![Fresno Council of Governments logo]

Fresno Council of Governments

2035 Tulare St., Ste. 201   tel 559-233-4148
Fresno, California 93721   fax 559-233-9645

www.fresnocog.org

**Regional Transportation Plan and Sustainable
Communities Strategy Roundtable**

Date: Wednesday, September 23, 2020
Time: 2:00 PM
Place: COG Ash Conference Room
**   2035 Tulare St., Suite 201, Fresno, CA**

Americans with Disabilities Act (ADA) Accommodations
The Fresno COG offices and restrooms are ADA accessible. Representatives or individuals with disabilities should contact Fresno COG at (559) 233-4148, at least 3 days in advance, to request auxiliary aids and/or translation services necessary to participate in the public meeting / public hearing. If Fresno COG is unable to accommodate an auxiliary aid or translation request for a public hearing, after receiving proper notice, the hearing will be continued on a specified date when accommodations are available.

**OUT OF AN ABUNDANCE OF CAUTION REGARDING THE COVID-19 VIRUS THE SEPTEMBER 23, 2020, RTP
ROUNDTABLE MEETING AT 2:00 A.M. WILL BE HELD VIA ZOOM.**

JOIN ZOOM MEETING:
HTTPS://ZOOM.US/J/99337546845?PWD=CGXSV3LNRGT2B2JHAFI0VXFUYKVRQT09
MEETING ID: 993 3754 6845
PASSCODE: 930287

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THE RECORD.**

TO FACILITATE ELECTRONIC ACCESS, NO PERSON SHALL SPEAK UNTIL RECOGNIZED BY THE CHAIR.

RTP/SCS Roundtable Meeting Agenda and Annotated Agenda in PDF

I.   **WELCOME AND INTRODUCTIONS (Rob Terry)**

   A.   **ROLL CALL (Jeaneen Cervantes)**

II.   **NEW INFORMATION/DISCUSSION ITEMS**

A. **RTP/SCS Roundtable Meeting Minutes of August 26, 2020 [APPROVE]**

B. **Fresno Futures Defined (Seth Scott) [APPROVE]**

C. **RTP Transportation Needs Outreach Update (Brenda Veenendaal) [INFORMATION]**

D. **Introducing ABM - Modeling 101 (Seth Scott) [INFORMATION]**

E. **Consultant Selection for Legal Services for the Development of the 2022 RTP/SCS, Program Environmental Impact Report, and Regional Housing Needs Allocation Plan (Meg Prince) [INFORMATION]**

F. **Policy Element Subcommittee (Meg Prince) [INFORMATION]**

III. **OTHER ITEMS**

   A. **Items from Staff**

      1. **Request for Proposals for the 2022 RTP/SCS Environmental Impact Report (Meg Prince) [INFORMATION]**

   B. **Items from Members**

IV. **PUBLIC PRESENTATIONS**

This portion of the meeting is reserved for persons wishing to address the Roundtable on items within its jurisdiction but not on this agenda.

Note: Prior to action by the Roundtable on any item on this agenda, the public may comment on that item. Unscheduled comments may be limited to 3 minutes.

Upcoming meeting dates:

October 28, 2020 from 2-4 p.m.

November 18, 2020 from 2-4 p.m. (Third Thursday)

TENTATIVE - December 16, 2020 from 2-4 p.m. (Third Thursday)

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RTP/SCS Roundtable Meeting Agenda and Annotated Agenda in PDF

Exhibits: Agenda   Annotated Agenda

I.   **WELCOME AND INTRODUCTIONS (Rob Terry)**

A. **ROLL CALL (Jeaneen Cervantes)**

II. **NEW INFORMATION/DISCUSSION ITEMS**

A. **RTP/SCS Roundtable Meeting Minutes of August 26, 2020 [APPROVE]**

Exhibits:
 Meeting Summary

B. **Fresno Futures Defined (Seth Scott) [APPROVE]**

Exhibits:
 Futures Characteristics

Summary: Fresno COG will implement futures planning in its 2022 RTP/SCS scenario analysis, which envisions extreme future conditions against which the scenario strategies can be tested. In July, the RTP Roundtable recommended the development of three Futures for use in scenario analysis: Extreme Climate, High-Tech Innovation, and Regulatory Challenges. Since then, the SCS Technical Committee has, over the course of three meetings, developed language for each of these Futures, including narrative descriptions and categorized lists of impacts. The draft language developed by the SCS Technical Subcommittee is attached for consideration.

Action: COG staff requests a recommendation of approval for the three Futures (ExtremeClimate, High-Tech Innovation, and Regulatory Challenges) as described in the narrative descriptions and lists of impacts.

C. **RTP Transportation Needs Outreach Update (Brenda Veenendaal) [INFORMATION]**

Summary: Fresno COG's 2020 Transportation Needs Survey is providing an opportunity for Fresno County's residents to submit transportation project needs/suggestions via an online portal. Those projects could, in turn, become part of the next Regional Transportation Plan (RTP) currently undergoing an update.

The survey was launched on September 9th and will close on October 15. It is most easily accessed through Fresno COG's RTP website www.planfresno.com on the RTP Survey page.

Outreach is being conducted in English, Spanish and Punjabi, with translation and interpretation services provided by our RTP mini-grant groups. All of the transportation suggestions received will be translated (where needed) and relayed to local agencies for review and consideration. The effort will conclude prior to the RTP call for projects release on November 1, 2020.

The Transportation Needs Survey will be advertised throughout the survey period through various means by mini-grant organizations and Fresno COG. Invitations and requests for project suggestions have been posted to our websites, emailed to our enews database and shared through social media posts and advertising. Some virtual meetings are being scheduled, and phone banking will be used as a replacement for in-person workshops and door to door canvassing through the mini-grant agencies.

The online survey asks that participants drop a marker on a map of Fresno County to show where their suggested project is or would be located. Then participants are asked to describe the transportation need/suggestion, attach a photo of the area if available, and answer relevant demographic questions.

Fresno COG is asking for additional outreach opportunities through committees, member agency and community partners. We are looking for opportunities to either obtain a contact list or have emails and social posts forwarded and shared. We also welcome opportunities to speak at established community or community meetings.

All inquiries or outreach referrals should be communicated to Brenda Veenendaal at brendav@fresnocog.org. Staff will provide a brief presentation on the survey and planned outreach.

Action: Information only. The Committee may provide additional direction at its discretion.

D. **Introducing ABM - Modeling 101 (Seth Scott) [INFORMATION]**

   Exhibits: 📄 Modeling 101 Slides

   Summary: Fresno COG relies on various models to perform analysis in the RTP/SCS, most notably the Fresno Activity-Based Model (ABM). While the ABM is necessarily complex, the concepts it employs are intuitive and represent a significant improvement in both functionality and quality over the previous 4-step traffic model (VMIP2). Staff felt a primer on the concepts, functionality, and scope of the Fresno ABM would be helpful to aid this body in understanding the technical work related to the development of the RTP/SCS.

   As such, COG staff is happy to give a brief presentation explaining how the Fresno ABM works, what it does, how it differs from previous models, and how it will be used in the 2022 RTP/SCS.

   Action: Information only. Direction may be provided at the discretion of the committee.

E. **Consultant Selection for Legal Services for the Development of the 2022 RTP/SCS, Program Environmental Impact Report, and Regional Housing Needs Allocation Plan (Meg Prince) [INFORMATION]**

   Summary: This is an update regarding the legal services contract that was brought to the RTP Roundtable in August.

   Fresno COG released a request for proposals on August 10 for legal assistance with three planning efforts over the next couple of years – the 2022 RTP/SCS, the Program Environmental Impact Report (PEIR) for the RTP/SCS, and the 6th Cycle Regional Housing Needs Allocation (RHNA) Plan.

   Proposals were due on August 31, and Fresno COG received one proposal from Best Best & Krieger (BB&K). A consultant selection committee comprised of representatives from the County, Fresno, Reedley, Mendota, FCRTA, and the RTP Roundtable reviewed the proposal and all concurred that BB&K is well qualified for the scope of legal counsel. A few of the selection committee members have had personal experience working with BB&K, which was all positive. Additionally, BB&K provided legal counsel for development of the 2018 RTP/SCS and corresponding Program EIR and was very knowledgeable and responsive.

   The contract amount is not to exceed $75,000 and is expected to kick off in October, with the Policy Board's approval on September 24.

   Action: Information only. Direction may be provided at the discretion of the committee.

F. **Policy Element Subcommittee (Meg Prince) [INFORMATION]**

   Summary: California Government Code Section 65080 requires each RTP to include a Policy Element that describes the transportation issues in the region, regional needs, and is consistent with the Financial Element. The Policy Element is one of the first components of the RTP to be developed, and its purpose is to identify legislative, planning, financial and institutional issues and requirements, as well as any areas of regional consensus.

   As with the 2018 RTP, Fresno COG is convening a Policy Element Subcommittee to assist with the development of the Policy Element. In past RTP cycles, the Policy Element has been added to or revised based on the previous version. The 2022 Policy Element will be redeveloped based on the updated guidance from the RTP Guidelines in 2017 and SCS Evaluation Criteria in 2019.

   It's anticipated that the Policy Element Subcommittee will meet via Zoom conference meeting several times between November 2020 and February 2021 to develop the draft Policy Element prior to bringing the draft Policy Element outline to the RTP Roundtable for review and comment in March 2021.

   If you are interested in participating in the Policy Element Subcommittee or would like to be added to the email distribution list, please contact Meg Prince at mprince@fresnocog.org.

   Action: Information only. Direction may be provided at the discretion of the committee.

III. **OTHER ITEMS**

    A. **Items from Staff**

        1. **Request for Proposals for the 2022 RTP/SCS Environmental Impact Report (Meg Prince) [INFORMATION]**

    B. **Items from Members**

IV. **PUBLIC PRESENTATIONS**

This portion of the meeting is reserved for persons wishing to address the Roundtable on items within its jurisdiction but not on this agenda.

Note: Prior to action by the Roundtable on any item on this agenda, the public may comment on that item. Unscheduled comments may be limited to 3 minutes.

Upcoming meeting dates:

October 28, 2020 from 2-4 p.m.

November 18, 2020 from 2-4 p.m. (Third Thursday)

TENTATIVE - December 16, 2020 from 2-4 p.m. (Third Thursday)

I. WELCOME AND INTRODUCTIONS (Kristine Cai)

The meeting was called to order by Mr. Terry, Chair at 2:03 p.m.

A. ROLL CALL (Jeaneen Cervantes)

Rob Terry, City of Reedley
David Merchen, City of Clovis
Dan Zach, City of Fresno
John Jansons, City of Kerman
Mohammad Khorsand, County of Fresno
Crystal Yunker, San Joaquin Valley Air District
George Uc, LAFCo
David Padilla, Caltrans
Carolina Ilic, Public Transportation Urban
Tina Sumner, Active Transportation
Eric VonBerg, Broad-Based Business
George Cummings, Education
Adam Livingston, Environmental
Keith Berthold, Public Health Advocate
Gail Miller, Public at Large
Jim Hunter, Public at Large
Sal Petrucelli, Public at Large
Napallo Gomez, PG&E
Paul Sereno, City of Huron
Mike Prandini, Building Industry Association
Isaac Moreno, City of Selma
Moses Stites, Fresno County Rural Transit
David Brletic, City of Sanger

II. NEW INFORMATION/DISCUSSION ITEMS

A. RTP/SCS Roundtable Meeting Minutes of July 22, 2020 [APPROVE]

Changes noted by Chair Terry. Correction will be made.

After an opportunity for public comment, Ms. Sumner (Cycling Club) motioned and Mr. Petrucelli (Public-at-Large) seconded to approve the minutes with corrections. The motion passed, 22 yes votes.

B. RTP 2020 Public Opinion Survey Report (Brenda Veenendaal) [ACCEPT]

Ms. Veenendaal (FCOG) reported that in early in 2020, the Fresno Council of Governments sought to contract with a research consultant to conduct an opinion survey for which participants were to be reflective of Fresno County's demographics, including the Spanish speaking population and adequate rural representation.

Rea & Parker Research was selected to be the consultant and was tasked to survey the ranking of defined community values and transportation funding priorities from the sample population. Along with these value and funding priority questions, the survey was planned to include population demographics and trip/travel characteristics.

Ten "community values" and nine "transportation funding priorities" were agreed upon by Rea & Parker Research and Fresno COG. The survey consultant presented results to the Roundtable.

This item was informational only; no further action was required.

C.   Project Scoring Criteria (Suzanne Martinez) [APPROVE]

Ms. Martinez (FCOG) reported that the RTP Programming Technical Working Group has developed draft project scoring criteria for the 2022 RTP. A document representing the result of three meetings, where participants reviewed the criteria from the 2018 plan and updated them for this round was provided. Substantive changes were made, including the addition and removal of criteria, points awarded per question, how criteria apply to the various project modes, and general verbiage updates throughout.

One significant change from the last plan's criteria is how submitted projects will be categorized. In the previous plan, each project belonged to only one of five modes (bike & pedestrian, capacity increasing, maintenance, operations, or transit), and each project was evaluated strictly by the criteria applicable to the chosen mode. This round, the approach was taken to allow multi-modal projects to be evaluated by all applicable criteria, which allows for more flexibility in how projects are scored and funded.

COG staff is grateful to those who participated in the working group for their focused and detailed engagement in this highly technical process.

After an opportunity for public comment, Mr. Oldham (New Technology) motioned and Mr. Petrucelli (Public-at-Large) seconded to approve the draft scoring criteria for incorporation into the 2022 RTP. The motion passed, 21 yes votes.

D.   RTP Mapping Capabilities (Seth Scott) [INFORMATION]

Mr. Scott (FCOG) reported that staff added mapping data to all the projects from the 2018 RTP constrained list. In the 2022 plan and beyond, COG will be asking its member agencies to verify or update location information for each project they submit in the call for projects. This means that COG staff will be able to view, publish, and analyze all future submitted projects by spatial location, which addresses suggestions and appeals from stakeholders to include this functionality in past plans.

COG staff is pleased to showcase some of the ways these new data can be analyzed and presented. It is staff's hope that the examples presented will help educate the Roundtable on the types of information now available, as well as spark the imagination of those who might suggest further analyses and reports as may be useful or informative as work on the plan continues.

This item was informational only; no further action was required.

E.   Request for Proposals for Legal Services for the Development of the 2022 RTP/SCS, Program Environmental Impact Report, and Regional Housing Needs Allocation Plan (Meg Prince) [INFORMATION]

Ms. Prince (FCOG) reported that Fresno COG released a request for proposals on August 10 for qualified consultants or firms to provide legal assistance with three planning efforts over the next couple of years – the 2022 RTP/SCS, the Program Environmental Impact Report (PEIR) for the RTP/SCS, and the 6th Cycle Regional Housing Needs Allocation (RHNA) Plan.

In the last RTP cycle, the attorney that was on the PEIR contract also provided legal advice for the development of the RTP/SCS as well. Fresno COG felt it was beneficial to have an experienced attorney available to help with questions regarding procedures, review documents and public notices, and help respond to comment letters.

The 2022 RTP/SCS cycle is occurring in tandem with the development of the state-mandated 6th Cycle Regional Housing Needs Allocation Plan. The RHNA Plan will identify the number of housing units that each local government must accommodate in the Housing Element of its General Plan. Fresno COG staff feels that it would be beneficial to have legal assistance with this effort as well.

Proposals are due on Monday, August 31, and it is anticipated that consultant interviews would take place on Wednesday, September 8. The contract amount is not to exceed $75,000 and is expected to kick off in October.

Fresno COG is seeking representatives of member agencies and the RTP Roundtable to participate in the consultant selection process. If you are interested, please contact Meg Prince.

This item was informational only; no further action was required.

F.   Regional Transportation Plan Project Suggestions Virtual Public Workshops for Online Input (Brenda Veenendaal) [INFORMATION]

Ms. Veenendaal (FCOG) reported that Fresno COG staff, working with the three Regional Transportation Plan Mini-Grant recipient organizations, will host virtual community workshops and solicit public input throughout the month of September and into early October 2020. To date, the outreach will be conducted in English, Spanish and Punjabi, with translation and interpretation services provided by the mini grant groups.

Fresno COG is developing an online survey for the outreach, allowing community members opportunity to provide transportation project suggestions that could be submitted by local agencies in response to the RTP Call for Projects scheduled on November 1, 2020. The workshops will be advertised through various means by Mini-Grant organizations and Fresno COG. Invitations and requests for project suggestions will be posted to websites, emailed to databases and shared through social media posts and advertising.

The online survey being developed for project suggestions will request that participants open the map of Fresno County and drop a dot or draw a line showing where their suggested project is located. Then they will be asked to describe the improvement and indicate which of the following categories it fits most closely: Streets and Roads, Transit, Active Transportation and New Technology.

In early October, Fresno COG staff will process the submitted transportation suggestions and forward all of them to local agencies for consideration. Staff plans to launch the online survey by September 8, 2020 and will be looking for outreach opportunities through the RTP Roundtable membership. All such opportunities should be communicated to Brenda Veenendaal.

This item was informational only; no further action was required.

III. OTHER ITEMS

A.   Items from Staff
- Mr. Scott (FCOG) reported that the SCS Technical Committee had its first meeting and will meet twice a month. The SCS Technical Committee will discuss Futures, Indicators and Scenarios. Items from the Committee will be brought to the Roundtable for discussion and approval.

B.   Items from Members
There were no items from members.

IV. PUBLIC PRESENTATIONS
There were no public presentations.

Upcoming meeting dates:
September 23, 2020 from 2-4 p.m.
October 28, 2020 from 2-4 p.m.
November 18, 2020 from 2-4 p.m. (Third Thursday)

The Meeting was adjourned at 3:46 p.m.

Members of the Public:
Matt Gillian, Inspiration Transportation
Anthony Molina, Fresno Cycling Club
Diana Sedigh-Darbandi, FCTA
Sophia Pagoulatos, City of Fresno
Greg Barfield, Fresno Area Express
Jill Gromley, City of Fresno
Sean Smith, City of Clovis
Shelby Elia, City of Clovis
Louis Rea, Consultant
Richard Parker, Consultant

Mariah Thompson, CRLA
Michael Navarro, Caltrans
Mike Harrison, City of Clovis

FCOG Staff:
Tony Boren
Kristine Cai
Robert Phipps
Jeaneen Cervantes
Kai Han
Trai Her-Cole
Jennifer Soliz
Braden Duran
Suzanne Martinez
Brenda Veenendaal
Meg Prince
Seth Scott
Peggy Arnest
Santosh Bahattarai
Jeff Long
Todd Sobrado

Extreme Climate

The widespread effects of climate-related events are increasing in intensity and frequency. This Future analyzes the potential effects that an extreme continuation of this trend would have on the Fresno region—such as housing, economy, environment, and health.

Demographics

- Depressed population growth
    - Reduced headship rates, smaller household sizes
- Potential out-migration from the region
    - Affluent households more likely to migrate out
    - Jobs/housing imbalance
    - Shortage of seasonal workers
    - Decline in foothill and rural communities (wildfires, water availability, insurance costs, etc.)
- Higher proportion of vulnerable and low-income populations

Economy

- Increased costs in various sectors
    - More expensive consumer goods, construction, and insurance
    - High cost of living, high inflation anticipated
    - Decreased investment in business and construction due to higher costs
    - Higher unemployment, poverty
- Loss in agriculture jobs due to decreased water availability
    - Fallow lands
    - Potential food scarcity
- Strain on government agencies
    - Water, infrastructure, construction
    - Decreased tax revenue to governments
    - Increased demand/cost for services
- Loss of tourism attraction and activities

Equity

- Pollution-burdened and transit-dependent populations disproportionately affected
- Learning capacity of students decreased with extreme temperature conditions and less opportunities for physical activity
- Possible blight in disadvantaged areas as affluent households move to more temperate climates

Health & Air Quality

- Increased rate of adverse health effects
    - Increased barriers to mobility and active transportation, leading to increased medical conditions linked with sedentary lifestyles
    - Extreme temperatures and bad air quality leads to increased medical conditions (asthma, etc.)
    - Decrease in water quality could lead to adverse health effects
- Increased burden on healthcare industry
    - Higher demand for medical services
    - Scarcity of emergency response

Land Use

- Higher share of urban growth
    - Water, infrastructure strained in rural areas
    - Potential loss of housing due to wildfires and flooding in foothills
- Decrease in housing development and availability
- Possible decrease in home ownership as housing burdens rise
    - Cost of living, energy, etc.
    - Increases in construction and development costs make homes even less affordable

Natural Resources, Energy & Environment
- Increased strain on power grid due to extreme temperatures
- Increased energy and water prices, leading to greater housing burdens
- Water infrastructure changes necessary
    - Less availability of hydropower, leading to decreased power generation
    - Degradation of water quality (intoxication/contamination), decreased water availability
    - Less snowpack leads to need for more and different water storage methods
- Loss forests and resource areas due to increased wildfires and/or flooding

Transportation
- Increased burden on transportation infrastructure
    - Increased pavement deterioration rates due to extreme temperatures
    - Increased need for maintenance and higher costs of pavement materials
    - More maintenance needs due to wildfires and flooding
    - Decreased tax base leads to less transportation funding
- Less active transportation, increased dependence on vehicles, more congestion
- Less EV penetration due to energy shortages
- Greater discomfort to transit users

High Tech Innovation

We find ourselves in a world of emerging technologies that have the potential to drastically alter everyday life. This Future assumes a rapid adoption of innovations in various industries, especially transportation, and their effects on the Fresno County region.

Demographics
- Increased population growth
    - Potential in-migration of affluent workers from metro areas (Bay Area, Southern CA) attracted by lower housing costs but still working remotely for old firms
    - Population growth disproportionate to jobs
- Higher life expectancy may lead to a top-heavy age distribution, more retirees

Economy
- Widespread innovation and economic expansion across multiple sectors, especially office jobs
- Depressed economic growth in some sectors
    - Increased automation leading to decrease in manual jobs, especially agriculture
    - More online shopping could lead to a decrease in local retail jobs
    - Possible decline in commercial real estate
- Higher tax base
- Increased demand for housing

Equity
- Lack of education/skilled workforce to keep up with changing jobs climate
- Income gap widens as tech economy booms, manual workforce gets left behind
- Potentially inequitable access to high-speed Internet in low-income communities

Health & Air Quality
- Possible improvement in air quality due to decreased emissions
    - Innovations in various industries may lead to less emissions from transportation, manufacturing, etc.
    - More telecommuting may lead to less VMT
    - Increased electrification of private and freight vehicles
- Innovations in healthcare could lead to higher life expectancy
    - An aging population brings its own healthcare challenges
- Potential increase in medical conditions due to increase in sedentary lifestyles

Land Use
- Decrease in commercial development as online shopping and telecommuting becomes more commonplace
    - Potential urban blight as retail/office space becomes vacant, leading to an increase in crime
- High rate of residential development
    - Region may become more of a bedroom community as residents take more remote jobs from outside the region
- More sprawl as telecommuting increases and transportation becomes cheaper and more accessible
- Possible reduced need for parking space

Natural Resources, Energy & Environment
- Increased strain on energy grid
    - More EV penetration
    - More peak-low energy usage as more people work from home

- More bandwidth demand with the increase in smart technology
- Higher overall demand for natural resources
  - Increased sprawl leading to consumption of resource land

Transportation

- Innovation in autonomous transportation may make SOV more attractive
  - Possible increase in VMT?
  - Short-term increase in congestion, possible long-term decrease?
- Higher EV penetration, need for more charging stations
- Innovation could lead to opportunities for transit service integration/cooperation with TNCs (first/last mile etc.)
  - Autonomous shuttles? May lead to better connectivity between urban/rural areas
- Possible impacts in goods movement
  - Delivery services (e.g. GrubHub, InstaCart, etc.)
  - Delivery drones may decrease demand for ground freight

Regulatory Challenges

In response to challenges with water availability, air quality, and other concerns, Fresno County is impacted by various government policies and regulations (e.g. SAFE rule, SB 743, SGMA) to address these issues. This Future seeks to explore changing regulatory climates and the impacts such policies may have on our region, specifically with regards to land use and transportation.

Demographics
- More homeless/group quarters populations
- Less population growth expected
    - Migration out of region for those who can afford to move

Economy
- Housing price and cost of living increase
- Loss of jobs, especially in non-government sectors
    - Out-migration of jobs as businesses seek more lenient regulatory climates
    - Fallow ag lands, loss in farm employment
- Decreased tax base

Equity
- Stagnation of small rural cities/communities
    - Disproportionate impact of SGMA on cities that rely on groundwater
- Increased poverty, especially in rural areas

Health & Air Quality
- Mode shift away from SOV could lead to better air quality
- Higher demand for mental health services, especially for farm/ag workers
- Fallow land could have adverse effect on air quality (dust, particulates)

Land Use
- More regulations regarding affordable housing
    - Inclusionary zoning
    - Mandated 10-20% new development at below-market rates
    - Affordable housing development incentivized under SB 743
- Higher proportion of growth, more density in urban area
    - Higher densities, less sprawl development (SB 743)
    - RHNA density requirements
    - Limited growth in rural communities, development incentivized in urban centers due to infrastructure, water availability, and land use development regulations (e.g. SB 743)
- Economic pressure on housing supply
    - Increased demand/costs, VMT mitigation measures required (e.g. SB 743)
    - Increased mandate for solar on new housing
- Higher burdens on other sectors to decrease pollution, less investment in business/development
- Could see more farmland repurposing (e.g. solar farms)

Natural Resources, Energy & Environment
- Increased water cost
    - Extreme water shortages, heavy regulations on water use
- Loss of prime farmland as land goes fallow

- Potential strain on energy grid
  - More demand for cooling
  - More electrification, EV penetration

Transportation
- SAFE rule increases auto operation cost, changes in travel behaviors, shifts away from SOV
  - Gas tax increase with SAFE rule (could be less effective with more EV penetration)
  - Harder to pass conformity, potential less transportation funding for region
  - Possible diversion of tax revenue from transportation projects to fund other state/national priorities
- Various impacts under SB 743
  - Less funding for capacity increasing projects
  - More funding for active transportation projects
  - No distinction in SB 743 for ZEV, may act as a barrier to EV penetration
  - Density in urban area could make transit projects mor feasible, impactful
- Requirement for more EV infrastructure

Fresno Activity-Based Model

Introduction and Overview

Seth Scott, Senior Regional Planner

Fresno Council of Governments

2035 Tulare St. #201

Fresno, CA 93721

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www.fresnocog.org

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Old Model (VMIP2) vs. New Model (Fresno ABM)

Section 2: Model Calibration and Validation

How Do We Know the Model Is Accurate?

Section 1

<u>Model Capabilities</u>

Old Model (VMIP2) vs. New Model (Fresno ABM)

Travel Demand Modeling (TDM)

- Represents a computer-simulated "day in the life", given land-use and transportation system characteristics

- Allows modelers to test land-use and transportation policies against future growth
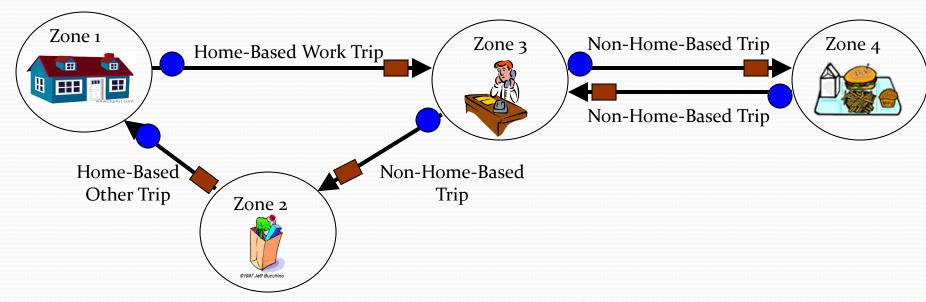
Travel Demand Modeling (cont)

- TDMs are calibrated to a base year, where the model's performance is validated against survey data and observed characteristics (e.g. traffic counts)

- Future year runs account for planned transportation improvement projects as well as projected demographic growth

- Multiple scenarios can be modeled to test possible futures (Sustainable Communities Strategy, or SCS)

Fresno ABM: A Big Improvement

The Old Model: VMIP2

- Four-step model

- Trip-based

- Trips are generated in aggregate and assigned to the traffic network

- Limited in many ways

Trip-Based Model Overview (I)

Zone 1

Home-Based Work Trip

Zone 3

Non-Home-Based Trip

Zone 4

Non-Home-Based Trip

Home-Based Other Trip

Zone 2

Non-Home-Based Trip

Production & Attraction Table

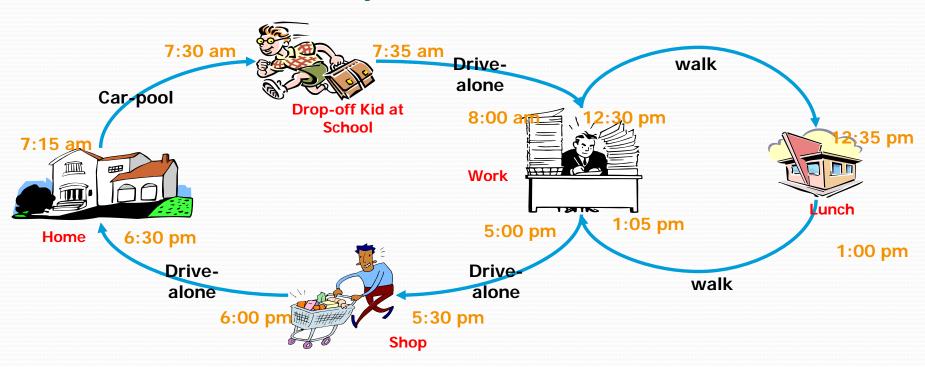| Zone	Home-Based Work (HBW)		Home-Based Other (HBO)		Non-Home-Based (NHB)	
	Prod.	Attract.	Prod.	Attract.	Prod.	Attract.
1	1		1			
2				1		1
3		1			2	1
4					1	1
Total	1	1	1	1	3	3

Criticisms of Trip-Based Models

- Lack of Behavioral Fidelity
  - The only model based on actual decision-making theory is mode choice
- "Curse of Dimensionality"
  - Adding many (micro)zones, demographic segments, trip purposes, time of day period, etc. makes run times infeasible
- Aggregation Bias
  - No information on where non-home-based trips originate
  - Temporal, spatial, socio-economic
- Insensitivities
  - Time-of-day shifts
  - Accessibility

Fresno ABM: A Big Improvement

The New Model: Fresno ABM

- Activity-based model

- Tour-based

- Trips are generated by individuals in a synthetic population

- Allows for much more robust analysis

- Model is much more sensitive to inputs

Activity-Based Model
How do Activity-Based Models view Travel?

7:30 am · 7:35 am · **Drive-alone** · **walk**

Car-pool

Drop-off Kid at School

8:00 am · 12:30 pm · 12:35 pm

7:15 am

Work · **Lunch**

Home · 5:00 pm · 1:05 pm · 1:00 pm

6:30 pm

Drive-alone · **Drive-alone** · **walk**

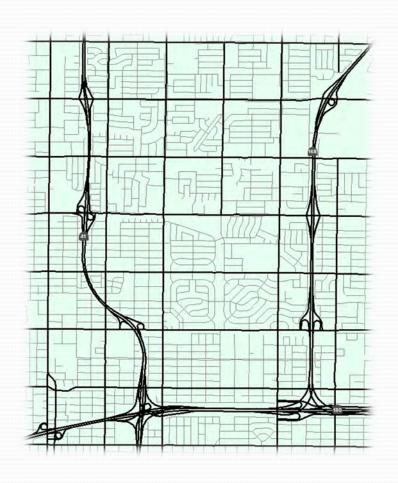6:00 pm · 5:30 pm

Shop

A set of <u>inter-dependent</u> trips!

What Makes ABM an Improvement?

- Connects travel throughout the day, similar to how decisions are made
- Is sensitive to cost, time, demographics, policies, land-use characteristics, etc.
- Allows for greater spatial and temporal detail, more types of analysis available (e.g. EJ)
- Allows greater household/person attribute detail.
- Tracks individual's travel behavior (not averages)
- Bike and walk trips are assigned to the network rather than estimated at the regional level
- Less aggregation of trip purposes

TAZs vs. MAZs

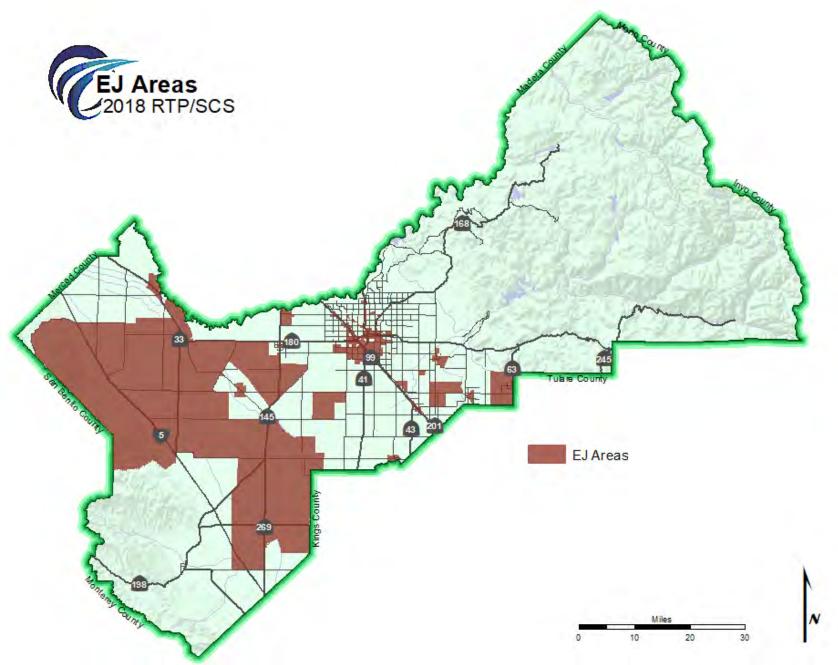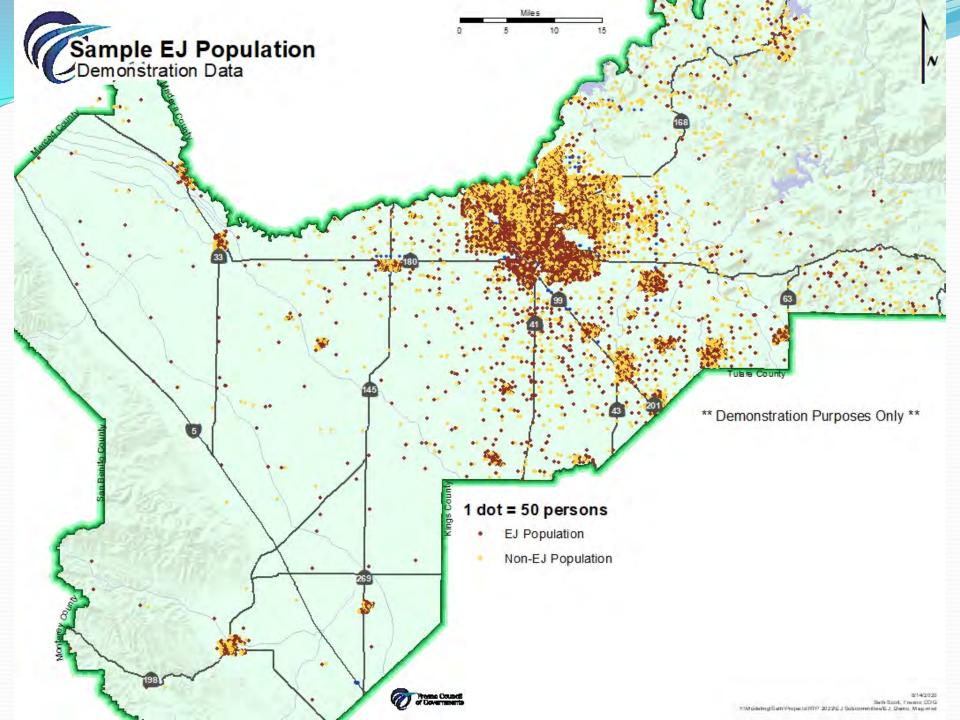|	TAZ	MAZ
Total Number	1,963	23,451
Average # of Households	149	12
Median Area	159 acres	9 acres

Synthetic Population Benefits

- Future populations can be analyzed at the person level rather than relying on aggregated zone-level data
- Each synthesized person has unique characteristics that inform travel options and choices
- Tour-based modeling provides more robust and coherent travel patterns for each person
- No edge-related problems (e.g. communities of concern, EJ analysis, etc)

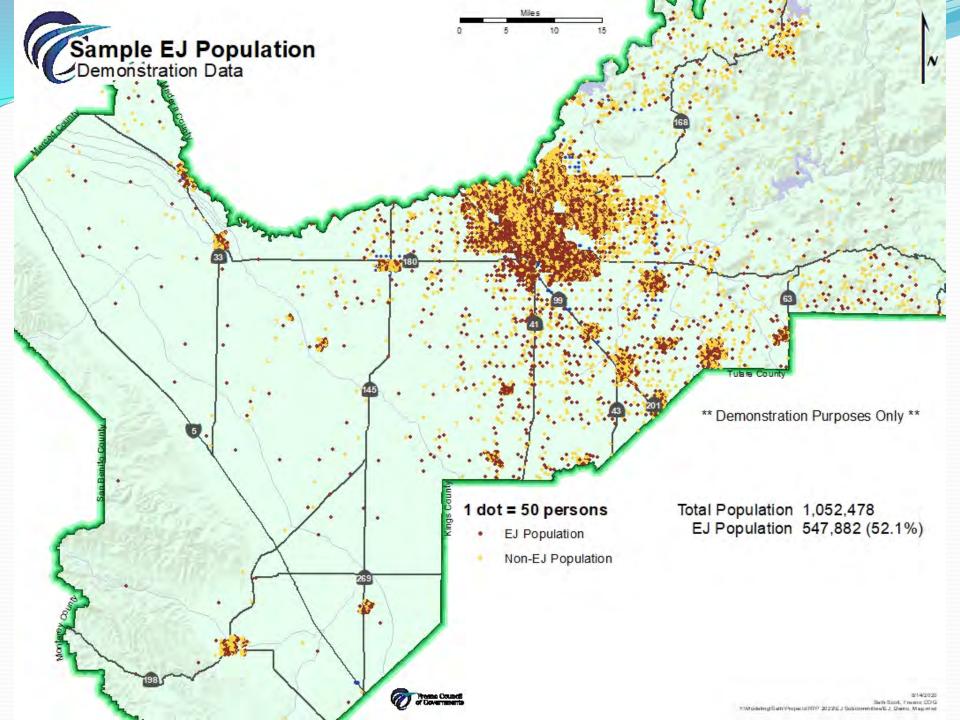# Specific Benefits to EJ Analysis
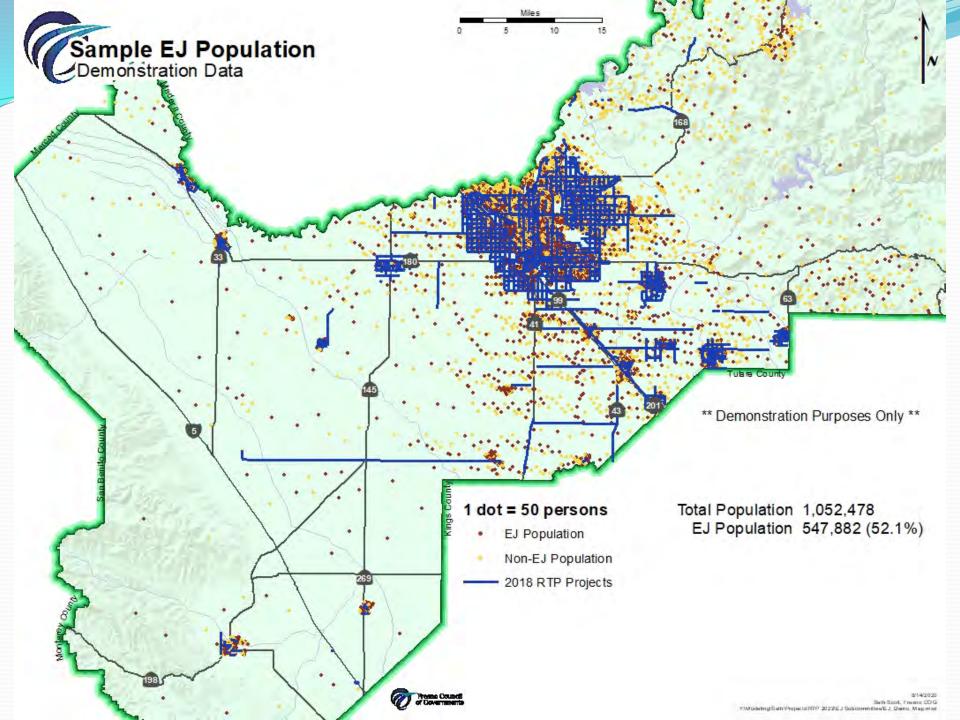
- We are no longer limited to traffic analysis zones
- We can assign EJ status to individual households, rather to entire zones
- Characteristics, choices, etc. of EJ individuals can be analyzed individually, such as:
  - Home/work location
  - Tours/trips by purpose
  - Access to services
  - Etc.

EJ Areas
2018 RTP/SCS

EJ Areas

Miles
0   10   20   30

Sample EJ Population
Demonstration Data

Miles
0   5   10   15

** Demonstration Purposes Only **

1 dot = 50 persons

- EJ Population
- Non-EJ Population

Sample EJ Population
Demonstration Data

Miles
0   5   10   15

N

** Demonstration Purposes Only **

1 dot = 50 persons

- EJ Population
- Non-EJ Population

Total Population 1,052,478
EJ Population 547,882 (52.1%)

Fresno Council of Governments

Sample EJ Population
Demonstration Data

** Demonstration Purposes Only **

1 dot = 50 persons
• EJ Population
• Non-EJ Population
— 2018 RTP Projects

Total Population 1,052,478
EJ Population 547,882 (52.1%)

Sample EJ Population
Demonstration Data

Miles
0   5   10   15

N

** Demonstration Purposes Only **

1 dot = 50 persons

- EJ Population
- Non-EJ Population
- 2018 RTP Projects
- 1/2-mile buffer

Total Population 1,052,478
EJ Population 547,882 (52.1%)

Fresno Council of Governments

8/14/2020
Seth Scott, Fresno COG
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Sample EJ Population
Demonstration Data

Miles
0   5   10   15

N

** Demonstration Purposes Only **

1 dot = 50 persons

•   EJ Population

•   Non-EJ Population

—   2018 RTP Projects

☐   1/2-mile buffer

Total Population   1,052,478
EJ Population   547,882 (52.1%)

1/2 mile buffer:
Population Served   957,661 (91.0%)
EJ Population Served   509,961 (93.1%)

Fresno Council of Governments

8/14/2020
Seth Scott, Fresno COG
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Section 2

Model Calibration and Validation

How Do We Know the Model Is Accurate?

Iterative Model Development

Calibrate

Validate

Document

Test

- Understand strengths and weaknesses quickly

- Manage project resources effectively

- Fresno COG staff involved in process

Model Calibration

Model Base Year
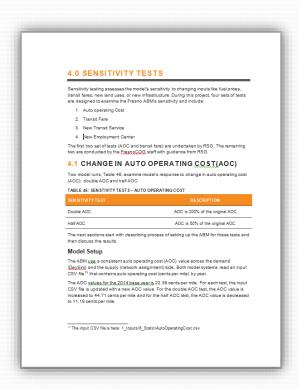
2014

Starting Model Coefficients

Sacramento (SACOG)

DATASET	YEAR	SOURCE	PURPOSE
California Household Travel Survey (CHTS)	2012		Fresno – Tour Destination, SJV – Other Sub-models
National Household Travel Survey (NHTS)	2009		Fresno - Tour Destination
Transit On-Board Survey	2014	Transit On-Board Survey Program	Transit Tours/Trips
Census Transportation Planning Product (CTPP)	2010	Census	Workers Flow
Longitudinal Employer Household Dynamics (LEHD)	2014		Workers Flow
Streetlight	2014	Streetlight	Internal-External Trips

Network Validation

DATASET	YEAR	SOURCE	PURPOSE
Traffic Counts	2014	CalTrans and FresnoCOG	Highway Validation
Vehicle Miles Travelled (VMT)	2014	Highway Performance Management System (HPMS)	Highway Validation
Transit Ridership	2014	FAX, Clovis, and FCRTA	Transit Validation
Transit On-Board Survey	2014	Transit On-Board Survey Program	Transit Validation

ABM Sensitivity Tests Performed:

- Change in Auto Operation Costs

- Change in Transit Fare

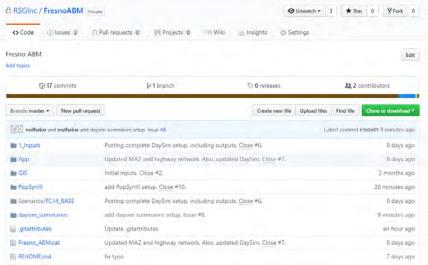- New Transit Service

- New Employment Center

More information in the Fresno ABM Report

Fresno ABM GitHub Repository

- The Fresno ABM is versioned on a private GitHub repository

  https://github.com/RSGInc/FresnoABM

- Require authorization to access

  - Contact Nagendra.Dhakar@rsginc.com

Questions?

Thanks for Participating!

Feel welcome to contact me…

Seth Scott

Senior Regional Planner

Fresno Council of Governments

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sscott@fresnocog.org