plan for, rather than let happen: the impact of increased drone use; high speed rail line from San Diego/Tijuana; Transit connection to Cross Border Xpress to Tijuana airport; Driverless car regulation and implementation, etc.
36	Carpool should be separate from walk, bike and transit use. Air quality measures should be at local not regional level
37	People want to get from Point A to Point B efficiently, without a transfer of modes. When SANDAG learns that we will move forward.
38	Increase public transit access throughout San Diego County so that every community is served and connected to every other community. Investment in public transport systems that serve the last mile neighborhoods to home and work. Collaborate and coordinate with developers to produce activated, diverse, transit centric districts focused on a "Main Street" approach to more and compact TOD. Diligently support and incentivize the inclusion of Permanent Supportive Housing development at every major modal transportation site throughout the County.
39	The cost of supporting electric vehicles should be included. Support of Gas Tax Increase. Moonbeams Train to nowhere.
40	Please, better bike infrastructure and other public transit like busses and trolleys!
41	Travel time consistency with growth. Road pricing based on demand would help accomplish this.
42	This regional plan vision is all over the place and needs focus. My question is, why is San Diego moving so painfully slowly in building out a reasonable mass transit system? Just look at Los Angeles--they have vision. This plan here is not in my opinion. I understand they passed Measure M (and R before that), but somehow their transit officials have vision and clarity. This proposal here is very lacking, should be scrapped and started over.
43	Planning for more bike options should distinguish between those that use bikes for recreation and those that use bikes as alternate transportation. I don't believe they are the same in terms of reducing auto dependency. More emphasis, in my opinion, should be placed on creating both bike-friendly and pedestrian-friendly short connections within neighborhoods with connections to retail and other services that one might opt for an alternate to driving if there was a pleasant alternative. In my opinion, while recreational biking may promote a healthy lifestyle, which is a good thing, it should not be assumed to reduce auto dependency in the same manner that reducing the need for shorter, more local trips would be able to accomplish. Smart planning, even within projects, that account for a pleasant journey by bike or on foot might encourage families and individuals to take a walk or ride a bike for quick errands instead of driving the short distance for neighborhood services. With that in mind, key areas to consider would be the quality of the bike and pedestrian experience both within projects and communities as a whole.
44	One vision statement is provided followed by questions about four different goal topics. What are each of these goals? How are people expected to know performance measures for an abstract idea that is not defined?

## Online Survey - Comment Prompt 1

#	Q1: If there are other key areas that you think should be considered, please use the space below to provide your input.
45	Reducing trip times is only good for transit not driving so your question above is ill-formed. Walkability/connectivity is a key aspect of whether or not transit stations will be well-used. A transit-friendly environment requires walking connectivity and especially in the era of online maps. Sidewalks with setbacks from busy streets and bridges allowing escape from car-dominated locations. The planned trolley stations are not being designed with adequate connections into the areas around them.
46	I think walking/biking should also be part of "Healthy Environment and Communities".
47	Well rounded plan including more highway lane miles/express lanes coupled with transit and active transportation. One alone does not solve the problem.
48	In areas where mass transit does not make sense, due to low density, it is important that road improvements take priority.
49	Prioritize projects by initial positive impact. i.e. consider first projects by ridership, environment impact and economic contribution.
50	Please prioritize the expansion of public transit and pedestrian-friendly, mixed-use neighborhoods throughout San Diego County.
51	Public transit and active modes (biking, walking, etc.) are crucial to improving transportation overall, building social equity, job opportunities, public health, and reducing environmental damage. Private automobile use is unsustainable, unhealthy, unaffordable, and unsafe.
52	More emphasis on automobile travel, not public transportation
53	Traffic congestion and improving traffic flow should be your top priorities. This affects all the other aspects of peoples lives.
54	Much improved regional public transit - let's speed double tracking coast - link Coaster with trolley - increase high density housing.
55	Moving cars on freeways should be SANDAG's number 1 priority.
56	1.) Start building double / triple decker freeways. 2.) If you yourselves are not going to give up your cars, do not ask the general public to give up theirs, either. 3.) Try to connect state route 56 to state route 76, between Interstate 5 and Interstate 15. 4.) Instead of having to wait at a five minute traffic light, use more round -abouts. 5.) Use "flashing" green lights to warn drivers of an impending amber traffic light. (Less auto accidents, and guessing.) 6.) Incorporate Uber - type transportation as part of the solution. You buy, maintain, fuel and staff the vehicle using a pay system similar to the "compass" system. 7.) Housing centers, train for employment, and feed the homeless.
57	San Diego County is the largest refugee resettlement site in the State of California. While trying to make sense of their new home and start life from scratch, refugees have to attend classes, job training, job search and cater for their families. The current transportation fare is not affordable for many families; it puts financial hardship and affliction on those who are barely starting life in the San Diego region. I suggest giving a priority to newcomers to have 75% reduced bus fare to elevate financial hardship and encourages newcomers to become active in attending classes, job training, and job search to help them overcome barriers to social and economic self-reliance and thrive.
58	On-time, frequent stops, conveniently located stops, and user friendly.
59	Yes, we need a transit-first, ADA-friendly, active-transportation filled Regional Transportation Plan for 2019
60	Connecting the trolley to the Airport seems to be key to these goals. This is the face of the City and embarrassing telling friends to take a shuttle to a car or other transportation hub.
61	Have more safe and walkable sidewalks and make bus shelters more welcoming.
62	Hope you look at University City next year. We have had little to no bike access to UCSD from the south east corner of campus where most people live.
63	If you're taking the pedestrian & cycling communities seriously then you'll have better air to breath & a healthier community. Will this be taken seriously? Then use buses with clean fuel or electrically run.
64	We could really use a direct/express transport option between uptown (Kensington through Mission Hills to Sorrento Valley) to alleviate traffic on the 805. Current options with connections take too long to be competitive with driving.
65	Quicker light rail lines.
66	Expand the network to rural areas.
67	Evaluate a shift of public tax dollar funded activity to the private sector in order to reduce the administrative burden.
68	Reduced fees if the fee revenue is not used to meet the intended goal.
69	This survey looks at big goals, not the daily frustrations that prevent people from using alternative transportation to get to work. I would suggest that you add an e-interface for the public, so people can check if buses and trolleys and trains are on time. Uber and Lyft can do this, why not Sandbag. I also would address the user experience on many levels: 1) kiosks - most are difficult to use and don't work correctly; 2) interiors of vehicles, including sound systems -- what would make people more comfortable, more efficient, and able to understand the announcements; 3) what routes and hours can be changed to accommodate the local ridership better? 4) what routes and hours can be added to accommodate the locals AND the tourists? It is a crime that #923 doesn't offer weekend rides -- there's no better way to see our beautiful harbor. I feel like your stated goals above are so "governmental, bureaucratic, and general" and don't begin to address the reasons people will not take public transportation. Start your goals from the bottom up -- figure out what the riders, and the potential riders want. Then set the goals.
70	Light Rail in North County to UTC area and Downtown

## Online Survey - Comment Prompt 1

#	Q1: If there are other key areas that you think should be considered, please use the space below to provide your input.
71	The public transportation system in San Diego County is inadequate. There are not enough trolley lines and trolleys should be underground or above ground on bridges to avoid car traffic downtown. This will boost ridership.
72	Transit is a joke in North County....takes hours to get anywhere. Also must consider the coastline and views!!!!
73	Expand the number of lanes on major freeways, or increase HOV lanes.
74	More focus on bike friendly cities and safe commuting routes. I commute by bike from Solana Beach to downtown San Diego and it is very dangerous plus roads/bike paths are not properly maintained.
75	Presently Surfliner trains overnight at Santa Fe Depot, creating severe noise and pollution for thousands of downtown SD residents. A new layover facility is urgently needed, away from the growing city core. This new facility has been mandated by the City since 1983 and planned by CalTrans since 2001; it must be delivered!
76	Please extend trolley times to 3am to allow hotel workers to ride after shifts and night owls to use trolley instead of driving drunk.
77	The routing of MTS buses in the UTC, University City, Bay Ho, Alcott communities needs better coordination. Can we have a bus that loops Genesee Avenue to La Jolla Village Drive to North Torrey Pines Road to Genesee Avenue again?
78	More, faster, double tracking, no kidding!
79	Elimination of favoritism to the automobile by requiring merchants, landlords, employers, and schools to give transit users an equivalent benefit to the free parking offered auto users.
80	Develop more pedestrian and multiuse trails and pathways to connect communities to regional trails, parks and open space.
81	More train lines (like Coaster, Trolley) from Downtown to inland North County . More people will use public transportation if more lines are constructed. Like Berlin, New York, Santiago, any metropolitan city that has reliable public transit.
82	It was a huge help when the commuter lane was put on highway 15, what about 56, it is a problem for two reasons. Traffic backs up on 56 which causes a backup on 15. Consider a long term plan to double deck some of the freeways, I know what happened in San Francisco, I was there, not on this section, but something must have changed to make safer levels and we don't have the earth quake problems San Francisco has. Also extend the commuter lane further north, it is a nightmare to get on 78, which is also a problem. I know that the state has passed State law 1069 allowing for infill for more housing, well, where are these people going to drive. Our roads start backing up before 4pm, and the bus is not the answer.
83	Trains in San Diego are half empty and they blow soot every where. Trains here do not stop at major destinations like the airport, shopping centers, and Universities. Places with huge parking lots have many people wanting to go there.
84	Better public transportation to the airport and major tourist attractions. Why does the trolley not go to the airport? Why does the trolley not go to the beach?
85	There needs to be a bigger emphasis on making public transportation desirable as opposed to just being an option. Bus routes and trolleys should be prioritized over passenger vehicles when it comes to major city events such as December Nights. The city could have done better with respect to making it make sense to take public transportation from the city's neighborhoods to the event. Unfortunately, they forced people who wanted to take bus routes that would normally stop right at Balboa to go all the way downtown. Then to take another shuttle right back up to practically where they started from or else walk two miles from University and Park Avenue down to the event. This doesn't make any sense if you want to promote public transit. It should be a focus of the RTA and the City of San Diego to plan these events in a way that people would prefer and want to take the buses to the event as opposed to a half a million people being encouraged to drive to the event. This is just an example of why public transit appears to be an afterthought in this city when it could really be a boost to the city, the surrounding neighborhoods, and the county as a whole if promoted and expanded correctly. So better event planning and strategic expansion should be a focus on all fronts.
86	You should consider changing ineffective High Occupancy Vehicle (HOV) lanes to all use to benefit more tax payers. Specifically the Carroll Canyon parts.
87	We really need transportation to coordinate on land-use in order encourage more mixed-use development and housing. Inter-connectivity for North County and the City of San Diego would be key, I would suggest.
88	Improved bikeability. We have perfect weather for it, but the infrastructure is woefully inadequate and dangerous.
89	Making sure the resources are being given equally. Far more investment has been done for North County and golden triangle while East County has not changed including the 94 and 125 interchange. The 125 has daily gridlock, and 52 rush hour gridlock.
90	Earlier bus routes going downtown from Sabre Springs.
91	I'm retired and biking is not an option for me for doctor appointments and grocery shopping. Fix mass transit (which I have been waiting for 40 years for logical improvements) instead of more blacktop which makes everything hotter. Try to get past your lack of innovation to real solutions.
92	Are you trying to gain bond support with these questions? San Diego won't support more waste
93	This questionnaire is asked in such a biased way that I decided to leave it blank. I hope you do not do it to prove any talking points in the future.
94	Get someone to write questions that are not obfuscation for your own agenda.
95	The bus system should be expanded for East to coastal West routes, i.e. to La Jolla. It should take only 45 min -1 hour to get to uptown/mid-city to La Jolla on the bus during the week.

## Online Survey - Comment Prompt 1

#	Q1: If there are other key areas that you think should be considered, please use the space below to provide your input.
96	Bus routes from East to coastal West areas need to be expanded (i.e. from North Park to La Jolla). Currently takes 2 hours. Travel time should be reduced to 45 minutes - 1 hour.
97	Highway 125 at eastbound 94 is a nightmare and like riding a roller coaster. Shame on Caltrans. Please correct this road and make sure it doesn't happen again.
98	Low density housing is part of a quality of life issue for people. Living on top of one another in the high density housing San Diego keeps trying to foist on us leads to stress, depression, road rage, mass shootings, etc. Stop with the transit oriented development of high density housing.
99	Light-duty vehicles (LDVs) emit the most GHG. Therefore, every MPO, including SANDAG should minimize VMT. Note that the State has the primary responsibility of improving fleet efficiency; MPOs responsibility is in reducing VMT.
100	Add 21st century technologies to street lights so we aren't stopped at lights for no reason.
101	Green byways and more contiguous greenspaces as a whole. More safe bicycle lanes. Dock-free rental bicycles.
102	Build a trolley line along I-15 corridor from Mission Valley to Rancho Bernardo / Poway to alleviate traffic congestion there.
103	Real cities have real public transportation systems that work and are on time. San Diego is deficient in this regard. Also, security is lacking the level of real cities like L.A. and San Francisco and Portland, OR. Light rail, subways are the way to go in the long run. Undertaxed San Diego must ante up and concentrate up to achieve the goals of the 21st Century. We are already years behind the pollution, homeless, and housing curve. We are a joke.
104	I think the HOV lanes do little to nothing to help our transportation. I think we should assess how many actual vehicles are removed by HOV lanes. I believe the result will be miniscule.
105	Bike paths are rarely used and increase auto travel times and pollution. Rail is also underused and diverts excess funds from roads.
106	Offer free public transit to Medicare recipients. It will get a bunch of old people off the street, and keep those seniors with extremely limited incomes from being isolated because they cannot even afford an \$18 a month pass.
107	Guaranteed free, or very, very inexpensive transit for homeless, senior, handicapped, and veterans so that they can be involved in community as minorities! With very easy access to getting tickets 24 hours a day, 7 days a week, with more and better bathrooms and shopping opportunities. Why should transit users, especially these riders in particular, have to make separate, extra trips, when the last mile is so critical to using transit.
108	Recommend a trolley from San Diego Airport, through Hillcrest, between San Diego Zoo and Balboa Park to Navy San Diego Medical Center.
109	Take off the toll for the 125.
110	This whole project is a mess....and an huge imposition on us who live in the area and ..this is California...no one really wants/uses public transportation in the first place
111	Promover intercambio de trabajos iguales o similares dependiendo del area donde vivimos para reducir el millaje de los vehiculos y la polucion. Promote equal or similar job sharing opportunities based upon the area where we live to reduce vehicle mileage and pollution.
112	El precio del autobus esta muy alto, demasiado alto para City Heights, una comunidad de bajos recursos. Bajen los precios por favor. The bus fares are very high, too high for City Heights, a low-income community. Please lower bus fares.
113	It was a wonderful workshop. I don't speak Spanish but I am trying to make sense out of the questionnaire.

## Online Survey - Comment Prompt 2

#	Q2: Please use the space below to comment on the Proposed 2019 Regional Plan Performance Measures.
1	Rail freight needs to be considered as well as our marine terminals for ocean freight.
2	1. There needs to be more to #2 of "innovative measures" than just number of non single occupancy vehicles (SOV). That just means they might be carpooling. It is hardly a measure of use of alternative forms of transportation. You need to measure use of public transportation and self reports of increased use of bicycles, etc. 2. #3 What about a measure of accidents in general, not just injuries and fatalities? It is not safe if the number of "fender benders" increases. 3. #4, I would like to know what has actually been done not just amount of money spent. 4. #5, if we are looking to promote alternative modes of transportation, it seems to me we need to be measuring reliability of public transportation, not just the interstate. In order for folks to want to use public transportation, they need to know its safe and reliable. We are investing in more than just the interstate as part of our "transportation investment," right?
3	The travel times and VMT comparisons are good.
4	Along coastal transportation corridors and residential areas, there should be performance measures that evaluate how wildlife habitats will be impacted and maintained in vulnerable coastal areas that will be impacted the most from sea level rise in the future. These include: sandy beaches, rocky intertidal, seagrass beds, dunes, bird nesting areas, estuaries, salt marsh and coastal lagoons.
5	Some hard numbers rather than percentages: -Total number of bicycle miles pedaled by commuters. -Number of automobile miles not driven because would-be drivers use bicycles. - Number of automobile miles not driven because would-be drivers use public transit. -Physical count of commuters using bicycles & public transit. If "major transit stops" enable transit housing density bonuses, then we must assure that transit equipment actually services those locations frequently. MTS changes its schedules to suit budgetary and other goals, but once added, that housing density will always remain. So designation of a transit bonus zone must be a permanent commitment. How to measure the good faith performance of the transit agency? Perhaps a positive measure: "Average frequency of commute-time service at TOD-designated transit stops." Obviously I'm expecting the agency to struggle with compliance, so we need a measure that will challenge them to try harder. How about: "Percentage of commute hour opportunities at designated transit stops with actual service frequency of 15 minutes or less." What performance measures were used for the previous regional plan? Were any abandoned? Suggest some continuity to trace historical versus future progress. Also, repeating from previous page, Level Of Service measures should not be abandoned, regardless of additional analysis of Vehicle Miles Traveled. "Per-Capita" measures of pollutants/emissions are irrelevant. They imply that today's total emissions are an acceptable baseline. "Total Emissions" is the only meaningful measure of pollutants. Can this region absorb the projected population growth without doing harm to the environment?
6	I think it is important to include a measure related to healthy food access in the Regional Plan. Measures could include: average distance to retail stores with fruits and vegetables, or percent healthy food retail stores within X distance from public transit, etc.
7	Introduce a qualitative metric for the transportation side of the plan as opposed to focusing completely on efficiency. It seems quality is only mentioned when speaking of the environment.
8	The metrics previously listed are so broad they almost have no meaning. Please be specific in the performance measures as it relates to a vision of our region.
9	Please use Vehicle Miles Traveled as the basic measurement. Assess youth VMT and Youth Active transit miles travelled. Overall VMT reduction to match Caltrans target of 3% a year and to exceed CARB targets for 2025,2035 and 2050. Mode shift to transit, as required by AB805 Compliance with Climate Action Plans on mode share targets. Meet or exceed VMT reduction goals for 2025, 2035 and 2050. Regarding the percent of income spent on transportation (equity measure), change the guiding question of relative costs of transportation (Question #5) from "changing similarly" to "changing equitably." Additionally measure the percent of family income spent on transportation per family member. Overall cost effectiveness of transportation by mode share - cost per mile traveled - What is the cost per mile traveled both in terms of public funds (overall cost of building, maintaining roads, law enforcement, accidents etc.) and to the user (purchase of car, parking space, bike, shoes, insurance, maintenance, depreciation etc., AAA and Edmonds.com can help provide this information for users). This is important if we want to reduce the overall cost of transportation and show one of the benefits of mode share shift.
10	1. "Percent of non-single occupant vehicle (SOV) travel (work-trips and all trips)" is inadequate to measure mode share. SANDAG should look at public transit and bike ridership, which are already measured by MTS and the regional bike counters, respectively. 2. "Is the current transportation system being maintained?" fails to take into account that future investments require more maintenance. Average cost of maintaining a transportation investment (i.e. freeway vs. bike lane) should be factored into performance measure. 3. "Do the transportation investments help to improve the regional economy?" fails to take into account social equity. Areas with less access to jobs and less access to cars should be prioritized for improvements. This is true for "Are the relative costs of transportation changing similarly for all communities?" It is more expensive for some communities (rural/suburban) to maintain infrastructure than others because of miles of road needed to connect them. 4. "Percentage of population/employment within 0.25 miles of a bike facility (class I and II, cycletrack, and bike boulevard)" fails to take into account whether said bike facility provides a connection to employment. A half-mile of bike lane on a random street that is not connected to a network is useless. 5. "Is access to jobs and key destinations improving for all communities?" again fails to take equity into account. Some communities should have to accept deferred improvements to ensure a more equitable society.
11	I brought up measuring the quantity of people walking/biking to locations within 5 miles (or other various distances) of their home in different communities. I was shown to the "20 mins of physical activity in regards to transportation" metric, but I realize now why I think that the percent doing so within a certain radius of their home is also important. Mainly, a low percentage for the 20 mins, while an important metric, paints an incomplete picture - do people not feel safe, or is there nothing close by? The distance metric would help resolve that question.
12	Number of housing (low, market, high) built within half mile of high frequency transit system
13	Environmental impact should include effects on water quality and land use (% of public space claimed by roads and parking, that could be used for community spaces, housing, schools, and other social needs). The criteria places too much emphasis on travel time, which given the dominance of private autos means increasing driving speeds, which are hazardous, stressful, and antisocial. Noise needs to be included as a criterion for local roads as well as highways. I live a half mile from I-5 and the noise level is insane; we cannot use our back yard, and the racetrack effect begins daily at 5.30am. It interferes with my sleep and causes distress all day and evening. Traffic to and from the nearby schools is also loud, stressful, and dangerously fast, far above the supposed 25mph limit. I estimate people typically drive 35 mph and even 45 on our short residential stretch. Bring back the school buses. Traffic calming is another needed criterion.
14	Average travel times are a sound and simple measure of performance, but I think other criteria, like number of transfers, amount of time used for helping disabled riders, increased availability of alternative routes, more penetration into residential areas would also be useful information.

## Online Survey - Comment Prompt 2

#	Q2: Please use the space below to comment on the Proposed 2019 Regional Plan Performance Measures.
15	There must be a measure of connectedness/walkability between the stations and planned nearby increases in density and the closest major "destinations" such as beaches or theaters etc. with respect to the locations for transit stations. A successful and safe transit environment requires a safe walking environment. Right now, stations are being pushed into locations without adequate connections. Possible measures of this are: sidewalks with setbacks from busy streets vs either no sidewalks or sidewalks without setbacks (most current conditions in car dominated areas in the cities here). Bridges over car-dominated areas that cannot be otherwise made walkable. The importance of this cannot be emphasized enough. Getting people out of cars requires a pedestrian-friendly-designed environment around transit stations. Everyone who uses transit is a pedestrian - even if they drive to a parking lot next to a station. We are not making these connections and it is a key mission component of so-called "smart growth."
16	Under the "Healthy Environment and Communities" goal, there doesn't seem to be a performance measure for the actual health of a community. Are the measures referring to people/community's health as a function of the environment/air quality etc...? I am just curious to see if there will be a physical/mental health component factored into the decisions made around transportation. Will people's reported satisfaction, happiness, mental, and/or physical health factor into the measures somewhere?
17	Moving cars and reduction of traffic gridlock should be a performance metric.
18	For the question "Are travel times reduced?" I would suggest also considering weekend travel times on public transit to leisure destinations (Mission bay, beaches, Balboa park, etc.)
19	Given the severity of our climate crisis, the only performance measure that makes sense is the reduction of VMT.
20	Measures that determine the effectiveness of the various transportation options.
21	The most important performance measure is "Reduced Travel Time" and should outweigh all other performance measures combined. It needs to be the #1 goal.
22	Travel times should include from homes/residences to major freeways and public transportation hubs.
23	"Average travel time" to work is an important metric that impacts the regions economic output, air quality and housing issues. Driving that time number down will raise people's satisfaction and feeling of well being.
24	Separate carpool from transit and active commute modes Measure all modes, not just SOV trips . Identify how they will be measured. Key Question (KQ) 4. The question is whether the system meets needs, not whether we're maintaining a system that is not effective KQ 7. measure percent of population within quarter miles of ALL facility types, not lumped together. Include measure of commute enjoyment and satisfaction. Set minimum standard for air quality by city, not for the region.
25	SANDAG CBO Community Outreach Submittal from Alliance for Regional Solutions Performance Measures 12/12/2017 These comments are based on the information and discussion provided to CBO representatives on Performance Measures and shared at the Dec. 4 public workshop. Suggest add to or amend the list of draft/proposed performance measures: Under Innovative Mobility and Planning, add route and service frequency for all modes of public transit. This relates to key questions 1 and 2. Frequency is currently referenced indirectly under draft measure 7A (without defining "high frequency" or the modes this refers to), but needs to be measured universally for all public transit services/modes. Frequency here means how often a service/route is available to a rider, e.g. every 15 minutes, 20 minutes, etc. Draft measure 1B, suggest measure not just "peak-hour" but off-peak as well (since many work schedules today are "off-peak", and to measure non-work related trips, medical, commercial, etc.). And measure total hours of excessive delay, not just per capita. Draft measures 7A and 7B, measure not for only "high frequency" transit stops, but for all transit stops and stations; and measure within 0.25 miles, rather than within 0.5 miles (a quarter mile distance being a widely accepted measure of accessibility). And note additional "global" comment below re: how distances are measured in assessing tools/computer models. Draft measure 8A – Why 30 minutes, why not the 15 min. measure in 8B? Better, please measure and disclose percentages for several time distances, e.g. 5, 10, 15, etc. And as others commented, please measure for K-12 education as well as higher education. More global comments, relevant to performance measures and other information provided at the Dec. 4 workshop: Up to this new RTP round, my understanding is that the SANDAG Ridership model has not measured many of the things that actually drive ridership, notably, on a different network system. While it's good to have performance measures, it is also necessary to understand how these measures themselves will be measured. Please add a column to the right of "Proposed 2019 Regional Plan Performance Measures" for disclosure of how each performance measure will be assessed; whether by computer model (and which one), or by other means (and which). Related to travel times, frequency, and real-world access: In measuring distances and times, use door-to-door travel times, to or from select points throughout the region, rather than TAZ centroids. Using the "artificial" centroid of a TAZ can throw off measures of actual distances and times. Use actual walking distance to true rapid transit; residences and jobs within a real quarter mile walk, not a simplified quarter mile radius Finally, at the Dec. 4 workshop it was described how a set of "unconstrained network projects" have already been adopted by the SANDAG Board. I believe I heard that this closed set of projects are to be the only set of projects which will be reshuffled and reprioritized to make up the different transit system design scenarios to be defied this next Spring. This would appear to functionally exclude from consideration any alternative network design, and different projects in alternative designs. This is obviously an important point to be clear on. At the workshop I asked two different SANDAG staff if different projects can be submitted and included in this process at this time. I was encouraged to submit projects, if I knew of any. Referenced by this submittal, one or more said projects will be submitted to the SANDAG staff I have spoken with, and will be posted in the CBO Workspace set up for CBO work.
26	6. change similarly to equitably. 5. add reduction of congestion 5. instead of reliable change to budgeted time vs. actual time 8. Break it down into senior v. non-senior, low-income v. high income, and mode * Transportation is going to be very different in the next few years. All seniors will be able to access info with smart phones in the next few years, millennials will use public transportation more as they age, and shared rides and driverless cars will increase access to other modes of transportation for non-drivers.
27	Developing and maintaining reasonable alternatives to driving, especially single occupancy driving is paramount. We must get people out of their cars and into alternative ways of getting around that are safe, efficient, and better for the environment.
28	Health metrics are good. We need to pay close attention to GHG and serving communities that are not served, or underserved.
29	A key performance measure as we move forward as a region, I believe, is to evaluate whether the new Regional Plan supports Smart Growth and Planning in both infill and new areas of opportunity.

## Online Survey - Comment Prompt 2

#	Q2: Please use the space below to comment on the Proposed 2019 Regional Plan Performance Measures.
30	There is no way to evaluate the performance of government's subsidized delivery of transportation services in the measures. "How many transportation services are now wholly owned and operated by the private sector" would be a different measure to those listed under "Vibrant Economy". The current measures are seeking to recognize the value attributable to making incremental change, rather than MEASURING government innovation. Uber and Lyft are demonstrating that public transportation can be done a different way. If you thought that \$78million a mile on a new rail project is questionable, the performance measures as they stand won't help SANDAG course correct for these types of innovations quickly enough.
31	I find the proposed performance measure appropriate given the region's goal but with one caveat: I would not support using these measures to create policies that act to make traffic worse on our roads with the unstated goal of forcing San Diegans to bus, bike, walk. I support incentives, not informal mandates as some in the transit-first camp are promoting.
32	The move to better facilitate walking and biking and increasing the economic growth are valid, but should not discount the ability for senior or disabled people currently living here with limited means and mobility issues.
33	Would like clarity on the timeline for assessing/finalizing the performance measures and what exact role they will play in developing the next regional plan (e.g., want to make sure the measures are public, and how they are used in analyzing different scenarios needs to be transparent and clear, how public comments on the performance measures will be incorporated/change the PMs). Are the measures weighted? Are you collecting input on that? How will the plan be evaluated against the performance measures moving forward - have we done this before? Do we evaluate the current plan against performance measures? Ideally this would be a public, transparent process to keep us accountable and on target.
34	It would be useful to know the proposed method to calculate each performance measure and allow comments on those.
35	In reality the performance measures are fine. The problem is that SANDAG, San Diego County jurisdictions, Caltrans, and San Diegans themselves continuously ignore them in support a highway and roadway widenings. Implementation is key. Stop creating forward-thinking performance measures simply to check off a regional plan checkbox. Actually do something with them. Make them a tangible part of the decision-making process.
36	The performance measures must align with the land use plans provided by the cities in the county otherwise transportation is at odds with land use plans and design.
37	Most improvement will come from better fuel efficiency of vehicles using highways. Measure that. Also there are no measurements for the influence of UBER/Lyft/Driverless Vehicles. These will all impact how we move about. We need good, efficient highways for all of these.
38	Reduction of VMT is a key performance measure. I feel that reduction of travel time is at odds with environmental goals.
39	There should be a performance measure that addresses the "missing links" in our system. Particularly, does the change address these missing connections, or something similar.
40	Innovative mobility and planning never mentions planning for: Providing multiple routes to underserved areas; High speed rail line; Increased drone use; Driverless car regulation, etc. Vibrant economy never mentions planning for: A lack of east/west transit connectivity which is visible on the San Diego County Regional Transit Map; Various Transit access outlets (bike, bus, rail, international borders, etc.), connecting the Cross Border Xpress to Tijuana airport; Increased transit access, increases economic development. Healthy Environments and Communities never mentions planning for: Examining the impact of increased wild fire activity throughout the county and the possible closure scenarios on our major roads I-5, I-15, etc. Reducing one way in, one way out (Cull-de-sac) suburban planning which results in severe impact for emergency service access and resident safety. Separating carpool, truck and passenger car on major streets and thoroughfares throughout the county. (E.g. Highway I-163 becomes carpool and passenger cars only – all trucks use I-5).
41	ADA - accessible public transportation for all is a vital area not to forget
42	The proposed 2019 regional plan performance measures are not clear to my community and the questions are confusing. I don't even know what the measures are.
43	Does not prioritize public transit enough
44	For me, there needs to be an intense focus on ability to travel/commute by bicycle and I'd like to see more performance measures specific to that goal
45	speeding up "drive alone" car travel times should not be a goal
46	Cost should be utilized to allocate funding to the benefit of the entire community and how they currently use transportation modes and what they are inclined or able to use in the future. Funding should not disproportionately be used to offset expenses or subsidize alternative modes of transportation. If it cost \$20k per year to provide bike lanes for 2 % of the population maybe that funding should be distributed to roadway networks to benefit more users.
47	To increase the food accessibility on low income or less privileged communities where fast food saturations and food desert areas are not able to obtain healthy meals or better sources of healthy food.
48	More focus on planning for events and strategic expansion should be the focus. People should prefer the ease and reliability of public transit over the hassle of driving. So far, my experience is, that is a challenge in this city.
49	Public transit efficiency and access should be prioritized in assessing performance above factors involving automobiles.
50	Smart growth would be to encourage employment centers in East County and South Bay to reduce the need for everyone to commute in the same direction
51	There needs to be specific mode split goals and better goals to support transit access-especially for disadvantaged communities. None of the measures ensure habitat preservation- this needs to be much more direct.
52	Keep the clean air & safe pedestrian/cyclist themes high on the priority list

## Online Survey - Comment Prompt 2

#	Q2: Please use the space below to comment on the Proposed 2019 Regional Plan Performance Measures.
53	The performance measures should quantify and lead toward greater availability of transportation options, especially bike/walk/transit access. Any measure that deals with auto delay (no longer a CEQA impact) should be replaced with travel time consistency based on future road pricing options that can respond to demand.
54	Deprioritize highway expansions in favor of effective transit projects
55	More emphasis on automobile travel, not public transportation.
56	Not enough weight on public transit, too much weight on cars.
57	While you ask many of the right questions, your answers are usually skewed to the less densely populated areas of my city. We need relief from the single-occupant cars. Public transportation (commuter rail, subway, and trolley) must supplant the fatal congestion of the present. You fail on this, you fail on the future of the San Diego region.
58	You should assess how many cars in HOV lanes actually take cars off the road. In other words, if a car has two or more people who would normally be in the same car that does not mean the HOV lane has removed a car.
59	Provide safe, friendly and low cost transportation for seniors.
60	Less focus on auto travel times, greater focus on reducing VMT and safer transportation system for all travel modes.
61	Reduced greenhouse gas emissions.
62	I would prefer that reduced travel time apply to all types of transportation. I sense however, that it focuses more on improving automobile travel time, at the expense of buses and light rail.
63	Needs more emphasis on complying with State efforts on Climate Change. And on improving Air Quality from Transit emissions as well as SOV.
64	Need a train coming down I-15
65	Examining numbers using public transit is important. Routes should be altered based on use.
66	Increase traffic reduction measures in Mission Valley - it is a nightmare now and continued housing makes this area worse for years to come!!
67	Increase Trolley lines. Buses, lanes for bikes everywhere in the county and more rebates on electrical car purchases.
68	125 at 94 is a hazardous road. Please fix it and don't do it again.
69	One thing I have noticed that bike corridors are not maintained, brush over growth taking over path, pavement issues. The idea of new and more commuter path ways is great but if it is not going to be maintained, then what's the point. Looks great at first then a complete eyesore within a short amount of time. Same with on & off ramps. San Diego personal appearance needs work. Compared to other states I say San Diego ranks rather low.
70	We need transportation to Del Mar from San Ysidro. This should be a short time not four hours to commute one way and about 6 buses to transfer. It's too much trouble, that's why people rather just use their car.
71	Bike share needs to be in more areas. More shared bikes near transit and not downtown area.
72	Please add a trolley from San Diego Airport, thru Hillcrest, between San Diego Zoo and Balboa Park to Navy San Diego Medical Center.
73	I think the measures are fine, but I am concerned about the ability to actually make actual improvements. I think even more aggressive attention needs to be placed on the LOSSAN rail corridor; and, solving problems with taxi and UBER (and perhaps create a hybrid option with positive aspects from both options).
74	The longer cars sit idle on the freeway downtown traffic, the more they pollute the air. Thus expanding freeways w/ more lanes and improving highway transitions will actually help improve the air quality by reducing transportation time. There are only so many people that are going to be able to walk, bike, or use public transportation... some will be able to do it, but for many it will not be as practical for them so we need to emphasize road expansions and add more lanes to highways. Also adding bike lanes reduces lanes for driving and really is a setback for our ability to get around. Cycling on the streets is dangerous and only makes sense for those who are very experienced cyclists, otherwise you are going to be increasing road fatalities and bike accidents which are no minor consequence.
75	I think that the trains should be moved off the bluffs in Del Mar. It is unsafe to continue running them there. Turn the area into a park and trail.
76	Is it realistic to think people will use bikes as a major transportation mode, regardless of how many bike lanes or paths are built? Not practical.
77	People don't work and live in the same place. They can't afford to or wouldn't even consider living in the same area. Not going to sell a home or condo to move closer to work where I don't want to be near on weekends. You're crazy to make that assumption. Also, your idea of "widening" the freeway is to make the lanes narrower. Try driving the stretch between Del Mar Heights road and Birmingham. The semi's can't fit in their lanes causing near misses. Then add in the idiot motorcycle lane splitters. It's a disaster. Quit encroaching deeper into the hillsides around the freeways, ruining property values and creating unhealthy areas around the freeway and fix mass transit. I'm too old to ride a bike.
78	Improvements to east county are needed. Almost all highway and rail projects are for North County and golden triangle. Fix 125-94 interchange, 52, and 125 itself. At rush hour due to bad design and striping of lanes is always gridlocked between 94 and 8
79	Expand light rail in south San Diego, specifically east/west rail line through Chula Vista. LA Metro transportation plan is great and should be a model for San Diego.

## Online Survey - Comment Prompt 2

#	Q2: Please use the space below to comment on the Proposed 2019 Regional Plan Performance Measures.
80	A large portion of San Diego County's working population lives in East Chula Vista/Eastlake/Otay Ranch. This area should be connected, by rail, to the downtown areas (military bases included) in which these people work. The Rapid Bus concept is poorly conceived and under utilized because it relies on the same congested roadways that are already congested. It essentially makes those living in the South Bay feel like second class citizens.
81	Presently Surfliner trains overnight at Santa Fe Depot, creating severe noise and pollution for thousands of downtown San Diego residents. A new layover facility is urgently needed, away from the growing city core. This new facility has been mandated by the City since 1983 and planned by Caltrans since 2001; it must be delivered!
82	Not sure that each community should share costs equally as wealthier areas of the county could more easily carry a greater burden of the cost
83	Car centric transportation planning is wrong. The measure must be how many we can get to stop driving, especially driving alone and on to mass transit by spending money on non-automobile transportation
84	Too much feel good stuff. Just build and maintain roads. The Sprinter has done more harm to North County traffic than it will ever improve the situation.
85	Gridlock on the freeways is not acceptable. What are we doing to fix it?
86	Excess diversion of funds to bicycles and rail.
87	Measures and goals look good for the area.
88	Please host more workshops for public input on the 2019 Regional Plan. The community wants to be involved and hosting one workshop in the middle of the day is not enough. We want to see a transit-first 2019 regional plan put on the table, this is what we are hearing from the community in City Heights.
89	Hurry!
90	SANDAG seems to waste so much taxpayer money on job justifying reporting, outreach programs, bureaucracy etc., and not enough on results, and being held accountable on our grossly inadequate roads and freeways.
91	Have more workshops in the evening. Reach out to the community.
92	I like the plan. Good job.
93	Change meetings days and times after 3pm. Convenient for students. No cost transportation passes. Make the questions easier
94	Meetings should start later after 3pm. As a student I can't make it to the 1pm meeting since I am still in school. Make the questions easier to respond to. Bring back the NO cost transit bus passes.
95	See earlier comment. This planning agency is a sham.
96	see my last answer
97	See my previous comments.
98	Same as the "comments" section.
99	Do not know enough.
100	Dar mas prioridad a los ciclistas y mejorar las pistas y freeways, ya que en mucho de ellas su estado es muy mala. Ademas que halla mas talleres para informar a la comunidad de que esta pasando en nuestra comunidad. Give more priority to bicyclists and improve roads and freeways, as many of them are in poor condition. Also, have more workshops to inform people what is going on in our community.
101	Por favor tengan sus juntas en la tarde o fin de semana. Please have your meetings in the afternoon/evening or on the weekend.
102	El proceso nos confunde, me gustaria que nos informaran en horarios y tener talleres en la tarde y que fueran mandatorias los talleres de informacion. The process is confusing. I would like to be informed about times and that the workshops are held in the evenings, and make these informational workshops mandatory.
103	Por favor mas tayeres con un horario mas accesible que todas las personas puedan asistir, por las tardes of fines de semana. Please have more workshops with a time that is more convenient for everyone to attend, in the evenings or on weekends.

## Additional Public Comments

No.	Comment
1a	<p>Hello, I plan to come to the event that you just emailed me about, which I think we should invite our district neighbors San Bernardino and Irvine because we are connected to them via 5 and 15. Every afternoon weekday rush hour traffic on the 15 north is congested all the way to at least the 76 if not further to Old Highway 395 or before, all the way to the 215 split all because there is weaving between Winchester Avenue and the 215. They will be constructing a northbound collector distributor lane which won't finish construction and be open to traffic till 2022.</p> <p>On the 5, right now Irvine is completing a construction project to extend the HOV lanes from San Juan creek road to Avenida Pick plus a few other adjustments. As it stands right now there is high congestion on the 5 on the weekends through the Camp Pendleton stretch. We should ask Irvine to extend the HOV lanes further to the San Diego county line plus auxiliary lanes in order to try and mitigate as much traffic as possible.</p> <p>But for those two districts, they are lacking something very important (its expensive beware) that connects the two in the southern portion of Orange and Riverside counties via east-west freeway through the Rancho Santa Margarita mountains to connect Temecula/Murrieta (which have populations of over 110,000 people each) on the 15 between the 215 and the following exit to the south all the way west to San Juan Capistrano on the 5 between the 73 and the following exit to the south. As it stands right now the only freeway that connects Orange and Riverside counties together is the 91 and that happens to run along the northern tips of those counties and the southern tips of San Bernardino and Los Angeles counties, causing immense traffic between the 15 and 55 even though they have tried to widen the freeway as much as possible. There's just too much traffic to handle and they need a different route, and one that saves lots of time and connects directly across the southern portions of those two counties which is in part coming from NORTH COUNTY SAN DIEGO (from the 78 northward). As you know, the 78 crosses five cities with more than 100,000 people each and only has three lanes per direction and some have auxiliary lanes also. This freeway cannot hold anymore traffic especially those that come from southern Orange county across the notorious Camp Pendleton section on the 5 to get onto the 78 to go southeast to Escondido (or more importantly back up north to Temecula/Murrieta) when they could have taken the east-west mountain pass freeway if it existed and then take the 15 down to San Diego as an ALTERNATIVE route since the 5 is often congested, and same could be said about the 15, but this east-west mountain pass would take off traffic immensely from the 5, 15, 78, and 76 (which recent ballots show that the voters reject upgrading this to a freeway meaning it will stay as a slow expressway with many stoplight intersections throughout Oceanside and vista). If this east-west mountain pass freeway gets constructed then it will take off immense traffic within the 91/78/215/73 freeways region since people would be using this east-west mountain pass freeway instead of having to maneuver around the counties and then back up or down. This would connect southern Orange and Riverside counties and more importantly SAN DIEGO county especially in North County along the five cities that the 78 crosses between the 5 and 15, and Temecula and Murrieta which run along the southernmost tip of Riverside county, and would connect to Irvine, Costa Mesa, Huntington Beach, Garden Grove, and even to Long Beach quicker. This is a very important freeway that needs federal funding so that we don't have to waste so much money on it. This will help mitigate traffic THROUGHOUT Southern California ESPECIALLY San Diego and would keep traffic that commutes between southern Orange and Riverside counties within those areas and not have to come down to San Diego and take the 78 or 76 over, OR, if they do come here they will have two routes that they can take (5 and 15, with the vast majority wanting to take the latter because the 5 is the freeway that is dogged up through the Camp Pendleton stretch on the weekends and holidays).</p>
1b	<p>Do you understand what I'm saying here? It DIRECTLY AFFECTS US and right now traffic spills on over to at least the 78 along the 5 coming to and from the Camp Pendleton region and there are many who just want to go straight east to Temecula/Murrieta or use the 15 to get down to Escondido or anywhere along the eastern portions of San Diego county and city and anywhere at all since the 5 is a nightmare coming all the way past the fairgrounds, and they can't just go up to the 91 and then take that freeway to the 15 because that freeway is just as bad as the 405 is. They need a second route and the only other route is Interstate 15, which they would need to have an east-west mountain pass to connect the southern portions of Orange and Riverside counties. Highway 74 starts at lake Elsinore where few people live in and is a vey dangerous winding route southwest to San Juan Capistrano, and like as I stated above the 91 is a uber congested route.</p> <p>Even though the costs will be very high to construct this east-west mountain pass and we'd have to negotiate and beg the environmentalists to use this piece of land (which is known for growing wine via vines) so that we can construct this freeway and mitigate as much traffic as possible. We three (San Diego, Irvine, San Bernardino) districts need to work together here on trying to get this new freeway approved to spare as much traffic as possible. There is no east-west freeway between the 91 and 78 that connects to both the 5 and 15, a 60 mile gap at least. If this means that we need to tax the citizens in California more especially in San Diego, Irvine, and San Bernardino districts then please do that and forgo taxation without representation because the voters will never vote yes to increase taxes so we need to manipulate them because they're greedy wealthy individuals who CAN afford to pay extra taxes, in San Diego and Orange counties especially because they're ultra conservative. They don't need to keep excess money which they can give up via taxes so that we can construct all of our needed roadways.</p>
2	<p>If they plan to Construct HOV lanes on the 5 through Camp Pendleton please upgrade them to EXPRESS LANES like they are in San Diego and make it free for two person vehicles but for a toll for everyone else so that anyone who wants to use them can if they pay unless the vehicles have two or more people in them who use it for free. The traffic is so awful on the 5 every weekend along the Camp Pendleton stretch because it is the ONLY way that can connect people from Temecula and Murrieta to Mission Viejo and southern Orange County and you know what I mean. And I don't think that environmentalists will allow constructing a new east-west mountain pass freeway through the Rancho Santa Margarita's which are known producing wine, so we need to construct more lanes on the 5 throughout North County and encourage car pooling.</p>
3	<p>Overall regional greenhouse gas emissions</p> <p>We believe that measuring greenhouse gas emissions for whole region is far more important than basing your measurement and evaluation efforts on per capita GHG emissions and reductions. While per capita emissions might be useful, and can be included, the whole RTP must be focused on measuring and reducing the whole region's overall GHG emissions and reductions, since per capita emissions will vary along with changes in the region's population. Basing plan performance on per capita emissions would give the public misleading information on the plan's effectiveness, since per capita emissions might remain the same or even go down, but the regions overall GHG emissions would increase or go down as the region's population grows or decreases. Per capita GHG emissions should be monitored and reported, but reporting on changes in the region's overall GHG emissions is the metric SANDAG should judge the plan's implementation and performance on.</p> <p>Vehicle Miles Traveled (VMT)</p> <p>Since motor vehicles are the biggest source of GHG emissions in the region, the plan must capture and measure changes in VMT that result from implementation of the 2019 RTP. This is required by state law. Hope this input helps you develop the most effective RTP update possible.</p>

## Draft Transportation Network Performance Measures

# Peer Review Panel Biographies



### David Haynes

#### Long Range Planning Manager, Atlanta Regional Commission

David Haynes has been with the Transportation Access and Mobility Group of the Atlanta Regional Commission (ARC) since June 2001. In his current role, he is responsible for overseeing development of the Regional Transportation Plan for the 20-county Atlanta metropolitan planning area and coordinating those efforts with other agency initiatives. The group he manages works directly with city, county, state and federal agencies; transit operators; elected officials; consultants; and the public to define regional goals, policies, and priorities for transportation funding. Prior to joining ARC, he worked in the private sector as a transportation planning consultant with the firms of Post, Buckley, Schuh & Jernigan and Day Wilburn Associates for a combined nine years. David earned his Bachelor's and Master's degrees in Civil Engineering, with an emphasis on transportation, from Auburn University.



### Rosella Picado

#### Associate Vice-President, WSP

Rosella Picado is a Technical Principal with the Systems Analysis Group at WSP USA. She has 20 years of work experience in transportation planning, travel demand modeling and forecasting, and project management. She has led the conceptual and technical development of urban and statewide models, including traditional trip-based models and activity-based travel demand models. Rosella has applied regional and statewide models to support a variety of planning studies, such as congestion pricing, HOV/HOT lane conversions, long-range regional plans, and fixed guideway transit projects.



### Eric Pihl

#### FHWA Resource Center Freight and Transportation Performance Management Team

Eric Pihl is a member of the Freight and Transportation Performance Management team, one of several teams within the Federal Highway Administration's Resource Center. He provides technical assistance, technology deployment, and training to partners and customers in all areas of freight, asset management, and transportation performance management. Eric also provides support to state and local agencies in the development, refinement, and application of travel forecasting and planning analysis methods. Eric has contributed to national research projects related to forecasting and the integration of planning, land use, and operational analysis tools. He holds graduate degrees in urban planning and transportation engineering from Georgia Tech.



### Dr. Sherry Ryan

#### Professor, City Planning and Director, School of Public Affairs, San Diego State University (SDSU)

Dr. Sherry Ryan was appointed Interim Director of the SDSU School of Public Affairs in summer 2017. Dr. Ryan joined the school's faculty in fall 2002 as an Assistant Professor of City Planning. Her research interests focus on active transportation planning, travel behavior/land use interactions, and community health. She has published numerous journal articles on travel behavior, land use patterns, and the built environment's effects on health. She also has served as a consultant project manager for local and regional planning efforts in Southern California, Arizona, and Mexico, including the City of San Diego's 2013 Bicycle Master Plan update, the first SANDAG Regional Bike Plan in 2010, and multijurisdictional planning efforts in Guadalajara, Jalisco and Leon, Guanajuato. One of her recent projects – the City of San Diego's Pedestrian Crossing Policy Update – received the Center for Disease Control and Prevention Excellence in Pedestrian Safety Research Award in 2013. Dr. Ryan earned her undergraduate degree at Princeton University, and an M.S. and Ph.D. at the University of California, Irvine.

# Draft Transportation Network Performance Measures

## Peer Review Panel Biographies



### Jeff Shelton

**Associate Research Scientist, Texas A&M Transportation Institute (TTI) and Program Manager, Research and Implementation Office in El Paso**

Jeff Shelton received his Bachelor and Master of Civil Engineering degrees from the University of Texas at El Paso and is currently a Ph.D. student at New Mexico State University. His career experience includes leadership roles in network-wide simulation modeling, freeway corridor management, managed lanes, operational planning, and border studies. Mr. Shelton is considered a leading expert in multi-resolution modeling and has provided FHWA sponsored dynamic traffic assignment workshops for various DOT and MPO personnel that focus on multi-resolution modeling concepts and policy; transportation needs of the elderly; techniques for the evaluation of transportation systems and performance measurement in transportation planning. His research also addresses issues of equity in transportation policy.



### David Vautin, AICP

**Principal Planner/Analyst, Metropolitan Transportation Commission and Association of Bay Area Governments (MTC/ABAG)**

David Vautin has led MTC/ABAG efforts in the fields of performance assessment and performance monitoring throughout the past seven years. David's work has been particularly influential in the development of Plan Bay Area and Plan Bay Area 2040, the two most recent comprehensive long-range plans developed for the nine-county San Francisco metropolitan area. He also acts as the project manager for Vital Signs, the Bay Area's award-winning performance monitoring initiative which tracks a comprehensive suite of metrics related to transportation, land use, economic development, environmental protection, and social equity. He received his M.S. in Civil Engineering from the University of California, Berkeley and his B.S. in Civil Engineering from Cornell University.



## **San Diego Forward: The 2019-2050 Regional Plan Draft Transportation Network Performance Measures Peer Review Panel Comments**

Wednesday, January 17, 2018

8:30 a.m. to 5 p.m.

San Diego Association of Governments, 401 B Street, Suite 800, San Diego, CA

### **Overarching Comments**

- Reduce the number of key questions and performance measures. Focus on the key areas of concern for the region.
- Keep one or a small number of performance measures per key question. Other performance measures can be kept in a separate part of the plan.
- Recommendation for using significant variation in the network scenarios so the performance measure can have a diversity of outcomes.
- Use graphics and simple descriptions to help answer the questions: what does this mean, and why does this matter.

### **a) Will the proposed performance measures be effective for distinguishing the performance of various scenarios?**

- The measures are as good as the scenarios. If scenarios are quite different, then the measures will tell a story.
  - If scenarios are the same, you will box yourselves in.
  - Difficult to show variability across all scenarios.
  - If measures are applied to the affected population, then you will see variability in scenarios.
- Streamline the number of measures that you have; with more measures, you are paralyzed by data. The simpler, the better (Primary Metrics: mode share, congested delay, safety, equity measure, greenhouse gas [GHG]/per capita, public health (7a-b), and State of Good Repair and/or Resiliency).
  - Measures should be consistent over time, use quality data, and be easy to explain.
  - Metrics to assess what the key social equity measure that is the most important. Question 5 is one to explore.
  - One topic area, one measure.
  - Fewer measures can produce better discussion and fewer measures equal less opportunity for conflicting measure results.

San Diego Forward: The 2019-2050 Regional Plan  
Draft Transportation Network Performance Measures Peer Review Panel Comments  
January 17, 2018

SANDAG

- For each scenario, how much capacity is added by mode? Since bike and walk (and potentially transit) mode shares are relatively small, should we be using supply measures, as opposed to behavior. The capacity by mode for these networks is so vastly different, why would we expect similar performance across modes? Almost impossible to compare. Is there a way to include some measure of capacity? Consider quality of the network.
- (6) Trying to compare these across scenarios, you may not learn anything. But comparing the preferred scenario, looking if the trends are going in a favorable direction.
- May want to look at how the plan would perform under different scenarios—technology, economy, alternative futures. Look at bookends.
- Evaluation criteria need to relate to Performance Measures.

**b) Do the proposed performance measures address plan goals, policy objectives, and comments received?**

- Fixing America’s Surface Transportation (FAST) Act monitoring assessment can be done as an appendix to the plan itself.
- (1b) Change to delay instead of \*significant\* level of delay (balance with the FAST Act requirement). “Excessive delay”. Mostly a vehicle based measure. Most other measures are multimodal.
- Address the equity related metrics by focusing one questions on equity. Further, what is the main concern to be reflected within this measure—environment? Mobility? Accessibility?
  - (5a) Change in income will always show disparity of income groups, but we need a way to proportionally address the equity issue.
- Do you want to emphasize access or outcomes?
  - Having appropriate denominator for number of people who have access – “available persons”—if people are not in access sheds, then they should not be counted in the measures.
  - Percentage of jobs within 30 minutes of transit travel time. Meaningful, yes. Perhaps more useful than the availability.
  - (6a, 6b) Provide the ability to test the availability and accessibility of a service.
  - (6a-c) Not outcome based, but asks if the plan is providing the infrastructure that would influence mode choice.
  - (6d) Does not make sense to keep with the land use assumptions being held constant.
- Share of employment/schools and share of retail in 15 minutes.
  - Maybe do not need to report for drive alone as it probably will not change much—maybe just transit?
  - Spurred discussion on putting other numbers in the appendix.
- Regional Strategic Planning Model tool from Oregon—Atlanta Regional Commission is part of a consortium nationwide to build out for autonomous vehicle. Transit numbers within percent of activity-based modeling. VisionEval—designed as policy level screening tool to attempt to deal with uncertainties.
- Autonomous Vehicles – did not have recommendation on quantitative methodology.

**c) How could these proposed performance measures be improved, either generally or in response to comments received from SANDAG working groups, Policy Advisory Committees, and the public?**

- (1) Is there a way to pull these key questions apart so that they are mutually exclusive? With one mode's improvement, it may affect another mode.
- Measure (1a) Consider change in travel time, or delay, as opposed to a travel time only metric.
  - This measure is easily understood but may not be very different between scenarios (bike/ped as an example). Travel time is dependent on access to that mode. Applies to transit, walk, and bike, at least.
  - Consider addressing disadvantaged communities as targeted populations for this measure.
  - (7a relating to 1a) Consolidate the two?
- Federal measures
  - (2a) FAST Act includes telework, so consider including that in the measure.
  - (3) There are federal measures related to transit asset management and safety—where do these fit in to the overall performance measures?
- (2b) Every mode will have more trips in the future compared to base year. It's not the number but the change in percent that matters. Non-Single Occupant Vehicle mode share percent is the federally recognized measure.
  - Regional mode share—focus on where the facilities are located and what type of mode share you are getting along those investment areas/corridors. Focus on the denominator.
- Look at mode share within mode capacity. What is the theoretical capacity of each mode. Are we adding service or options for the future to get ahead of the curve when it comes to the shifts in society and attitudes, and should we be paying attention to how many people transit could carry versus how much it is carrying today?
  - Counter, what does capacity tell you if mode share is not affected? Is the service effectively being used?
- (4b-c) Reliability: having the measure there helps you move toward federally established target. Explore the reliability metric and test sensitivities. Ways to express travel time variability that is more understandable. Consider renaming reliability measure so that not the same to Federal PMs (may cause confusion between the two if keep measure the same since baseline and methodologies are different).
  - Reliability measure—did not have specific recommendation.
  - Does not have to be same as FAST Act. May be new model element.
  - Reliability –look at Maricopa Association of Governments approach.
  - Consider reliability as an index.
- (8a-b) How many people do not live within 15 minutes from a park? Will the measure tell you much? Because land use is not adjusted, will this move the needle? Will the scenarios be able to show a difference of access by transit? Perhaps just look at the transit.
  - 15 minutes for a transit trip is too short. The thresholds may need to be different by mode.

- Percentage of those destinations with access to transit. Flip the question around. What share of the region’s medical facilities are within reach to households by transit?
- Percentage of jobs within 30 min within reach to households by transit.
- (10a-b) Take the per capita GHG and slice it by source—incremental buildup of GHG reductions (land use, transit and road investment, climate/Transportation Demand Management programs, etc.—all different ways that you are meeting the state target).
- How do these measures relate to freight? Is there a better freight measure?
- Economic argument: try and boil down the road and bridge condition by pairing down to the Disadvantaged Communities areas. Take care of the basics to influence investment. Not model-able.
- As we do with high quality transit, consider high-quality bike facilities vs. all other bike facilities (high quality would be separated facilities-class 1 and class 4).

**d) Should additional performance measures be considered or should proposed performance measures be dropped? Are there key questions that should be added, eliminated, or modified?**

- Vibrant Economy Goal-- Consider a variety of assumptions related to State of Good Repair. Seems to be too siloed. Include in the conversation certain funding sources as flexible. Measure: Share of pavement in good condition, share of bridges in good conditions (federal asset management measures), etc. Federal measure.
- Consider deleting the benefit cost ratio (4a) and potentially reliability measures (and analyze outside of the PMs).
  - Benefit-Cost Ratio —more valuable at the project level. State of Good Repair might be a more valuable measure. Looking in disadvantaged communities – having other positive effects in investments.
  - (4a) Straightforward measure to some, others see as challenging measure. What is your audience?
  - Chamber of commerce likes the Benefit-Cost Analysis ratios but doesn’t resonate with public. Hard to explain it to people.
- (3) Try and quantify the safety benefits of bike/ped to try and scale down the injury/fatality rate. Based on research, put in X facility to realize X reduction in injury/fatality.
  - Perception of Safety (in particular relation to transit and walk/bike)—perceived and actual differ. How to measure? Survey data incorporation. How to address? Improving the perception of safety to influence choice riders.
- Social Equity Analysis—new goal area or measure geared toward equity. Does X measure equitably address X issue. Consider for 1a, mode share, access, air quality. 5a does not consider environment, time, and other aspects that address equity.
  - For the equity measures – Can we include the zero-car household variable? Perhaps add to 8a-b to include another layer of analysis for zero car households.
- (6a-6d) Instead focus on 7. Perhaps you will not see any travel distance to work change because you are not varying the land use.

- (6d) If you do not change the land use, then you will not see a difference. Recommend dropping, or moving to tier-2 (appendix).
- Utilization measure—seated capacity—are we using our facility effectively? Would expose bad investments.
- If resilience is a core part of your plan, then perhaps a few metrics are useful; this is a hot topic. From a SANDAG perspective, perhaps resiliency gets wrapped up into State of Good Repair. Consider as part of the plan’s action element.
- MTC has papers on State of Good Repair influence on network performance.

**e) What performance measures best lend themselves for subregional analysis and what geographies are recommended?**

- Focus on severely congested areas—doing analysis in these areas/corridors. Could use Congestion Management Program (CPM) network, or develop thresholds of delay and focus on those areas.
  - Consider your CMP—are there measurements (bottlenecks, delay) that can be transferred to the PMs? Consider some of the metrics in the State of the Commute.
- System Performance within high-activity centers.
  - Consider looking at the Port areas as major distribution centers.
- Subregional geographies – consider land use typologies (ARC’s example of Livable Communities Initiative and how they looked at regional growth being captured in these Smart Growth areas—how many trips being made in those areas. Different than other parts of the region). SANDAG equivalent of Smart Growth Opportunity Areas.
  - Consider about five to ten subregional areas.
  - Subregional analysis helpful but do we have the resources to vet and view these areas? Need to have the confidence to vet these subareas.
  - If there is a subregional story to tell, then great. If not, stay at the regional level.
  - Interactive maps of some of these indicators to see hot spots.
- The more you throw into this analysis, the more you strip out.
- Equity groups – low-income.
  - Focus on disadvantaged populations – would the model be sensitive to all included subpopulations? Or would that be redundant? Senior and youth could be non-driving populations and low-income also.

**f) What lessons learned can you pass on to SANDAG from past similar work or experience?**

- The scenarios themselves should vary. Choose measures that will provide this variability. Revenue levels? Flexed State of Good Repair investment? Land Use? Give yourself some room to work with; don’t just narrow the discussion to TransNet projects.
- Measurements that are easy to calculate, easy to explain, with good, solid data. Simple.
- Graphics. Put up simple graphics to easily understand the issue/task.

- If you can, be okay with the willingness to fail. Do not be afraid of failure—can use metric that shows things moving in the wrong direction to advocate for more funding.

**g) Are the proposed performance measure methodologies and data sources sound?**

- (1a) Valuable to keep as a national benchmark.
- (3) Conservative assumptions for CV/AV market penetration. Perhaps not enough information to address safety at this point. Qualitative description in plan write-up of potential benefits, instead. Qualitative measures for some of these questions; for example, AVs and safety.

**h) What recommendations do you have about how to communicate the data generated by the performance measures to the public in an easy to understand and meaningful way?**

- Do not let the thumbs up/thumbs down dictate all. Provide 1-2 sentence descriptors of why the trend is good or bad so people know why you did XYZ and why it matters. (see ARC's performance chapter in Plan).
- Images—create one short takeaway—why this matters.
  - MTC as an example of good visuals e.g. Vital Signs. MTC's visualizations of investments to scenarios, going to look at adding scenario info to Vital Signs.
  - TTI – Color-coded dynamic maps, blue to red, easy and well-understood. Texas—heat maps with associated colors (red-bad; green-good).
  - Travel time sheds – concentric circles showing how far you can travel within peak time frames.
  - Interactive maps to show the data. Show how things get worse in No Build through the scenarios.
- Some of these metrics are correlated, so consider the trends of grouped metrics, and reference all other metrics in appendix. Two-tiered system of performance measures.
  - If there are remaining PMs outside of the primary metrics, you can still look at them outside of the PM analysis.
- (3) Opportunities to describe where these technologies might provide the greatest benefit by mode. Look at the literature, describe the range of assumptions, and consider the landscape where these benefits could see the largest improvement.
  - If you assume level of benefit within scenarios, be transparent.

## Key Questions and Draft Performance Measures

2019 Regional Plan Goals	Key Question	Draft 2019 Regional Plan Transportation Network Performance Measures	Proposed for Inclusion in Social Equity Analysis
<b>Innovative Mobility and Planning</b>	1. Is delay reduced?	1a. Daily vehicle delay per capita (minutes)	
	2. Are more people walking, biking, using transit, and sharing rides?	2a. Percent of trips by walk, bike, transit, and carpool (work trips and all trips)	
		2b. VMT (per capita and regionwide)	
	3. Is the transportation system safer?	3a. Vehicular fatalities and serious injuries per capita	
		3b. Non-motorized fatalities and non-motorized serious injuries per capita	
<b>Vibrant Economy</b>	4. Do the transportation investments help to improve the regional economy?	4a. Benefit/Cost Ratio of transportation investments	
<b>Healthy Environment and Communities</b>	5. Does the transportation network support smart growth?	5a. Percentage of population/employment within 0.5-mile of high-frequency ( $\leq 15$ min peak and midday) transit stops	X
		5b. Percentage of population/employment within 0.25-mile of a bike facility (Class I and II, cycletrack, and bike boulevard)	
	6. How does the transportation network support public health?	6a. Time engaged in transportation-related physical activity per capita (minutes)	X
	7. Is access to jobs and key destinations improving for all communities?	7a. Percent of population within 30 minutes jobs and higher education (via driving, transit) (total population, disadvantaged communities (seniors, low-income, and minority), and non-disadvantaged communities)	X
		7b. Percent of population within 15 minutes of goods and services (retail, medical, parks, and beaches) (via driving, transit) (total population, disadvantaged communities (seniors, low-income, and minority), and non-disadvantaged communities)	X
8. Are greenhouse gas emissions reduced?	8a. On-road CO <sub>2</sub> emissions (pounds/day) (per capita and regionwide)		

*The Social Equity analysis metrics include the total population, disadvantaged communities (seniors, low-income, and minority), and non-disadvantaged communities.*

## Additional Draft Performance Measures

2019 Regional Plan Goals	Draft 2019 Regional Plan Additional Performance Measures	Proposed for Inclusion in Social Equity Analysis
<b>Innovative Mobility and Planning</b>	A. Average peak-period travel time to work (drive alone, carpool, transit, bike, and walk) (minutes)	X
	B. Average travel times to/from tribal lands (minutes)	
	C. Average travel times to/from Mexico (minutes)	
	D. Average travel times to/from neighboring counties (Imperial, Orange, Riverside) (minutes)	
	E. Average travel times to/from military bases/installations (minutes)	
<b>Vibrant Economy</b>	F. Change in percent of income consumed by transportation costs	X
<b>Healthy Environment and Communities</b>	G. Percentage of population/employment within 0.5-mile of a transit stop	
	H. Percent of population engaging in more than 20 minutes of daily transportation related physical activity	