

STAFF REPORT

SUBJECT: 101 In Motion

MEETING DATE: August 3, 2005

AGENDA ITEM: 4 B

RECOMMENDATION:

Receive report on travel model results of alternative land use scenario

STAFF CONTACTS:

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SUMMARY:

You will recall that the subcommittee of the TAG and SAC convened to develop options to address the land use transportation connection. The purpose of this effort was to assess if changes in local land use policies could impact traffic growth patterns and if local land use policies impact the need for infrastructure improvements.

The scenario that was selected by the Subcommittee for analysis assumed there would be no further increases in vacant land devoted to housing or employment, rather jobs would increase based on increased density at existing job sites and household population would increase based on more people per household. The resulting increases in population and employment are substantially less (approximately 75% less) than assumed in the SBCAG Regional Growth Forecast 2000 – 2030. While the SBCAG Regional Growth Forecast estimates an increase of approximately 47,000 jobs and 8,000 housing units in the South Coast between 2000 and 2030, the new scenario provides for just 12,000 new jobs and no new housing units. Approximately 8,700 new jobs result from density increase. Employment due to pending and approved projects (620 new jobs) as described by the “County Open Lands Report” is also added for a grand total of 9,320 new jobs. The original South Coast year 2030 employment forecast is 47,000 so this represents a reduction of 80 percent of forecast employment growth.

These revised assumptions about future growth were fed into the regional travel model. The results of this analysis indicates that while the existing congestion problem in the eastern portion of the Highway 101 corridor is not alleviated a significant reduction in development potential in the west end of the corridor may forestall the need for major highway capacity improvements in the Goleta area. Since the greatest amount of development potential in the South Coast is in the west end of the Highway 101 corridor, this area is most significantly affected by this scenario. Thus, significant (indeed radical) changes in local build out potential in land use plans

Member Agencies

Buellton ■ Carpinteria ■ Goleta ■ Guadalupe ■ Lompoc ■ Santa Barbara ■ Santa Maria ■ Solvang ■ Santa Barbara County

can significantly affect the amount and timing of the need for new infrastructure improvements. These results suggest that with reductions in the potential job growth between 2000 and 2030, proposed improvements could be staged with the capacity improvements from Milpas South occurring first.

In examining the results of this analysis the TAG accepted the results as verifying the relationship between land use and transportation needs but indicated no additional work was advisable. The SAC was split, on the one hand some believed the illustrative scenario selected for analysis was flawed, because some new development on vacant land is very likely, while others concurred with the TAG that the exercise demonstrated that local land use plans which regulate new development on vacant land will impact the timing and need for infrastructure investment.

DISCUSSION:

You will recall that the subcommittee of the TAG and SAC convened to develop options to address the land use transportation connection. The purpose of this exercise was to assess if changes in local land use policies could impact traffic growth patterns and if local land use plan choices impact the need for infrastructure improvements. The options that were considered range from a policy analysis of land use decisions to significant revisions to travel model inputs.

The scenario that was selected for further analysis with the SBCAG travel model assumes that there is no new commercial or housing development on vacant land. New socioeconomic growth assumptions between 2000 and 2030 are only due to increase in household size and increase in employment density in existing developed areas. Changes to the socioeconomic forecast are considerable. Total employment growth between 2000 and 2030 in the South Coast is reduced from 47,000 to 9,400; housing growth drops from 12,000 to zero; population growth drops from 42,000 to 5,000.

The Table below shows the existing and forecast employment densities as used in the Regional Growth Forecast 2000. The South Coast assumptions are bolded. This overall regional difference between the South Coast **existing** 54 employees per acre, and the **forecast** 64 employees per acre, is 18.5 percent and this factor is used to increase the employment in the selected TAZ's.

Existing and Forecast Employment Densities

Area	Existing Employment	Existing Acres of Developed Land	Employees Per Acre	Forecast Employment	Forecast Acres of Developed Land	Employees Per Acre
South Coast	121,788	2,241	54.0	168,750	2,630	64.0
Santa Ynez	10,711	578	18.0	14,449	800	18.0
Lompoc	21,920	556	39.0	30,300	640	47.0
Santa Maria	46,077	4,818	9.6	65,300	6,800	9.6
Total County	200,496	8,193	24.5	278,800	10,870	25.5

*Existing employment represents year 2000 employment.
 Existing developed land is from the Tax Assessors Database edited by County Planning and Development.
 Forecast employment and acres of developed land represents year 2030 employment.
 Approximately 8,700 new jobs result from density increase. Employment due to pending and approved projects (620 new jobs) as described by the "County Open Lands Report" is also added to the overall density increase for a grand total of 9,320 new jobs.*

Specific Traffic Analysis Zones (TAZ's are homogeneous areas of similar land uses) that were located in existing higher intensity commercial, industrial, retail areas were allocated an 18% increase in density. These areas were chosen due to their current intensive employment and potential for additional transit service, application of mixed use and urban "smart growth" principles, and, would be amenable to transit oriented development. Target areas that emerged are: downtown Santa Barbara and Carpinteria, La Cumbre, Cottage Hospital, Fairview/Calle Real, Camino Real, and Old Town Goleta. The attached figure identifies these areas.

Jobs (not employees) were not distributed uniformly but consistent with an 18% increase over their existing year 2000 employment levels with additional employment due to any proposed new development. In other words, if one zone has a significantly larger employment base than another TAZ, then the 18% increase applied to the larger zone will generate an overall greater numerical increase. The attached figure illustrates this point.

Household size was increased uniformly across all areas from 2.73 to 2.80 to account for an overall increase in workers. This resulted in a 2.5% increase in overall population.

The revised inputs were run with the SBCAG travel model. The resulting travel model output was compared to the results of the existing traffic model output (using the original growth forecasts), to identify the impact of constrained employment and no housing development on regional traffic growth.

The attached chart compares employment, population, and household growth for the new scenario with different historic and forecast growth periods.

Comparison of Growth on the South Coast

	Historical 1970-2000	Historical 1990-2000	Regional Growth Forecast 2000-2030	L.U. Scenario 2000-2030
Population	50,600	9,600	39,300	5,000
Housing	19,143	3,300	8,164	0
Employment	43,907	10,000	47,000	9,328

In summary, the revised inputs resulted in significant reductions in traffic, particularly in the west end of the Highway 101 corridor. The significant reduction in traffic is tied to substantial reductions in traffic generators, i.e., development of new businesses on vacant land. Therefore, not surprisingly, land uses do have a significant impact on traffic generation; our traffic problem is not due to just external factors. A full traffic level of service improvement on Highway 101 in Goleta is gained in the future by severely limiting employment growth.

The table below presents a ,pre detailed comparison of traffic impacts under PM peak hour conditions between the 2030 Land Use Scenario and the original 2030 forecast:

- During the PM peak, Highway 101 between Milpas to Ventura County line would still expect to be in LOS E-F range (see power-pt presentation exhibits). The 2030 Land Use Scenario would only reduce the traffic growth on Highway 101 by approximately 2-4% on this segment of the freeway.
- Congestion on Highway 101 in the Goleta area is expected to improve by at least one service level (from LOS E-F to LOS D-E). Traffic growth on 101 between Milpas and Turnpike is expected to reduce 5 - 7% when compared to the 2030 Base Case forecast.
- The most notable reduction of traffic growth on Highway 101 (approximately 20%) would occur between Patterson and Storke.

- Traffic growth on the arterials in the Goleta area is expected to decrease by approximately 13-23% when compared with the 2030 forecast.
- Inter-regional traffic on Highway 101 between North county and the South Coast is expected to decrease significantly (approximately 35%), reflecting the assumption in retaining the same 2030 economic forecast for North County.

Table 1: PM Peak Hour Traffic Comparison: 2030 Forecast Vs. LU Scenario

Roadway Segment	PM Peak Hour Volumes		
	2030 Forecast	2030 Land Use Scenario	% Increase
101 n/o C. Pass	8,710	8,500	-2.4%
101 s/o Milpas	10,950	10,600	-3.2%
101 n/o Carrillo	12,900	12,000	-7.0%
101 n/o Los Positas	14,100	13,300	-5.7%
101 n/o Turnpike	12,700	11,800	-7.1%
101 n/o Los Carneros	7,200	5,800	-19.4%
101 n/o Winchester Cyn	6,400	4,160	-35.0%
101 s/o Rt1	5,100	3,470	-32.0%
Carrillo e/o 101	4,055	3,670	-9.5%
Mission e/o 101	3,690	3,480	-5.7%
Upper State St	3,940	3,530	-10.4%
Turnpike s/o 101	2,350	1,900	-19.1%
Fairview s/o 101	3,120	2,640	-15.4%
Los Carneros s/o 101	3,520	3,040	-13.6%
Storke s/o 101	4,290	3,730	-13.1%
Hollister e/o Turnpike	1,740	1,490	-14.4%
Hollister e/o Patterson	2,210	1,700	-23.1%
Hollister e/o Storke	2,290	1,800	-21.4%

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The 101 IM land use committee met to discuss the assumptions used in the analysis and these results on June 7. The committee requested staff to convey these results to the advisory and steering committees and examine another scenario which they defined.

The next scenario would add a like amount of housing to balance job growth in the same geographic areas that were allocated employment growth. In addition, the external trips at the Ventura County line (xx and xi) would be cut by 75%, an amount equal to the reduction in job growth in the South Coast. This reduction would assess the impacts of external traffic growth on congestion on Highway 101.

The committee also discussed other scenarios such as doubling external traffic growth to account for increasing jobs-housing imbalance, spreading housing throughout the corridor to assess what impacts there might be on travel to jobs that are centrally located, and, loading employment and housing growth on either the west or east ends of the corridor to assess the implications of traffic generation and impacts on Highway 101 in order to assess if a change in growth by geographic area impacts traffic distribution. The committee also discussed what transit and rail improvements might be co-joined with job and housing growth to mitigate impacts of growth on traffic. Since additional analysis, time, and perhaps funding will be required to conduct these follow-up assessments the committee decided to proceed with the other scenario first. Some committee members expressed concern with the pace of the analysis and that a land use scenario is an important component of 101 IM.

Staff indicated that the additional work has to be seen in light of staff's other commitments and concerns about the impacts of additional consulting work on the project budget. Staff indicated that they could proceed with additional analysis of a new scenario as described above as time permits.

COMMITTEE REVIEW:

The Technical Advisory Group met and discussed this item on June 22 and July 13. The group accepted the conclusion that a significant (indeed radical) change in land use can have a significant impact on infrastructure needs. The TAG did not recommend additional modeling at this point because the SBCAG travel model is not a land use model that can thoroughly evaluate the implications of land use changes, such as increased density, on transit use. The TAG suggested a different model may be required to pursue this issue in greater detail which involves a longer term resource allocation issue. TAG members did encourage the development of a paper that outlined the impact of land use policy choices on transportation at the more local level.

The SAC discussed this at its meeting on July 25. Opinions by the members varied. On the one hand some believed the illustrative scenario selected for analysis was unrealistic because some new development on vacant land is very likely while others concurred with the TAG that the exercise demonstrated that local land use plans that regulate the potential for new development on vacant land will impact the timing and need for infrastructure investment. Other options raised by the committee include evaluating the impact of assuming a reduction in external trips from Ventura County, associated with lower employment growth, to assess the impact on travel in the east end of the corridor, and, using the UCSB model to assess the impact of reduced growth on the jobs-housing balance and commuting.



