



April 16, 2010

TO: Transportation Planning Policy Committee

FROM: RONALD E. BRUMMETT
EXECUTIVE DIRECTOR

By: Rob Ball, Senior Planner

SUBJECT: **TPPC AGENDA ITEM V.**
Proposed SB375 Target For CO² Emissions From Passenger Vehicles – Methodology and Results

DESCRIPTION:

In September 2008 the Governor signed Senate Bill (SB) 375 to control Climate Change emissions from cars, SUVs and light duty trucks primarily by creating a more efficient mix and distribution of land use to reduce vehicle miles traveled. This item considers options for proposing a target to the California Air Resource Board (ARB).

DISCUSSION:

A. Summary:

The Kern Climate Change Task Force has met jointly with the Kern Regional Transportation Modeling Committee to develop a target proposal for Kern based on local planning assumptions and information. The joint committees recommended to the TTAC that a reduction 28% reduction (13.58 to 9.8 lbs./person) in the Climate Change emissions by 2035 be the target for Kern County. The TTAC agreed and is recommending the same reduction to the Transportation Planning Policy Committee. The target is

Kern SB375 Target Strategies	CO2 with Pavley I and Low Carbon Fuels Statewide Strategies				
	All Passenger Vehicle Travel	RTAC Recommends: minus thru county travel (-XX), minus half to/from county (-50%IXXI), minus half from military (-50% mil)	-XX, -50%IXXI, -100%mil	-XX, -50%IXXI, -100%mil, -50% prisons	-XX, -50%IXXI, -100%mil, -50%pris., -50% wind energy areas
Model Run Scenario					
Weekday CO2 Emissions by Passenger Vehicles Per Person (Pounds)					
Base Year (2005)	22.02	14.32	13.79	13.64	13.58
SB 375 Interim Year (2020 CT)	16.15	10.39	10.09	9.99	9.95
SB 375 Horizon Year (2035 CT)	15.28	10.17	9.93	9.84	9.80
Base Scen. Interim Yr. (2020 NoBuild)	16.11	10.35	10.05	9.95	9.91
Base Scen Horizon Yr. (2035 NoBuild)	15.43	10.31	10.07	9.98	9.95
Alt. Scen. Interim Yr. (2020 ACT)	16.11	10.35	10.05	9.95	9.91
Alt. Scen. Horizon Yr. (2035 ACT)	15.22	10.13	9.89	9.80	9.75
Percent Change in CO2 Per Person from 2005					
Base Year (2005)					
SB 375 Interim Year (2020 CT)	-26.7%	-27.4%	-26.8%	-26.7%	-26.7%
SB 375 Horizon Year (2035 CT)	-30.6%	-28.9%	-28.0%	-27.83%	-27.9%
Base Scen. Interim Yr. (2020 NoBuild)	-26.9%	-27.7%	-27.1%	-27.0%	-27.0%
Base Scen Horizon Yr. (2035 NoBuild)	-29.9%	-28.0%	-27.0%	-26.8%	-26.8%
Alt. Scen. Interim Yr. (2020 ACT)	-26.9%	-27.7%	-27.1%	-27.0%	-27.0%
Alt. Scen. Horizon Yr. (2035 ACT)	-30.9%	-29.2%	-28.3%	-28.17%	-28.22%
Pct. Diff. betwn. 2035 CT and ACT	-0.40%	-0.45%	-0.46%	-0.46%	-0.46%

CT = Current Trend, ACT = Alternative to CT, Highlighted cells show target recommend by Task Force

based on the current trends (CT) land use scenario, and includes estimated reductions from statewide strategies such as new low carbon fuel standards, as well as local strategies such as existing adopted general plan policies that promote reductions in climate change emissions. The ARB also allows exemptions for certain categories of travel that regions may have little control over. For example, 100% of through-county travel (external to external or XX travel) has been excluded from the target proposal, which accounts for 25% of Kern's total travel. The proposed target also excludes half the travel from other counties (internal to external/external to internal or IXXI). In some cases the Kern Climate Change Task Force is recommending additional exemptions not being suggested by ARB. For example, the Task Force is recommending exclusion of 100% of travel to and from military bases for which there is no local control of the land use at those facilities. ARB recommends a 50% exclusion for military. The task force also recommends 50% exclusions for prisons, and wind energy areas that would be difficult to relocate in urban areas to provide shorter commute distances need to reduce CO2 emissions from longer trips. Additional adjustments to the figures may include the incorporating half of the travel beyond the county boundary (estimated 20% increase), and an adjustment for fuel pricing sensitivity (estimated 1% decrease), Kern COG plans to submit a recommendation for a target, method and results to ARB by April 16, 2009. This recommendation is one of 3 options discussed by the Task Force. A more detailed table of all the options considered by the taskforce is included as attachment 3.

B. Background:

The focus of SB 375 is to reduce emissions from car, SUV and light truck travel by creating a more efficient mix and distribution of land uses. Under Assembly Bill (AB) 32 climate change scoping plan, Transportation makes up 40% of the emissions. Approximately 3% of all statewide emissions were estimated to be from travel sources related to SB375 including travel from cars, SUVs and light duty trucks. This 3% figure was considered to be a placeholder until modeling by local Councils of Governments could reveal a more accurate picture in tune with each region's local characteristics. It is important to note that statewide transportation strategies such as Low Carbon Fuel (LCF) standards also affect this category, and account for about 40% of the total Climate Change Reductions under AB 32. Overlap between SB375 and AB32 making the potential reduction expected from SB375 somewhere between 3% and 40%. AB 32 requires statewide reductions of about 29% by 2020.

In October 2008, Kern COG established the Kern Climate Change Task Force to address the requirements of SB 375. The Task Force is an open public process and has met 8 times. It is made up of representatives from local government staffs, the development community, and community based organizations. Participants in the Task Force helped developed a work plan that was approved by the Kern COG Board in March 2009 and has been working implement the plan ever since.

In September, 2009 the ARB's Regional Target Advisory Committee (RTAC) adopted a report of recommendations on how the target setting process would be conducted. In November 2009 the Task Force adopted those recommendations into the work plan (Attachment 2). The recommendations included a listing of co-benefits to climate change reduction that would be helpful to inform the process (Attachment 1).

SB 375 provides an opportunity for Kern COG to propose a target for our region based on local conditions and characteristics. The Kern SB 375 Climate Change Work Plan includes a proactive approach of proposing an accurate target for SB 375. A concern of the Task Force was to not wait for the State Air Resources Board (ARB) to dictate an emissions target for Kern, but to provide an accurate target proposal based on Kern's local situation which is significantly different from the majority of the state.

In support of the Task Force, Kern COG has met 1 on 1 with each of our member agencies planning staff to help develop a land use model and strategy based on local general plan assumptions for providing an ambitious and achievable target. The following timeline outlines the activity related to this item.

C. Public Process Timeline:

- Sep. 2008 – SB 375 signed into law
- Oct. 2008 – COG establishes the SB375 Kern Climate Change Task Force
- Jan. 2009 – Kern Climate Change Summit held at the Petroleum Club in Bakersfield
- Mar. 2009 – COG adopts the SB375 Kern Climate Change Work Plan with a proactive approach as presented at the Summit.
- Jul. 2009 – COG completes 1 on 1 meetings with each local jurisdiction to gather latest general plans and assumptions the land use model that could reduce climate change emissions
- Sep. 2009 – ARB Regional Target Advisory Committee (RTAC)
- Sep.09-Jan.10 – COG holds 4 Climate Change Task Force Meetings to consider use of Model results available online at www.kerncog.org under the climate change menu.
- Jan. 6, 2010 – TTAC reviews timeline
- Jan. 19, 2010 – Newspaper display add announcing public meetings/workshop
- Jan. 20 – Modeling Committee/Climate Change Task Force – Decision to use spreadsheet method and use land use model as support data set
- Jan. 21 – COG Board reviews timeline
- Feb. 3 – TTAC 1st look
- Feb. 17 – Modeling Committee/Climate Change Task Force –Target Baseline Current Trends Methodology Approved
- Feb. 18 – Public Workshop at Kern COG
- Feb. 18 – COG Board 1st look – Draft Target Baseline Current Trends Methodology
- Mar. 1 – Submitted letter to ARB providing notice of Kern’s intent to submit Target by April 16
- Mar. 3 – TTAC 2nd look - Review Revised Timeline and Status of Climate Change Task Force
- Mar. 17, 9AM - Modeling Committee/Climate Change Task Force – Target Approved
- Mar. 18, 7PM – COG Board 2nd look – Review Status of TTAC and Climate Change Task Force Activity
- Mar 31, 10AM - TTAC 3rd look – Make Recommendation on Target to COG board
- Apr. 15, 7PM - COG Board 3rd look – Considers TTAC recommendation
- Jun. 30** – **Statutory Deadline: ARB releases draft statewide target**
- *Jul. 15 – COG Board considers approval of 2010/11 RTP
- Sep. 30** – **Statutory Deadline: ARB releases final targets for all 18 COGs in the State**
- Jul. 2014 - COG Approves 2014/15 RTP with an SCS that might meet the SB375 target

* This target setting process is being performed parallel to the preparation of the 2011 RTP. The targets will not be available in time for consideration in this RTP scheduled to begin public review April 30, 2010. The targets will be incorporated into the next major RTP scheduled for 2014.

At the February 17, 2010 meeting the Task Force and Modeling Committee approved the assumptions and methodology for proposing a current trends baseline to ARB for reducing travel. Action included revisions to the land use assumptions and identifying components and future activities as modified by the Task Force. The following assumptions have been included into the baseline for modeling proposed targets:

D. Changes to Baseline Assumptions

In a letter dated February 10, 2010 the Kern County Planning Department requested a re-distribution of households and employment in 2035 from the Rosamond/Willow Springs area to future developments proposed for Tejon Mountain Village and San Emidio Ranch. Kern COG has incorporated these requested changes with some minor modifications needed to ensure that they do not affect the countywide population total.

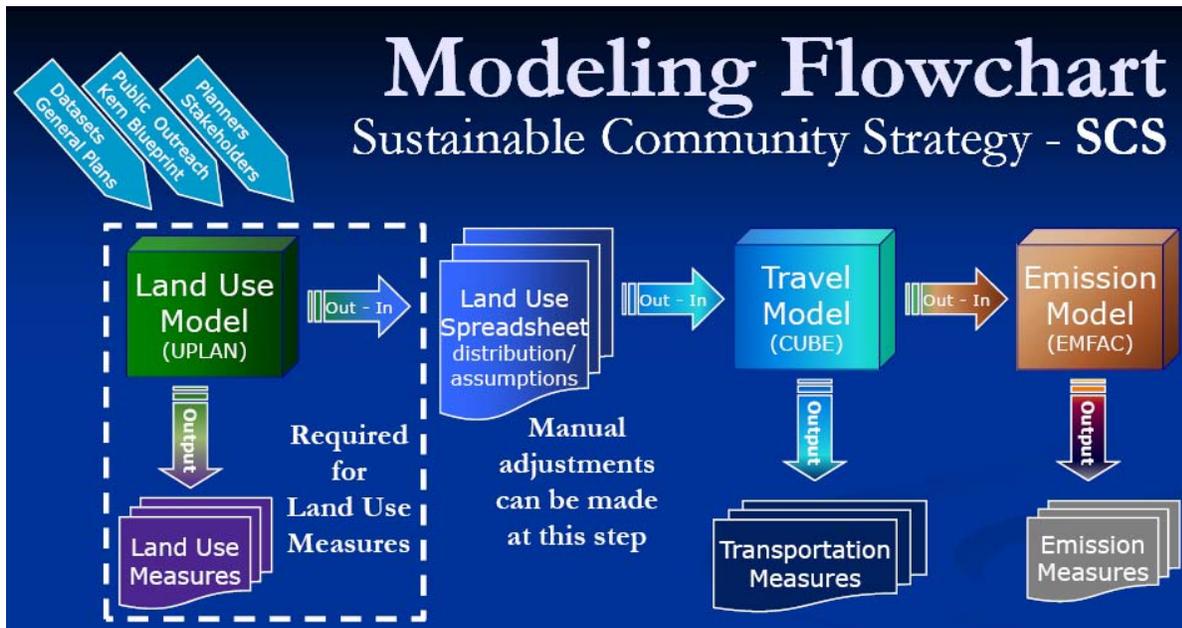
In a letter dated February 3, 2010 from Cox, Castle, Nicholson, an attorney for San Emidio Ranch, they requested 12,000 additional housing and enough employment for 4000 acres of commercial development. County staff proposed 167 households and 300 employees at that location. After much discussion, the County’s proposed change was approved.

Representatives from the development community, County Planning and others expressed concern that

the current adopted “zero-sum” method for allocation of the countywide growth may hinder the ability of the market to determine the best location for future development in light of SB375. A call for developing flexibility into the growth forecast distribution was made so as avoid potential negative economic and environmental justice consequences to communities.

E. Methodology

At the February 17, 2010 Task Force meeting staff presented a detailed methodology and some preliminary results. Only the methodology and assumptions were approved at that meeting.



The above method uses the land use model as a validation data set for the land use spreadsheet, and to generate some density factors required by the Travel model D-factor or 4-D modeling script. The Task Force consented to the methodology with the addition of the following components proposed by County Planning.

Methodology Components

- Standard – “Ambitious and Achievable “ % per capita emission reduction from 2005.
- Regional Targets = averaged into one Target (One County ARB Target)
Valley, Desert, Mountain
- Spreadsheet Method- Growth Forecast – Population 1, 321, 000 by 2035 (adopted by Kern COG on Oct, 15, 2009) Adjustments made by local planner input as a “zero-sum” Traffic Model for households and employment. Delegated to Kern Regional Transportation Modeling Committee.
- Remove 100% of through Vehicle Mile Trips
- Remove 100% of military installation Vehicle Mile Trip
- Remove 50% of trips to attractors outside the County.
- Remove 50% of wind, solar area, prisons, agricultural production trips, and other important rural employment areas (strategic employment resources) as contributions to out of county economy.
- Remove 50% of trips for large mining operations (regional aggregate areas) as contributions to out of county economy.

Future Programs and Policy Direction

- Establish methodology for Kern COG to provide information to cities and unincorporated communities on their own target for their area of control. How do they compare to the Regional Target; to the One County ARB Target? Create a performance monitoring plan that could be used for economic development marketing.
- The modeling committee consider a methodology for establishing a growth allocation based on level of entitlement (Highest – existing lots, Development Agreement with GP/Zoning, Approved Tentative Tract, GP/Zoning, General Plan only, not approved – Lowest) including historic growth and market driven factors.
- Review the established “zero sum “allocation of growth for policy implications related to the SB 375 Sustainable Communities Strategy and future actions by decision makers. Evaluate other methods of allocating growth.
- Review policy implications of the ARB determination that 50% of trips to attractors out of the county must be included in our reductions, although we may receive no economic benefit from the out of county land uses.

These components and Future Programs and Policy direction were incorporated by the Task Force action on February 17, 2010.

Other Issues Discussed By the Task Force

- Consider economic development to be incorporated into the process
- Consider regional revenue sharing or allocation mitigation
- Consider sub county targets
- Consider a method for frequent revisions to forecast distribution and alternative scenarios
- Consider better balance of housing in rural employment areas closer to existing communities with adequate shopping and amenities
- Inform the Board on the implications and concerns for the current zero sum method for allocating the adopted countywide growth including:
 - Unusual for California, the County and Cities of Kern have enough capacity in their general plans to absorb more than twice the growth forecasted by 2035. In using a zero-sum method, some areas with planned entitlements will not show growth until after 2035.
 - The countywide regional growth forecast is adopted every 3-5 years. An alternative to the growth forecast separate from the adopted one can create confusion and an opportunity for challenges to environmental documents as well as the regional air quality conformity analysis.
 - SB 375 adds new emphasis for developments to show up in the regional growth forecast for the Sustainable Community Strategy to avoid potential challenges to their project on climate change emissions. This is leading to concerns over the zero sum method currently in use for distribution of the growth forecast.
 - Kern’s first sustainable community strategy as a part of the RTP is scheduled for 2014, giving us some time to work on a solution to these issues, and improve the modeling.

F. Alternative To Current Trends (Methodology)

On February 25, 2010, Kern COG sent out a request for zero-sum adjustments to the current trends scenario that reflect current policies in local jurisdictions. The two largest cities in Kern (Bakersfield and Delano) responded, moving approximately 2,800 households (1.8% of the growth) and 1,800 (1%) jobs by 2035 from areas previously forecasted in the baseline scenario. A similar redistribution for 2020 included 1000 (1.7%) households and 500 jobs (.6%). The following maps illustrate the adjustments to the growth that were made to the Baseline Current Trends scenario for 2035.

Figure 1- Net Changes in Households to the Baseline Current Trend Scenario

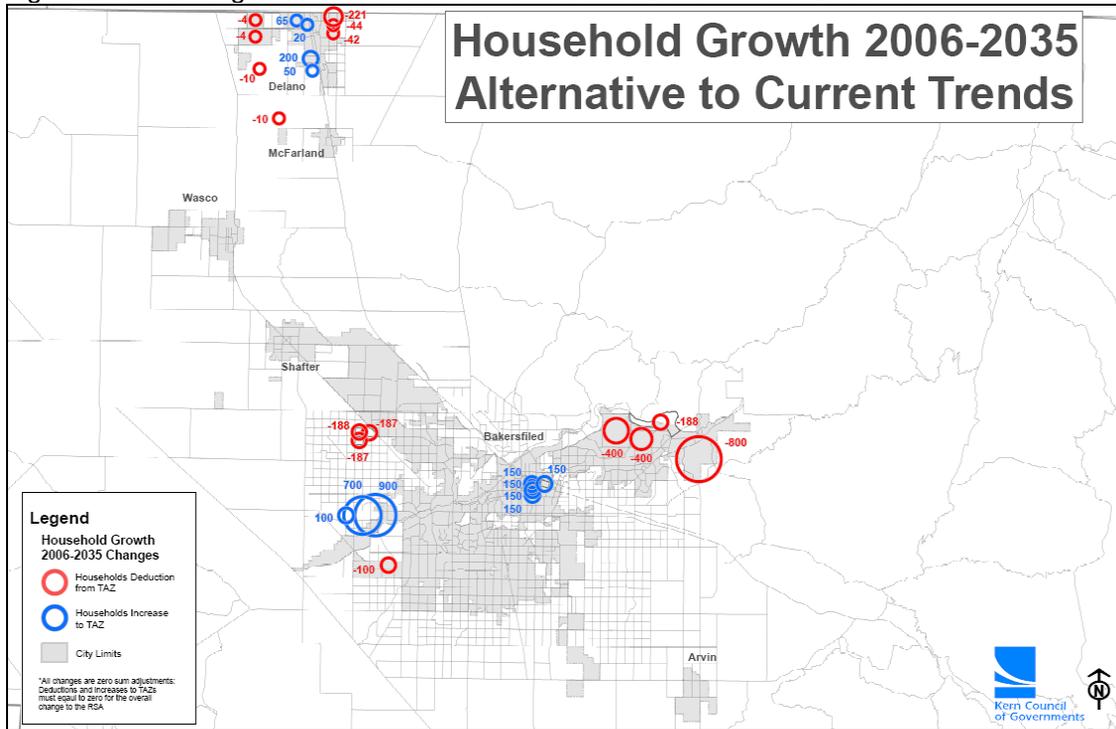
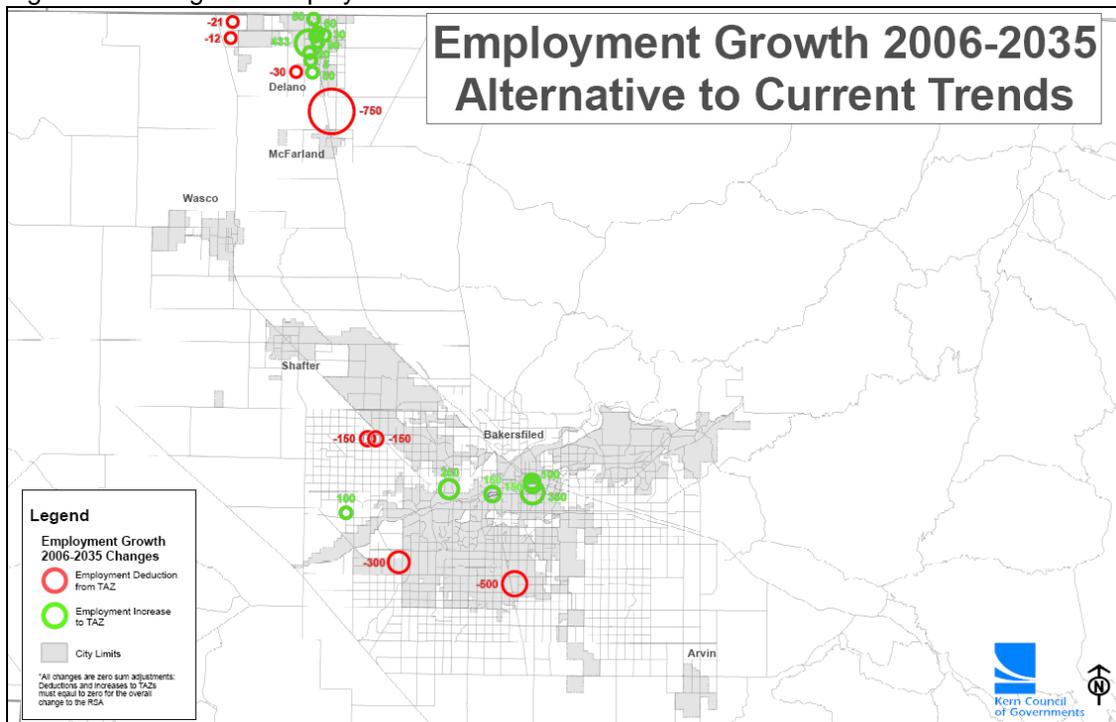


Figure 2 - Changes in Employment to the Current Trends Baseline Scenario



The full result of the model runs with this Alternative to the Current Trends can be found in Attachment 3.

G. Modeling Output

The ARB Regional Targets Advisory Committee (RTAC) Report recommends a minimum of 7 model scenarios:

- 1) **2005 Base Year** – This scenario was backcast from the transportation model 2006 validation year by using the .65% change in the Caltrans surveyed Highway Performance Monitoring System total vehicle miles traveled for Kern.
- 2) **2020 Baseline Current Trend (CT)** – Current spreadsheet distribution with county changes approved at the January Task Force meeting. 2020 is the first milestone year in SB375.
- 3) **2035 Baseline CT** – Current spreadsheet distribution with county changes approved at the January Task Force meeting. 2035 is the second milestone year in SB375.
- 4) **2020 Baseline CT No Build** – 2020 Baseline CT assuming nothing is built after 2015. As recommended by the RTAC report, the no build scenarios are helpful to illustrate what happens if we don't build anything except what is currently programmed.
- 5) **2035 Baseline CT No Build** – 2035 Baseline CT assuming nothing is built after 2015.
- 6) **2020 Alternative to Current Trend (ACT)** – 2020 includes a portion on the adjustments shown in figures 1 & 2.
- 7) **2035 ACT** – 2035 includes a portion on the adjustments shown in figures 1 & 2.

The results of these model runs are found in attachment 3. Steps 3 and 4 of the RTAC report recommend an alternative to the Baseline CT for proposing a target. Each scenario has been output into 10 columns. five of the columns use the current version of ARB's emissions model EMFAC. The second five columns use a post processor with EMFAC to account for the new Pavley I and Low Carbon Fuels standards in California.

The five columns account for exemptions that have been discussed in the preparation of the target and those recommended by the RTAC report. For example the first column includes all the travel in the model. The second column excludes all the external to external (XX) or through county trips, 50% of the internal to external and external to internal travel (IXXI), and 50% of the travel to and from the military bases in Kern. The rest of the columns go on to exempt 100% of the military base travel, travel to prisons, and wind farms.

Exemptions Not Included - The development of modeling scripts necessary for exempting 50% of solar employment, aggregate mining employment, agricultural production employment, and other strategic employment areas was not available in time to meet the current deadlines. Job growth in these areas are small when compared to wind energy and prisons and will not make a measureable change in the pounds per person target number. The recommendation to ARB will include a discussion of the need to exempt employment for these areas but will be excluded from the modeling because the small changes anticipated.

Travel Beyond the County Boundary - All of the travel in attachment 3 accounts for travel occurring within the boundaries of Kern County. The 8-valley COGs have retained Dowling and Associates to perform a special run of the statewide model to calculate their respective travel that occurs outside of each county. ARB and COG staff proposes to include 50% of that travel in the target as well. This outside county travel represents the external to internal trips being generated by employment attractors in the county. This method is consistent with the RTAC recommendation and similar methods being proposed by the larger MPOs. Early runs are showing an increase in passenger vehicle CO2 emissions of 2 .lbs per person or a 20% increase by 2035. COG staff will provide this information as an extra column in the summary spreadsheet as soon as it becomes available.

Fuel Pricing – Kern is also working on a fuel pricing adjustment. In March, the larger COGs in the state came up with some standard future fuel pricing components. Kern has performed sensitivity tests to determine if inclusion of fuel pricing is warranted at this time. Initial results indicate that an increase in fuel pricing from 13.5 cents/mile to 20 cents/mile resulted in a 1% reduction in travel by 2035. COG staff is still working to refine this initial result and intends to provide this information as soon as it is available.

H. Modeling Results

The county-wide average CO₂ emissions from passenger vehicle travel within the county is about 22 lbs/psn. in 2005 when accounting for the Pavely I and low carbon fuels standards. That amount is forecasted to decrease by 30.6% to 15.5 lbs/psn. in the 2035 Current Trends (CT) scenario and 30.9% to 15.2 lbs/psn. in the Alternative to Current Trends Scenario (ACT) – an improvement of .4%. A similar reduction is found when the RTAC exemptions (-50% IXXI, -50% military) are used resulting in a .45% reduction. When 100% of the military base travel is removed a .46% reduction in the ACT over CT occurs. These model runs illustrate that as the universe of travel decreases by subtracting areas of travel exemptions, the percent change caused by the repositioning of 2% of the households and 1% of the employment becomes slightly larger and more noticeable.

I. Target Options Considered

1. **RTAC recommendation using alternative to current trend (ACT) scenario** – The 2nd column of Attachment 3 contains the RTAC recommendation and shows a 29.2% reduction in CO₂ emissions for the ACT compared to 2005. The ACT which repositioned 2% of the households and 1% of the employment is .4% less than the CT.
2. **RTAC recommendation plus all local proposed exemptions using ACT scenario** – The 5th column of Attachment 3 contains the RTAC recommendation plus 100% of military, 50% of wind energy areas, and 50% of prisons removed, showing a 27.9% reduction in CO₂ emissions for the ACT compared to 2005. The ACT which repositioned 2% of the households and 1% of the employment is .47% less than the CT.
3. **Task Force recommendation using all proposed exemptions and CT scenario** – The 5th column of attachment 3 contains the Current Trends scenario plus all local proposed exemptions (Consent was given by the Task Force for this option on March 17, 2010).

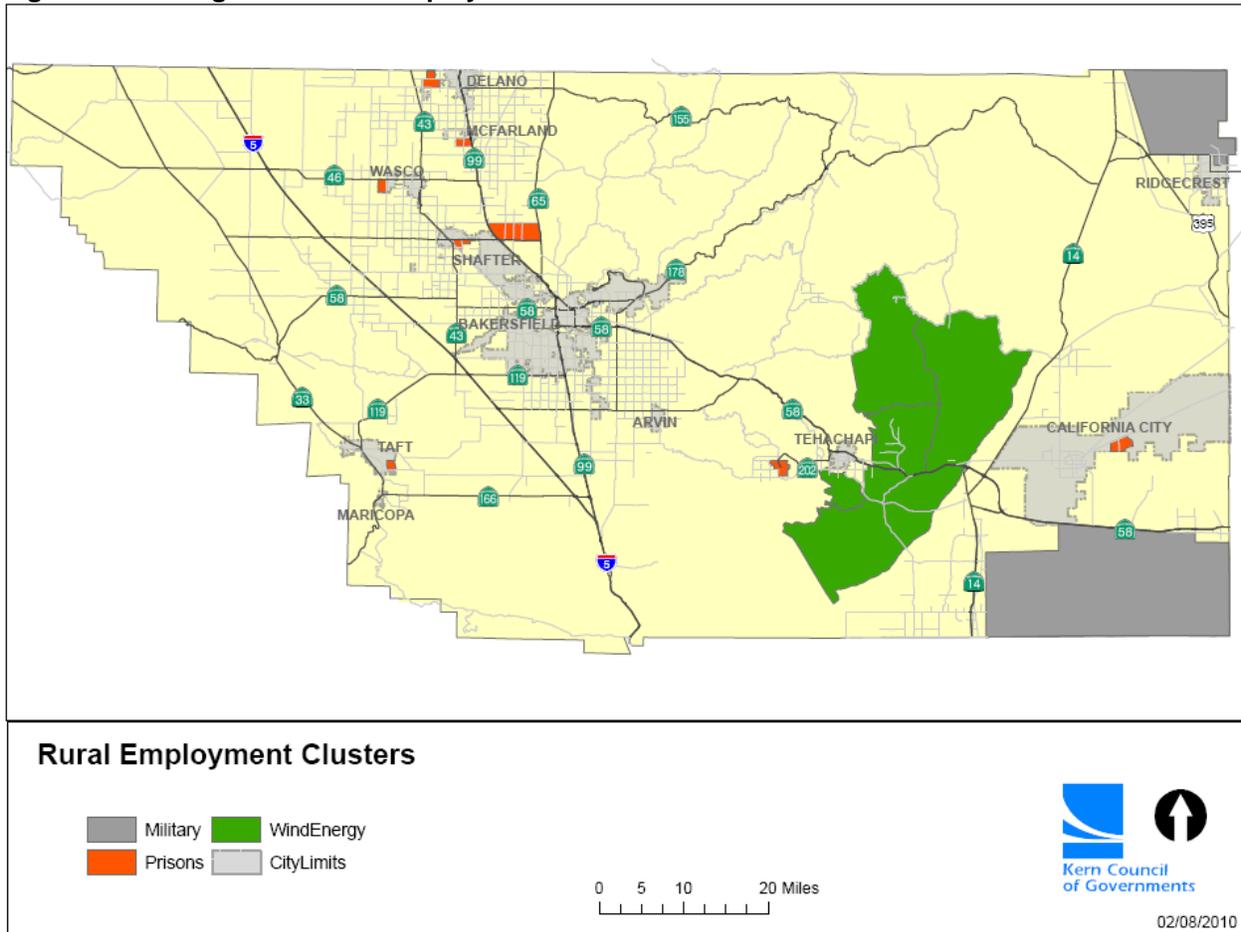
J. Reason Justification for Selecting Option 3

- **Current Trend Reflects Existing, Ambitious Local Plans and Policies** - Current adopted General Plans and Specific Plans as reflected in the Current Trends Scenario, already reflect existing anti-sprawl policies that are similar in CO₂ reduction when compared to the alternative. Local planners are incorporating the adopted Kern Blueprint principles into their plans, and one community is developing the first City-wide form-based general plan in the state. When given the choice to propose a target, Kern COG's member agencies agree that the current trends scenario should be used over the Alternative that was developed because it best reflects what local jurisdictions are already doing.
- **Strategic Resource Employment Area Exemptions** – Kern is unusual in California in that it is partially characterized by a reverse commute pattern to the outlying areas of Kern. Two-thirds of household reside in less than 10% of the area near the center of the County (Metro Bakersfield). One-third of the employment is in the outlying areas, however two-thirds of the employment growth is slated for areas outside of Metro Bakersfield. The larger growth sectors include military, wind energy and prisons. Other strategic resource employment categories in outlying areas include oil/mineral production, agriculture/ranching, food processing, warehousing distribution/intermodal centers, travel centers, recreation, etc. These jobs, vital to the State economic, and environmental well being, cannot be moved into a conventional infill location as envisioned by the writers of SB 375.
 - **100% Military Exemption** – The RTAC recommended exempting only 50% of the trips from military bases. Local governments have no control over Federal government decisions on military bases. These facilities are vital to national security and should be granted a 100% exemption from state climate change regulations.
 - **50% Wind Energy Areas Exemption** – The RTAC recommendation did not include an exemption for strategic resource employment areas such as wind energy. Wind energy production is expected to grow by 1,500 employees in high wind mountain pass areas of

the County. These areas tend to be more remote and require a considerable commute distance. It is not practical to provide work force housing in these areas nor relocate these employment areas to communities, yet the large increase of employment in these areas drags the per capita travel up and hinders other efforts to reduce overall trip lengths. In addition, these jobs provide major CO2 reductions under a different sector of AB 32. Therefore we propose an exemption for these trips.

- **50% Prison Exemption** – Critical to the states public safety efforts, prisons are an inappropriate land use for infill opportunity areas that SB 375 envisions. These non-compatible land uses further drag down the per capita VMT and CO2 reduction efforts. In addition, the employees at prisons rarely choose a residence in a community next door to the prison. Informal van pools are very common at these facilities, and are reflected in the higher auto occupancy rates in the Kern COG travel model.

Figure 3 – Strategic Resource Employment Areas



- **Balanced Greenfield Development** – Kern is a high growth area with a secure water supply. Containing 1/3rd of the area 8-county San Joaquin Valley region, Kern is anticipated to absorb considerable spill over from Southern California that could help 8-county region surpass the Bay Area as the second largest region in the state. The Kern regional blueprint indicated that the market demand for traditional single family housing was somewhere between 60 and 90 percent. The current trends scenario assumes the bulk of the growth on the periphery of existing urban areas. It is important to note that approximately 1/3rd of these households will likely be moving closer to their worksite than a downtown infill location could provide. This fact has a moderating influence on the effectiveness of redevelopment infill strategies in Kern. The key in these

greenfield/urban fringe areas is to provide a mix of housing/shopping and transportation opportunities that encourage walking, biking and transit use. In addition to the urban fringe, outlying community efforts to provide more housing with closer shopping opportunities and amenities in the outlying strategic employment areas will be a key Greenfield development strategy.

- **Best Management Practices** – In addition to land use changes the following other management practices are strategies being implemented in Kern. The modeling may not be fully sensitive to all of these practices, but it is assumed that these will be employed to make progress toward SB 375 goals
 - **Indirect Source Review (ISR) Rule** – The San Joaquin Valley Air Pollution Control District (SJVAPCD) has adopted the ISR Rule which charges a fee on new development that can be waived if certain air quality improvement strategies (transit access, bike/walk paths, etc.). Proceeds from the fee are used to purchase emissions reductions such as diesel retrofits. It is difficult to forecast the emission savings from this existing policy, however the modeling has incorporated the D factor process in an attempt to account for increased density, mixed use, walk, bike and transit access.
 - **Carpooling/Vanpooling** – The regional transportation model accounts for these modes in terms of vehicle occupancy. Kern Commuter Connection provides for online ride share services and the Census Bureau estimated that 17% of commuters carpooled between 2006-08. Vanpooling to outlying employment centers are already an integral part of the commute pattern as well. The model currently includes an vehicle occupancy assumption that reflects these characteristics.
 - **Transit Use** – The Metropolitan Bakersfield Transit System is currently modeled based on the funding assumptions in the Draft 2011 RTP. The boardings to total trips ratio in the model is 1 to 2%. The D factor sensitivity testing found that the model was sufficiently capturing increases in housing near transit and did not require a D factor adjustment.
 - **Transportation System Management** – Kern has invested extensively in traffic signal synchronization which is only partially captured by the transportation model. The major highway improvement projects are considering carpool lanes, ramp metering, and bike facilities etc. These are not currently reflected in the modeling.
 - **High Speed Rail (HSR)** – The current trends model shows some increased land use in downtown Bakersfield at the HSR station. The alternative quadrupled the growth in the downtown around the station. The model does not currently include a special generator to simulate boardings at the HSR station nor the deferral of through county trips (which are excluded from consideration based on RTAC's recommendations).

Conclusion – Without Pavley I and Low Carbon Fuels, The recommended Current Trends scenario is showing a 12% increase in greenhouse gas emissions. The Alternative to the Current Trends scenario only shows the emissions slowing by .7% to an 11.3% increase with the recommended 4D adjustments and the movement of more than 1% of the growth to infill areas. This lack of responsiveness in the model has a lot to do with Kern's unusually large geographic area it is modeling. The 8,200 square mile Kern Region (twice the area of L.A. County) is unusual because 95% of the area is dominated by non-urban land uses. Yet travel in the non-urban area is included in the region's travel model and emission results. Two thirds of the population and housing growth are in 5% of the region known as Metro Bakersfield. Two thirds of the employment growth is in the strategic resource employment areas outlying the Metro area. Because these areas are similar in make-up to the non-Metropolitan areas of the State, that SB 375 granted exemptions for, it makes sense to either grant an exemption for the travel activity requested by Kern, or permit our region a target that might be higher than other areas of the state because of our unusual situation. It is also important to note that even with the addition of travel beyond Kern's boundary, that the emission rates per capita are anticipated to be some of the lowest in the state. This is because of Kern's higher occupancy vehicle rates and lower trip making rates than some of the more affluent metropolitan areas of California.

K. Future Modeling Improvements

- **Travel Beyond the County Boundary** - Add 50% of the travel from outside the Kern region to account for our share of travel we are attracting from other areas. Kern and Fresno COGs are working with a consultant to run the statewide travel model to develop an estimate of travel outside the County. This information may be available before the final planned submittal to ARB on April 16.
- **Fuel Pricing Sensitivity** – An initial sensitivity test was performed showing that the model was somewhat sensitive to changes in pricing. Increasing the average fuel pricing from 13.5 to 20 cents per mile by 2035 resulted in a 4% increase in transit boardings and a 1 percent decrease in overall travel. Kern COG may have a revised totals that reflect the proposed fuel pricing increases being standardized by the larger COGs statewide.
- **Monitoring Progress** – Not a modeling improvement, the Kern region is committed to developing an inventory and monitoring progress toward the CO2 goals separate from the SB 375 process. Our region is considering using VMT in the base year of the model as a surrogate for CO2 to provide feedback to the region and its communities on how we are doing to reduce VMT.
- **Refine the Alternative Model** – Refine the alternative to the current trends model and/or improve the land use model. The alternative to the current trends scenario showed modest improvements in CO2 emissions. An alternative scenario develop with the land use model showed considerably more sensitivity, however it was making wholesale changes in land use that were considered reasonably doable by 2020 and 2035.
- **Valley Model Improvement Plan** – Work with the 7 counties to the North on the \$2.5 million Valleywide Model Improvement Plan with the first delivery of model improvement scheduled for 2012 to help develop the Sustainable Communities Strategy.
 - **Land Use/Transportation Model Feedback Loop** – Manual development of the alternative land use scenario has proved to be highly labor intensive with minimal emission reduction results. New model improvements have emerged that link the transportation and land use models that could allow the model to adjust the land use to optimize a transportation variable such as Vehicle Miles Traveled. This tool is critical to identify an optimum land use based on the local characteristics adopted in General Plans.
 - **Statewide Transportation Model Improvements** – The region is working with ARB and UC Davis to make improvements to the statewide model to better reflect travel between and through the valley to/from the rest of the state.

L. Performance Measure Results.

Kern is developing performance measures for consideration with the alternatives scenarios. Initial results indicate that the Current Trends does considerably better than the no-build scenario. The alternative to the Current Trends shows some improvement in vehicle delay, but for the most part, the measures are within 1% of the Current Trend results. The results will be provided as soon as they become available.

M. Attachments

1. 15 Co-Benefits of Climate Change Reduction Strategies
2. Kern COG SB375 Coordination Work Plan
3. Modeling Results
4. Draft Meeting Notes from March 17, 2020 Kern Climate Change Task Force Meeting

ACTION: Approve Target Option 3, and instruct staff to use all proposed exemptions, and the current trends scenario and methodology to add outside county travel, and pricing sensitivity as they become available.

Attachment 1

Co-Benefits

Attachment 1

Co-Benefits of Climate Change Reduction Efforts

Climate Change is often debated in public policy and scientific circles. ARB RTAC Final Report provides numerous collateral benefits as reasons for working to reduce GHG apart from Climate Change concerns. The following list of co-benefits was presented to the COG Directors.

- **Less Air Pollution** – Reducing the number and length of car and truck trips means less pollution that directly or indirectly creates summertime smog and particulate pollution. Harmful pollution that can cause cancer and other health problems are greatly reduced.
- **Less Dependence on Foreign Oil** – Using alternative means of transportation and alternative forms of energy and fuel will reduce our dependence on foreign oil, which can help add to national security and economic stability.
- **Improved Public Safety** – Thriving, walkable neighborhoods mean more people on the street, helping to improve safety and discourage unlawful activity.
- **More Opportunities for Active Lifestyles** – Increased walking and bicycle riding can contribute to cardiovascular fitness and weight control, both of which can make people healthier and increase quality of life. Increased physical activity can reduce a number of chronic health risks such as obesity, diabetes, heart disease, cancer and depression.
- **Household Budget Savings** – Taking public transit and driving less can save individuals significant fuel costs when the price goes above \$4.00/gallon. Infrastructure/operating costs for transit can also decrease when such costs are spread among an increased number of riders.
- **Taxpayer Savings** – Services such as maintaining sewer systems, and police and fire services can be more efficient and cost less if they cover more people in less space.
- **Up-Front Infrastructure Cost Savings** – Lower up-front infrastructure costs for roads, parking structures, and lower associated environmental impacts.
- **Improved Water Supply and Quality** – Compact development can reduce water use and put less strain on sewer systems. Water quality can also be improved because run off can be filtered by natural lands instead of paved surfaces.
- **Congestion Relief** – Fewer cars on the road results in less congestion, which has a number of benefits and helps to improve quality of life.
- **More Transportation Choices** – Greater investment in a balanced transportation system and transit-oriented developments can provide increased use of public transportation, and sustainable, healthy transportation options such as walking and bicycle riding.
- **Reduced Commute Time and Increased Productivity** – Homes closer to job centers (including strategic rural employment areas such as ag, oil, wind energy, military, warehousing/distribution centers, recreation/travel, etc.) can reduce commute time and distance, especially if other modes of transportation are available. People can save time by not sitting in traffic commuting. Public transit provides the opportunity for relaxing or getting work done. Mixed use communities also mean more opportunities to shop and access daily needs near home, saving additional travel time.
- **Greater Housing Choices** – Communities can be designed to include a mix of housing options, which can better meet a growing market demand for a variety of housing types. Recent studies indicate that homebuyers are willing to pay a premium to live in a walkable community.
- **Preservation of Farmland, Habitat and Open Space** – Dense, mixed-use communities can encourage infill and Brownfield redevelopment, thereby preserving open space, farmland and wildlife habitats.
- **Neighborhood Economic Development** – Increasing density puts more residents within walking distance of neighborhood businesses, providing opportunities for neighborhood economic development.
- **More Equitable Communities** – Social equity issues can be partially addressed by improving local access and transportation to nutritious foods and health care services that are often out of reach in low income communities and communities of color.

Attachment 2

Kern Climate Change Task Force SB375 Coordination Work Plan

Revised (November 2009)
Kern Council of Governments
SB 375 Coordination Work Plan

OBJECTIVE

To assist Kern COG and its member agencies to meet the goals and objectives of Senate Bill No. 375 (SB 375) within the required time frame.

ORGANIZATIONAL ARRANGEMENT

1) Kern COG as the Metropolitan Transportation Planning Organization (MPO) as well as the Regional Transportation Planning Agency (RTPA) and the agency responsible for the Regional Housing Needs Allocation Plan (RHNA); 2) Each member agency; and 3) The public.

OVERVIEW

On September 30, 2008, Governor Schwarzenegger signed SB 375 into law. SB 375 was introduced as a result of AB 32, the climate change legislation signed into California law in 2006. SB 375 builds on the existing regional transportation planning process to connect the reduction of greenhouse gas (GHG) emissions from cars and light trucks to land use and transportation policy.

SB 375 requires all MPOs to update their RTPs so that resulting development patterns and supporting transportation networks can reduce GHG emissions by the amounts set by the California Air Resources Board (CARB).

OVERALL APPROACH

SB 375 is in its formative stages and many of its contents and guidelines are still being defined and refined. However, the Legislation does set forth the following milestones:

SB 375 Timeline

January 1, 2009	ARB adopts AB 32 Scoping Plan which will include the total reduction of carbon in million metric tons from regional transportation planning.
January 31, 2009	ARB appoints a Regional Targets Advisory Committee (RTAC) to recommend factors to be considered and methodologies to be used for setting reduction targets.
September 30, 2009	RTAC must report its recommendations to the ARB.
June 30, 2010	ARB must provide draft targets for each region to review.
September 30, 2010	ARB must provide each affected region with a GHG emissions reductions target.
October 1, 2010	Beginning this date, MPOs updating their RTP will begin 8 year planning cycle that includes the SCS.

While it is 18 months away until the draft targets will be known, Kern COG has recognized the need to begin the daunting task of coordinating the regional planning, housing, and transportation planning processes into a strategy to meet the intention of the Legislation. This

will be an evolving process as regions throughout the state work together to establish and understand the targets, educate stakeholders and decision makers, define the sustainable communities strategy, understand the transportation funding implications as well as the housing projections.

For the purposes of outlining the COG's effort in compliance with the Legislation and how Kern COG's consulting efforts may assist, we have broken the efforts into three consecutive steps which correspond to the timeline outlined above. Within each step, there are three components: education, technical, and strategy.

The tasks outlined below are efforts we anticipate the COG to undertake ***with assistance and guidance from consulting services as needed.***

Phase 1: Positioning the COG to participate in the SB 375 implementation process. This part would begin now and would continue until CARB RTAC releases the draft GHG emission reduction target setting methodology. The purpose of this effort is ultimately to position the COG to be prepared to carry out the SB 375 requirements. *Timeline: Now to September 30, 2009.*

Phase 2: Preparing the structure to meet the targets. This period begins once CARB RTAC releases the target setting methodology to the COG. *Timeline: October 1, 2009 to September 30, 2010.*

Phase 3: Complying with SB 375. This period begins once the Regional targets are final and accepted and the COG must prepare the RTP, the SCS, and the RHNA. *Timeline: October 1, 2010 to adoption of the RTP and RHNA.*

Phase 1 Positioning the COG to participate in the SB 375 implementation process.

A. Explore Potential for the COG to be a member of the RTAC.

*(asterisk denotes task complete as of November 2009)

*Task 1.1 The RTAC is currently being formed. The RTAC will prepare a report on GHG reduction emission targets for both cars and light trucks for 2020 and 2035 for each region. Understand the process for being appointed to the RTAC.

*Task 1.2 Utilize the SJV Blueprint Planning forum to engage in the SB 375 process. Join forces with the other entities to maximize the COG's representation in the SB 375 process. The collective Blueprint Process has demonstrated the entities' ability to work together around common goals and themes. Engage this group to ensure the SJV is represented on the RTAC. The 8-valley counties and Southern California are the two regions that will account for the majority of the forecasted population increase and corresponding GHG emissions and therefore should be well represented on the RTAC.

*Task 1.3 COG staff should begin (if they haven't already) their input to the clean-up legislation. Several agencies, as well as the Governor's office have indicated that certain components should be revisited such as an exemption for Prop 1B

transportation projects, expanding the CEQA streamlining to other projects beyond residential development, reconciling schedule conflicts with housing elements and RTPs, etc. The COG should carefully review the Legislation in terms of its impact on Kern County and draft their items for submittal to Sen. Steinberg. This exercise could also be done in coordination with the 8-county SJV group and local member agencies.

B. Education and Outreach for Kern County Elected and other Local Officials

- *Task 1.4 In preparation for the February Climate Change Summit, develop power point presentation explaining SB 375 and the role Kern COG as the MPO will play as well as the local agencies. Primary purpose is to solicit input and establish partnership with local officials.
- *Task 1.5 Prepare SB 375 Task Force Work Plan which should include the steps the COG will undertake to engage the stakeholders in preparing the strategy to meet the guidelines outlined in the Legislation.
- *Task 1.6 Establish the parameters for a SB 375 Task Force to be comprised of representatives from the various local agencies throughout the county, specifically those in the planning, transportation, and housing fields. Include other stakeholders as appropriate. Consider leveraging related activities (ie. 2010 RTP update, Kern Regional Transportation Modeling Committee, 4th year Kern Blueprint grant, COG Energy Watch Program, County SB811 effort, ...) to optimize time and resources.
- *Task 1.7 At the February Climate Change Summit, announce the formation of the SB 375 Task Force and invite the various representatives in attendance to be included. Following the Summit, send letters to each jurisdiction asking if a COG staff or Board Member could make up to a 30 minute presentation (with time for questions) to their respective council/board meetings. Ask each jurisdiction to appoint at least one designee to the Kern COG SB 375 Task Force, preferable an Assistant City Manager or the Planning Director.
- *Task 1.8 Follow up on the letters sent in Task 1.7 with phone calls to actually schedule meeting times.
- *Task 1.9 Prior to Council/Board presentations Contact the County Administrator and City Managers (possible through the California League of Cities Area Manager Groups(s)) and ask to discuss SB 375 at the next available meeting. Area Groups typically meet once per month. Suggest Planning Directors be invited to meeting.
- *Task 1.10 Revise power point presentation for City Manager and Planning Directors audience.

C. Education and Outreach for Environmental Groups and Public

- ^Task 1.11 Identify local environmental, affordable housing, transportation advocates,

neighborhood and community groups, home builder representatives, business organizations, etc. who may have an interest in SB 375 implementation.

- Task 1.12 Meet with representatives from each group identified in Task 1.11 independently to get a better understanding of their level of interest and knowledge and intended level of involvement and resources. Identify areas of synergy, if any, with Kern COG's work plan and ways to work together. This could lead to valuable staffing assistance that won't add to COG costs as well as potentially prevent conflicts later
- *Task 1.13 Create a SB 375 web page on the COG website. Include general information on SB 375, timelines, links, and the COG's work plan. Include information on how individuals and groups can get involved.

Phase 2: Preparing the framework and structure to meet the targets.

The following section is from the RTAC Final Report dated September 28, 2009. The full report is available at <http://www.arb.ca.gov/cc/sb375/rtac/report/report.htm>.

Target Setting Process

A. MPO/ARB Interaction

SB 375 encourages a high level of ARB interaction with key stakeholders throughout the target setting process as evidenced by the representation on the Committee as well as specific direction for ARB to exchange technical data with MPOs and the affected air districts. The success of the target setting process, therefore, is described best through the collaborations that must continue to occur. Interaction with local governments, the public, air districts, other state agencies, and transportation and land use experts is important as discussed elsewhere in this report. The interactions between ARB and the MPOs are particularly critical given that the planning requirements of SB 375 fall to the MPOs to carry out.

The proposed process for setting greenhouse gas emission targets under SB 375 should center on collaboration among the MPOs and ARB, with support from Caltrans and the California Transportation Commission regarding modeling and regional transportation plan guidance. Technical input may also be solicited from other agencies, such as the Federal Highway Administration, Federal Transit Administration, and U.S. Environmental Protection Agency.

The target setting process will also require direct participation and buy-in from local jurisdictions, county transportation commissions (particularly for the SCAG region), affected air districts, and other major stakeholders. The MPO/ARB interactions and the emission reduction target setting process will be greatly enhanced by what the Committee has described as a "bottom-up" process. Transparency is also key to this process. The Committee recommends that all data, analyses and documents be available for public review at every step in the process.

To ensure effective and efficient communication between ARB and the MPOs between now and September 2010, the Committee recommends the following process as a way to set the level of expectation about how that interaction could occur.

Step 1 MPOs Develop Draft Methodology And Targets for Emissions - MPOs prepare an analysis of their adopted fiscally constrained RTP, which includes its assessment of the location and intensity of future land use that is reasonably expected to occur. The analysis would include estimates of respective regional 2005 base year, 2020 and 2035 greenhouse gas emission levels (e.g., for defined “No Project” and “Project” alternatives included in a RTP EIR or other related assessment), using their existing models. MPOs would work together with ARB to ensure that this analysis uses consistent long-range planning assumptions statewide, to the degree practicable, including, but not limited to:

- Existing and forecasted fuel prices and auto operating costs
- Reasonably available federal and state revenues
- Assumptions about fleet mix and auto fuel efficiency standards provided by ARB
- Demographic forecasts (e.g., aging of population and changes to household income and cost of living)
- Assumptions about goods movement-related travel impacts (e.g., heavy-duty trucks, rail, seaports and airport)

Each MPO's analysis would be made available to the public.

Step 2 ARB Reviews Draft Baseline Emissions From MPOs - ARB uses the results from Step 1 to compile greenhouse gas emission estimates for each of the MPOs individually in the base year of 2005 and the target years of 2020 and 2035. ARB staff would then meet with the MPOs to share those results, and make them available to the public for review. ARB staff would also compare baseline greenhouse gas emission estimates with MPO fuel use data for comparison. To the extent that there are differences, ARB will attempt to understand them. This would result in a greenhouse gas emissions “baseline” against which further reductions from regional strategies developed in Step 3 and 4 can be compared.

Step 3 MPOs Develop Performance Indicators for Comparing Scenarios - Using a bottom up approach with input from regional and local officials and stakeholders, the MPOs would work with ARB to develop parameters for preparing sensitivity analyses and multiple scenarios to test the effectiveness of various approaches that would help identify the most ambitious achievable greenhouse gas emission reduction strategies for 2020 and 2035. ARB and MPOs are encouraged to coordinate and develop comparable packages across the regions. The policies and practices that could be incorporated into these alternative scenarios include, but are not limited to, those identified in the Best Management Practices (BMP) list and may include:

- Increased transportation funding and system investments in modes that will reduce greenhouse gas emissions, such as public transit, rail transportation, and non-motorized transportation
- Improved integration between land use and transportation policies, through means such as funding for supportive local infrastructure near public transit and funding for regionally coordinated preservation of natural areas
- Inclusion of policies that promote infill, higher densities, mixed uses, improved pedestrian and bicycle connections, and open space preservation
- Increased use of transportation demand management measures to reduce single-occupant vehicle (SOV) travel demand
- Increased use of transportation systems management measures that will improve system efficiency
- Including pricing options, such as express lanes, parking, and various fuel taxes
- Accelerated integration of more fuel efficient and clean fuels automobiles into the fleet mix than what is already required by adopted state vehicles and fuels programs
- Increased funding for and/or supply of housing affordable to the local workforce
In this step, the MPOs and ARB would also identify the data inputs and outputs that should be obtained from existing or new scenario assessments developed with existing travel demand and land use models, off-model tools, sketch planning analyses, or the BMP spreadsheet tool.

The Committee recommends that the data outputs be related to the performance indicators discussed in the performance monitoring section later in the RTAC report and should be comparable from region-to-region, to the extent feasible. Outputs may include those listed in the Performance Monitoring section, and may include:

- Greenhouse gas levels at target years
- Transportation performance measures
- Economic performance measures
- Other environmental performance measures
- Social equity performance measures
- Housing production performance measures

In identifying the measures to be used in developing these alternative scenarios, MPO staffs and ARB staff would use information from existing scenario assessments and cost-effectiveness studies wherever possible. The list of measures, alternative scenarios and data outputs identified for each MPO will be made available for public comment.

Step 4 MPOs Submits Proposed Target to ARB by March 1, 2010 - MPOs analyze the alternative scenarios using a sketch planning tool, BMP spreadsheet tool, or other acceptable means, and forward the results to ARB and make them available to the public, explaining the reasons for any difference in key outputs resulting from the various methodologies used to analyze scenarios. ARB would compile the results, and, combined with its review of empirical studies and other relevant information that relates to passenger vehicle and light truck greenhouse

gas emissions (including new auto fuel efficiency standards and clean fuels), prepare a preliminary draft uniform statewide target for public review and comment. At this time, an MPO may also submit a proposed regional target pursuant to provisions of SB 375.

Step 5 MPOs Comment on ARB Draft Targets - ARB considers feedback from MPOs and other stakeholders on the preliminary draft uniform statewide target, as well as any formal regional target submittals received as part of Step 4, to assess whether any region's target should be adjusted either above or below the preliminary draft uniform statewide target. Such revisions would be subject to a "reasonably tough test" and would ensure that each region's target is the most ambitious achievable (see page 6).

Step 6 ARB staff recommends draft targets to its Board by June 30, 2010.

Step 7 ARB works with MPOs to Develop Final Targets by Sept. 30, 2010 - ARB, MPOs and others continue to exchange technical information and modeling results prior to final target setting by September 2010. MPO and ARB shall encourage public participation in formulating alternative scenarios and determining outputs within the timelines noted below. The process outlined above will require a significant effort by all participants within a relatively short period of time in order to allow ARB staff to submit draft targets to its Board by June 30, 2010 and final targets by September 30, 2010 in accordance with SB 375. Therefore, it is recommended that a specific schedule be developed by the participants, based on the following key milestones:

- Steps 1 through 4 should be completed as close to March 1, 2010 as possible (April 30, 2010 for the SCAG region);
- Steps 5 and 6 should be completed by June 30, 2010; and,
- Step 7 will be completed by September 30, 2010.

Phase 3: Complying with SB 375

- Task 3.1 The COG will prepare a sustainable community strategy (SCS) as part of the RTP. The SCS will include factors such as location of housing and employment, densities and building intensities and farmland resources. It will essentially be a compilation of all the local general plans with a forecasted development pattern that when integrated with the transportation network, the region will realize a GHG emissions reduction.
- Task 3.2 COG quantifies the reduction in GHG emissions projected to be achieved by the SCS.
- Task 3.3 The COG shall conduct at least two informational meetings for the Board of Supervisors and the city councils on the SCS (or one if it is combined).

- Task 3.4 The COG prepares and adopts a public participation plan for the development of the SCS. This should be coordinated with the Task Force and stakeholders groups identified in Task 1.11.
- Task 3.5 The COG holds workshops to provide public with information the process on how to comply with the SCS.
- Task 3.6 Circulate draft SCS.
- Task 3.7 Hold public hearings on the SCS.
- Task 3.8 CARB is required to update the GHG emission reduction targets every eight years, but may revise every four years. CARB will engage in a consultative process with stakeholder prior to updating targets. The COG should position itself to be part of that process.

Attachment 3
Modeling Results

Factor or Variable	Kern SB 375 Target Strategies (CO2 with Pavley/LCF)					Kern SB 375 Target Strategies (No Pavley/LCF)					Land Use Model(UPLAN)	
	All Trips	RTAC (-XX,-50%IX,-50% Mil)	(-XX,-50%IX,-100%Mil)	(-XX,-50%IX,-100%Mil,-50%Pris)	(-XX,-50%IX,-100%Mil,-50%Pris,-50%Wind)	All Trips	RTAC (-XX,-50%IX,-50% Mil)	(-XX,-50%IX,-100%Mil)	(-XX,-50%IX,-100%Mil,-50%Pris)	(-XX,-50%IX,-100%Mil,-50%Pris,-50%Wind)	All Trips	RTAC (-XX,-50%IX,-50% Mil)
Weekday CO2 Emissions by Passenger Vehicles Per Person (Pounds)												
Base Year (2005)	22.02	14.32	13.79	13.64	13.58	22.02	14.32	13.79	13.64	13.58	22.02	14.32
SB 375 Interim Year (2020 CT)	16.15	10.39	10.09	9.99	9.95	22.06	14.21	13.79	13.63	13.61	22.36	14.80
SB 375 Horizon Year (2035 CT)	15.28	10.17	9.93	9.84	9.80	23.71	15.79	15.41	15.26	15.22	23.94	16.14
Base Scen. Interim Yr. (2020 NoBuild)	16.11	10.35	10.05	9.95	9.91	21.98	14.13	13.73	13.61	13.55	--	--
Base Scen Horizon Yr. (2035 NoBuild)	15.43	10.31	10.07	9.98	9.95	23.94	16.02	15.62	15.49	15.41	--	--
Alt. Scen. Interim Yr. (2020 ACT)	16.11	10.35	10.05	9.95	9.91	21.98	14.11	13.73	13.61	13.55	16.11	10.35
Alt. Scen. Horizon Yr. (2035 ACT)	15.22	10.13	9.89	9.80	9.75	23.60	15.72	15.34	15.20	15.12	21.18	13.60
Percent Change in CO2 Per Person from 2005												
Base Year (2005)												
SB 375 Interim Year (2020 CT)	-26.7%	-27.4%	-26.8%	-26.7%	-26.7%	0.2%	-0.8%	0.0%	0.0%	0.2%	1.5%	3.4%
SB 375 Horizon Year (2035 CT)	-30.6%	-28.9%	-28.0%	-27.83%	-27.9%	7.7%	10.3%	11.7%	11.9%	12.0%	8.7%	12.7%
Base Scen. Interim Yr. (2020 NoBuild)	-26.9%	-27.7%	-27.1%	-27.0%	-27.0%	-0.2%	-1.3%	-0.4%	-0.2%	-0.2%		
Base Scen Horizon Yr. (2035 NoBuild)	-29.9%	-28.0%	-27.0%	-26.8%	-26.8%	8.7%	11.9%	13.3%	13.6%	13.5%		
Alt. Scen. Interim Yr. (2020 ACT)	-26.9%	-27.7%	-27.1%	-27.0%	-27.0%	-0.2%	-1.5%	-0.4%	-0.2%	-0.2%	-26.9%	-27.7%
Alt. Scen. Horizon Yr. (2035 ACT)	-30.9%	-29.2%	-28.3%	-28.17%	-28.22%	7.2%	9.8%	11.2%	11.5%	11.3%	-3.8%	-5.0%
Pct. Diff. between 2035 CT and ACT	-0.40%	-0.45%	-0.46%	-0.46%	-0.46%	-0.45%	-0.48%	-0.49%	-0.40%	-0.60%	-11.5%	-15.8%
Passenger Vehicle Weekday VMT per Person (Miles)												
Base Year (2005)	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5
SB 375 Interim Year (2020 CT)	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	30.2	30.2
SB 375 Horizon Year (2035 CT)	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.4	31.4
Base Scen. Interim Yr. (2020 NoBuild)	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	--	--
Base Scen Horizon Yr. (2035 NoBuild)	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	--	--
Alt. Scen. Interim Yr. (2020 ACT)	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	30.6	30.6
Alt. Scen. Horizon Yr. (2035 ACT)	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	28.2	28.2
2. MODEL OUTPUT DATA--CO2 and Vehicle Miles Traveled												
CO2 Emissions by Passenger Vehicles per Weekday--EMFAC2007 LDA, LDT1, LDT2, and MDV (Tons)												
Base Year (2005)	8,430	5,480	5,280	5,220	5,200	8,430	5,480	5,280	5,220	5,200	8,430	5,480
SB 375 Interim Year (2020 CT)	8,160	5,250	5,100	5,050	5,030	11,150	7,180	6,970	6,890	6,880	11,300	7,480
SB 375 Horizon Year (2035 CT)	10,090	6,720	6,560	6,500	6,470	15,660	10,430	10,180	10,080	10,050	15,810	10,660
Base Scen. Interim Yr. (2020 NoBuild)	8,140	5,230	5,080	5,030	5,010	11,110	7,140	6,940	6,880	6,850		
Base Scen Horizon Yr. (2035 NoBuild)	10,190	6,810	6,650	6,590	6,570	15,810	10,580	10,320	10,230	10,180		
Alt. Scen. Interim Yr. (2020 ACT)	8,140	5,230	5,080	5,030	5,010	11,110	7,130	6,940	6,880	6,850	8,140	5,230
Alt. Scen. Horizon Yr. (2035 ACT)	10,050	6,690	6,530	6,470	6,440	15,590	10,380	10,130	10,040	9,990	13,990	8,980
Total VMT by Passenger Vehicles per Weekday--EMFAC 2007 LDA, LDT1, LDT2 and MDV (Miles, in Thousands)												
Base Year (2005)	22,619	22,619	22,619	22,619	22,619	22,619	22,619	22,619	22,619	22,619	22,619	22,619
SB 375 Interim Year (2020 CT)	30,233	30,233	30,233	30,233	30,233	30,233	30,233	30,233	30,233	30,233	30,536	30,536
SB 375 Horizon Year (2035 CT)	41,758	41,758	41,758	41,758	41,758	41,758	41,758	41,758	41,758	41,758	41,503	41,503
Base Scen. Interim Yr. (2020 NoBuild)	30,083	30,083	30,083	30,083	30,083	30,083	30,083	30,083	30,083	30,083		0
Base Scen Horizon Yr. (2035 NoBuild)	41,486	41,486	41,486	41,486	41,486	41,486	41,486	41,486	41,486	41,486		0
Alt. Scen. Interim Yr. (2020 ACT)	30,163	30,163	30,163	30,163	30,163	30,163	30,163	30,163	30,163	30,163	30,955	30,955
Alt. Scen. Horizon Yr. (2035 ACT)	41,626	41,626	41,626	41,626	41,626	41,626	41,626	41,626	41,626	41,626	37,257	37,257

DRAFT Factor or Variable		Kern SB 375 Target Strategies (CO2 with Pavley/LCF)					Kern SB 375 Target Strategies (No Pavley/LCF)					All Trips		RTAC (-XX,-50%IX,-50% Mil)		
		All Trips	RTAC (-XX,-50%IX,-50% Mil)	(-XX,-50%IX,-100%Mil)	(-XX,-50%IX,-100%Mil,-50%Pris)	(-XX,-50%IX,-100%Mil,-50%Pris,-50%Wind)	All Trips	RTAC (-XX,-50%IX,-50% Mil)	(-XX,-50%IX,-100%Mil)	(-XX,-50%IX,-100%Mil,-50%Pris)	(-XX,-50%IX,-100%Mil,-50%Pris,-50%Wind)					
Total Minus Exempt Vehicle Miles Traveled per Weekday--EMFAC 2007 LDA, LDT1, LDT2 and MDV (Miles, in Thousands)																
Base Year (2005)		22,619	14,610	14,086	13,918	13,844	22,619	14,610	14,086	13,918	13,844	22,619	14,610			
SB 375 Interim Year (2020 CT)		30,233	19,346	18,770	18,574	18,491	30,233	19,346	18,770	18,574	18,491	30,536	20,141			
SB 375 Horizon Year (2035 CT)		41,758	27,752	27,044	26,799	26,685	41,758	27,752	28,460	26,799	26,685	41,503	28,088			
Base Scen. Interim Yr. (2020 NoBuild)		30,083	19,197	19,197	18,426	18,343	30,083	19,197	19,197	18,426	18,343	0	0			
Base Scen Horizon Yr. (2035 NoBuild)		41,486	27,464	26,744	26,499	26,384	41,486	27,464	27,464	26,744	26,499	0	0			
Alt. Scen. Interim Yr. (2020 ACT)		30,163	19,281	18,707	18,513	18,430	30,163	19,281	18,707	18,513	18,430	30,955	20,664			
Alt. Scen. Horizon Yr. (2035 ACT)		41,626	27,631	26,926	26,683	26,569	41,626	27,631	26,926	26,683	26,569	37,257	23,925			
1. DEMOGRAPHIC DATA																
Values as Given by MPO Model Output		Households														
		Base Year (2005)		260,700	260,700	260,700	260,700	260,700	260,700	260,700	260,700	260,700	260,700	260,700	260,700	
		SB 375 Interim Year (2020 CT)		316,700	316,700	316,700	316,700	316,700	316,700	316,700	316,700	316,700	316,700	316,700	316,700	
		SB 375 Horizon Year (2035 CT)		417,200	417,200	417,200	417,200	417,200	417,200	417,200	417,200	417,200	417,200	432,648	432,648	
		Base Scen. Interim Yr. (2020 NoBuild)		316,700	316,700	316,700	316,700	316,700	316,700	316,700	316,700	316,700	316,700			
		Base Scen Horizon Yr. (2035 NoBuild)		417,200	417,200	417,200	417,200	417,200	417,200	417,200	417,200	417,200	417,200			
		Alt. Scen. Interim Yr. (2020 ACT)		316,700	316,700	316,700	316,700	316,700	316,700	316,700	316,700	316,700	316,700	316,700	316,700	
		Alt. Scen. Horizon Yr. (2035 ACT)		417,200	417,200	417,200	417,200	417,200	417,200	417,200	417,200	417,200	417,200	421,463	421,463	
		Jobs		Base Year (2005)		286,432	286,432	286,432	286,432	286,432	286,432	286,432	286,432	286,432	286,432	286,432
				SB 375 Interim Year (2020 CT)		377,800	377,800	377,800	377,800	377,800	377,800	377,800	377,800	377,800	377,800	377,800
SB 375 Horizon Year (2035 CT)				460,730	460,730	460,730	460,730	460,730	460,730	460,730	460,730	460,730	430,718	430,718		
Base Scen. Interim Yr. (2020 NoBuild)				377,800	377,800	377,800	377,800	377,800	377,800	377,800	377,800	377,800				
Base Scen Horizon Yr. (2035 NoBuild)				460,730	460,730	460,730	460,730	460,730	460,730	460,730	460,730	460,730				
Alt. Scen. Interim Yr. (2020 ACT)				377,800	377,800	377,800	377,800	377,800	377,800	377,800	377,800	377,800	377,800	377,800		
Alt. Scen. Horizon Yr. (2035 ACT)				460,730	460,730	460,730	460,730	460,730	460,730	460,730	460,730	460,730	463,841	463,841		
Computed Values based on MPO Data				Household Population Growth Rate--Base Year to...												
		Historic to Base Year														
		SB 375 Interim Year (2020 CT)		1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	
		SB 375 Horizon Year (2035 CT)		1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	
		Base Scen. Interim Yr. (2020 NoBuild)		1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	
		Base Scen Horizon Yr. (2035 NoBuild)		1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	
		Alt. Scen. Interim Yr. (2020 ACT)		1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	1.87%	
		Alt. Scen. Horizon Yr. (2035 ACT)		1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	1.83%	
Jobs Per Household		Base Year (2005)		1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10		
		SB 375 Interim Year (2020 CT)		1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19		
		SB 375 Horizon Year (2035 CT)		1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00		
		Base Scen. Interim Yr. (2020 NoBuild)		1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	--	--		
		Base Scen Horizon Yr. (2035 NoBuild)		1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	--	--		
		Alt. Scen. Interim Yr. (2020 ACT)		1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19		
		Alt. Scen. Horizon Yr. (2035 ACT)		1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10		

Assumptions: Based on Apr 09 Traffic model, Oct 09 Socio (Alternative Scenario Mar 10 socio), 2007 RTP data, CT = Current Trend (business as usual), ACT = Alternative to Current Trend

Attachment 4

Draft Meeting Notes from March 17, 2010 Kern Climate Change Task Force Meeting

**Kern Climate Change Task Force (KCCTF)
And
Kern Regional Transportation Modeling Committee (KRTMC)
DRAFT MEETING NOTES**

KERN COG CONFERENCE ROOM
1401 19TH STREET, THIRD FLOOR
BAKERSFIELD, CA

Wednesday
March 17, 2010
9:00 A.M.

1. INTRODUCTIONS:

Bob Wren	City of Wasco
Scott Hurlbert	City of Shafter
Cecilia Griego	City of Bakersfield
George Gillburg	City of Bakersfield
Ed Murphy	City of Bakersfield
Rebecca Moore	LAFCO
Karen Northcutt	Northcutt and Associates (Metro GP Consultant)
Mike McCabe	City of Delano
Brian Blacklock	Kern County Roads
Barry Niemke	Kern County Roads
Warren Maxwell	Kern County Roads
David Jones	Kern County APCD
Dave Dmohowski	Premier Planning Group
Patty Poire	Western Properties
Richard Lee	Fehr and Peers
Gregg Buckle	McIntosh and Associates
Steve Letsky	McIntosh and Associates
Lorelei Oviatt	Kern County Planning
Walter Allen	TRIP
Issac George	City of Arvin
Cheryl Casdorff	Kern County Planning
Paul Gorte	City of Taft
Wally Hutcheson	TPG Consulting
David Crowder	Tejon Mountain Village

STAFF:	Robert Ball	Kern COG
	Troy Hightower	Kern COG
	Ed Flickinger	Kern COG
	Ben Raymond	Kern COG

Mr. Ball gave a brief description of informed consent.

2. Approve Meeting Notes

Mr. Ball reviewed the meeting notes from the February meeting; he noted that last month there was an Action Item on the agenda to propose a target. That was delayed until the

March meeting because the modeling was not ready. Mr. Ball followed up by stating at the February Kern COG Board meeting, the COG Board instructed Kern COG to submit a letter to Air Resources Board (ARB) notifying them that they would be submitting a target after the April Kern COG Board Meeting. Mr. Ball stated that ARB has received the letter, and they have asked for some draft numbers. Mr. Ball responded to ARB that they would share the Staff Reports in draft form; however they would not be submitting it formally until April 16th.

Mr. Ball informed the Committee that the following Wednesday on March 24th from 9:00 a.m. to 2:30 p.m., Kern COG is hosting a 2010 Highway Capacity Manual Update. Rick Dowling from Dowling and Associates will be speaking. The cost is \$8.00 to cover the cost of lunch, if you would like to attend contact Tami Popek at Kern COG.

Mr. Ball asked if there were any comments or concerns regarding the February 17, 2010 Minutes for the Kern Climate Change Task Force (KCCTF) and Kern Regional Transportation Modeling Committee (KRTMC) meeting.

Action: Approved by Informed Consent.

3. Review Meeting Goals

Mr. Ball briefly reviewed the meeting goals. He stated that the goal was to obtain informed consent from the Committee on assumptions and modeling method for the targets as well as the proposed target to recommend to the Transportation Technical Advisory Committee (TTAC).

4. Background/Overview Presentation

Mr. Ball gave a brief updated presentation that was presented at the public workshop and to the Kern COG Board last month. It was also presented to the TTAC earlier in the month.

Mr. Ball began by stating that in the recent climate change legislation, Air Resources Board (ARB) has developed a climate change scoping plan. The plans require that they reduce CO₂ emissions back to the 1990's levels. Mr. Ball stated that legislation has also passed Senate Bill 375 which deals with the reduction of passenger vehicle travel. The modeling efforts are focused on the 3% of potential reduction that may be seen from the reorganization of the land use. Mr. Ball stated that Kern emits about 7000 tons of CO₂ equivalents, which includes methane and others sources. To reduce 1 ton of CO₂, one household would need to eliminate one cross country trip per year or reduce 6.3 miles of driving per day. Mr. Ball informed the Committee that in the SB375 they have created Sustainable Community Strategy (SCS). Mr. Ball stated that SCS is part of the long range transportation plan for Kern County. It has all of the planned transportation expenditures. It includes an assumption of land use. The SCS will then be compared to the State wide targets for the region. Mr. Ball explained that if we meet the targets then they are not required to do anything else. However if we fail to meet the targets in our Regional Transportation Plan (RTP) they are required to develop an Alternative Planning Strategy (APS). Mr. Ball explained that the APS is a voluntary document that is separate from the RTP. If the SCS that they develop does pass, and down the road something changes such as modeling assumptions change or a general plan amendment happens and we are no longer able to achieve the target set for the SCS, at that point they would be required to do an APS.

Mr. Ball stated the ARB created a group called the Regional Targets Advisory Committee (RTAC). The Committee strongly recommended that in the local adoption and approval process that they not only talk about climate change but cover co-benefits from climate change. Mr. Ball stated that in an appendix to the attached Staff Report was a list of fifteen co-benefits. Mr. Ball noted that the Committee has been meeting to develop a coordination plan for SB375. He noted that a copy of the coordination plan was in the appendix as well. He advised that they are working on steps 1-4 of phase two of the coordination plan.

Mr. Ball stated that they have been taking the preliminary information from the KCCTF/KRTMC group to the TTAC. Mr. Ball informed the Committee that they will be taking the draft target to the Kern COG Board on April 15th for approval, and it will be sent to ARB on April 16th. The first statutory deadline in SB375 that requires ARB to release a draft target is June 30th. However there is a possibility that they might release something sooner to begin dialogue and feedback.

Mr. Ball stated that one of the issues that have been brought up is how we track progress. Mr. Ball stated that the project tracking method is not a requirement under SB375. He went on to state that tracking progress is not needed for our Region until 2014 when the first RTP with SCS in it is adopted. Mr. Ball stated that transportation model validation run, is a run that is done to calibrate to ensure our model matches "real world" counts. The validation run can be broke down into county sub areas. Mr. Ball went on to give a PowerPoint presentation of the map of traffic from each of 12 sub areas. The question was asked why was so much variance in the Vehicle Miles Traveled (VMT) per day between the metro Bakersfield and Delano/McFarland which is not that high and it is much higher for Shafter, Taft and Wasco. Mr. Ball responded that it might be casued by the balance with retail opportunities within the area, retail makes up 40% of the travel. He went on to state that it's not just trips being produced by a region, but it is also trips being attracted by a region. Someone asked if the information that they were seeing was a compilation of the information on the previous data spreadsheets. Mr. Ball responded that it was the base year validation for the transportation model, which the future year model runs are based off of. He went on to state that it was as close to observed data as they could get on travel within Kern and still be able to aggregate it by sub areas of the county for tracking progress toward the goal.

Mr. Ball stated that SB375 modeling is using 1.3million population in 2035. He went on to state that it was done using the manual spreadsheet re-distribution methodology and is overseen by the KRTMC.

Mr. Ball stated that the Committee had also spent some time developing a land use model, they are using some density information of that model in the 4D process to capture more CO2 reduction strategies.

Mr. Ball introduced Mr. Lee from Fehr and Peers. Mr. Ball asked Mr. Lee to cover the results and sensitivity of the modeling for the 4D process. Mr. Lee began by giving definitions to the 4-D's. He stated that Density is the number of units or employees per acre, Diversity is the balance of land use, Design or walkability. He went on to say that for the first adjustment factor if you double the density you get a 6% reduction in trips, if you increase land use diversity factor by a factor of 2 you get a 4% reduction. Mr. Lee stated that the fourth D is Destination. He went on to say that central areas like metro Bakersfield tend to have lower VMT's based on being closer to most destinations. He stated that they are small but significant reductions from each of the D's.

Mr. Lee stated that the model is now equipped, as new information about Density, Diversity, Design come in, it can be incorporated fairly readily so when SB375 takes hold

in the 2014 RTP, Kern County will be ready.

Mr. Ball stated that in addition to the 4-D process they also discussed the Air District's ISR rule and how some of the activities are promoting mixed use and the walkability and bikeability.

Mr. Hightower commented that in this process they are meeting regularly with other MPO's in the Valley on the methodologies and strategies. At the same time they are meeting with all of the Statewide MPO's. Mr. Hightower went on to state that what they are finding is that Kern is a little ahead of the game compared to the other MPO's. Mr. Hightower stated that a lot of that was attributed to the KRTMC Committee.

5. RTAC Step 3-4 – Current Trend and Alternative for 2020/2035

Mr. Ball briefly detailed the Staff Report.

Someone asked if the change in 2800 households between 2006 and 2010 was just Bakersfield or if it was Bakersfield and Delano. Mr. Ball responded that it was the net change including Bakersfield and Delano. He stated that it was still a zero sum adjustment process to create the Alternative to the Current Trend Scenario.

Mr. Ball pointed out that in the alternative land use approximately employees were moved from Pond Rd. and SR99 about 2 miles North to downtown Delano. The move was inadvertent and could be re-run if the County requested it. The change was left in the alternative for now.

Mr. Ball went on to go over the spreadsheet attached to the Staff Report. He went on to state that we are at 22 pounds per person per for all travel with-in Kern. Ms. Oviatt noted that we are at the State wide average. Mr. Ball stated that our base assumptions for the 2035 horizon are 15.3 pounds per person, which is a 30% reduction from 2005. The alternative is 30.9%.

Ms. Oviatt asked Mr. Ball to clarify if it had removed 50 or 100% of military trips on the spreadsheet. Mr. Ball responded that on the second column he had removed 50% and on the fifth, sixth, seventh and eighth columns were 100%.

Mr. Ball pointed out that the 8 columns on the left included statewide strategies such as Pavley I and Low Carbon Fuel standards that are showing about a 30% reduction in CO2 emissions. The 8 columns to the right showed increases in CO2 emissions as high as 12% without the statewide strategies. The last two columns showed a 5% decrease, when the land use model was allowed to move a significant proportion of the land use, without the statewide strategies. This movement of land use was considered at the last meeting to be an un-reasonable assumption.

Ms. Oviatt stated that she felt we should propose the 1 ½ % point change the Alternative to the Current Trend provides off the 9.8% Current Trend, and tell ARB that we will do the best that we can to achieve it. Mr. Ball agreed.

Mr. Hurlburt proposed that we use the 9.8% target from the Current Trend scenario because we were showing a significant reduction with the statewide strategies.

The group recognized that ARB would probably not be satisfied with the reduction in the Current Trends and that it was important to provide the Alternative data, however, the point needed to be conveyed to ARB that local plans are already doing a lot to address CO2 and that a target needs to be set based on what is achievable. In addition, the current trends is showing 27-28% reduction in CO2 which is an ambitious goal for the region, and the additional 1.5% that the Alternative provided was not significant enough for target setting. Further discussion ensued.

Action: Mr. Ball stated that the action by informed consent is to recommend that the TTAC use the 2020 current trends (9.95 lbs./prsn.) for the interim year, and the 2035

current trends (9.8 lbs./prsn.) for the horizon year for proposing our target. A reduction from 2005 of (13.58 lbs./prsn.).In addition, include the information on the alternative scenarios to show the minimal changes, but recommend that ARB use the current trends because all of the recent general plan updates and policies are already demonstrating significant reductions to the statewide average.

6. Other Issues that Need to be brought forward to the TTAC and COG Board

Mr. Ball asked that any other issues be brought to him after the meeting.

Mr. Ball noted that one item that was discussed in the Staff Report is external county travel. Mr. Ball stated that the other regions are developing methods to look at external county travel. Mr. Ball stated that we will provide an additional column to the data for external county travel based on some runs of the Statewide model being performed by Dowling and Associates. He explained that since they are taking off 50% of travel that is coming into our area from other counties, they will only have to add in half of the travel outside the county. Mr. Ball stated that fuel pricing is another issue that is coming and may result in some additional reductions in the numbers proposed.

7. Schedule Next KCCTF/KRTMC Meeting

The next joint meeting of the KCCTF/KRTMC will be scheduled after Mr. Ball has received the numbers.

8. Luncheon Workshop

There will be a Highway Capacity manual Update featuring Rick Dowling. Please RSVP by Monday March 24, 2010. The Cost will be \$8.00 to cover the cost of lunch.