

SCAG Rapid Fire Scenarios

July 2011 Workshop Scenario Descriptions and Discussion

Rev. 08 July 2011

SCAG will present a range of SCS and RTP options to the public and stakeholders at workshops in July and August 2011. These options will communicate varying ways the SCAG region can accommodate growth to 2035 and will couple these options with their impacts for a range of critical metrics. Growth options will combine different land use patterns with a generalized package of transportation improvements and investments. Each option, or scenario, will accommodate the same total number of population, households, and jobs in order to facilitate a clear ‘apples to apples’ comparison of the consequences of land use, transportation, and other policy choices facing the region.

The Rapid Fire scenarios will explore and clearly convey the impact of both *where* the region grows over the next 25 years – to what extent growth is focused within existing cities and towns; and *how* it grows – the shape and style of the neighborhoods and transportation systems that will shape growth over the period. Specifically, the scenarios will vary in how they address the following factors (note that these descriptors are boiled down to simplified tradeoffs for the sake of clarity and ‘the narrative’ of the scenarios and their impacts):

- **Development Location** (Dispersed Growth... Focused Development): Scenarios will vary in the proportion of growth accommodated at the edges of cities and the region’s urbanized areas versus that located in and around existing cities and towns, particularly in the region’s designated Transit Priority Project (TPP) areas. In the Rapid Fire model, this will be represented by the proportion of Greenfield versus Refill growth, as well as in the relative proportion of Standard versus Compact and Urban land development categories (LDCs).
- **Community/Neighborhood Design** (Auto-Oriented... Walkable): The shape and quality of growth in the scenarios will vary, from a focus on walkable and transit oriented places where most daily needs are within walking, biking, or short driving distance from homes, to a future in which most new communities are centered around the car as the dominant form of transportation for nearly all trips. The Rapid Fire model will pick up this variation based on the proportion of Compact and Urban versus Standard LDCs in each scenario.
- **New Housing Options** (Single Family Subdivisions... Multifamily Focus): The SCAG regional scenarios will vary future housing mix in order to depict the impacts of meeting (or not meeting) measured housing demand and the changing demographics and preferences of current and future southern Californians. Trend-based housing programs that focus more on larger-lot single family options will be compared to varying mixes of single family, townhome, and multifamily options. Housing demand profiles will be informed by the recent work of Chris Nelson and other state and national studies which connect changing demographic and economic conditions with housing demand.
- **Transportation Investments** Road/Highway vs. Transit/Non-Auto Strategies: While all scenarios are supported by a range of transportation options, they will vary in the

proportion of new investments that are focused on transit and non-auto modes versus highway and roadway improvements that facilitate local and regional automobile travel. These transportation ‘packages’ are informed by past and present RTPs and incorporate a range of transit emphasis up to and including the recent Measure R and 30/10 Initiative. Each scenario’s land use pattern and specific mix of place and location types will be matched to a generalized transportation package that supports the pattern and quality of growth. The Rapid Fire scenarios capture a range of potential strategies and investments under consideration for the RTP by considering the relative emphasis on investment by mode, or the inclusion of policy mechanisms such as TDM or congestion pricing. The scenarios do not consider specific transportation networks, or individual projects.

The four regional scenarios illustrate different ‘themes’ for how the region can grow, and the transport system that supports that growth. Each theme mixes a unique combination of the above factors and in turn varies in its impact on critical fiscal, environmental, and transportation challenges facing the region. A Business as Usual scenario has been created for comparison purposes, and will be presented in workshops; it will not, however, be provided as a scenario choice or option.

Scenario	Sub-Theme	Development Location Dispersed vs. Focused	Community Design Auto-Oriented vs. Walkable	Housing Options Single-Family Subdivisions vs. Multifamily Focus		Transportation Investments Road/Hwy vs. Transit and Non-Auto Strategies	
		<i>Dispersed</i> <i>Focused</i>	<i>Auto</i> <i>Walk</i>	<i>SF</i>	<i>MF</i>	<i>Hwy</i>	<i>Transit</i>
Business as Usual							
Scenario 1							
Scenario 2							
Scenario 3							
Scenario 4							

*Note – Chart is for illustrative purposes and may not fully reflect current or planned strategies.

Please note that scenario names and descriptions are for the purposes of internal discussions and are not necessarily meant for public consumption.

Business as Usual: Business as Usual expresses the continuation of the development patterns that Southern California has seen over the past decades. It includes some infill and redevelopment within existing cities and towns, but relies more heavily on growth on undeveloped agricultural lands and open spaces at the edges of cities and beyond. BAU is based on an analysis of development trends of the past decades and SCAG’s own baseline trend forecast. Transportation system investments would focus on transportation projects in the 2008

RTP that can be funded with core or baseline revenue which would require no new funding sources or pricing strategies. This would *exclude* all new toll facilities and most of the 30/10 projects identified in the 2008 RTP. New housing would be weighted towards larger-lot products in suburban patterns. BAU holds to jurisdictional and subregional control totals.

Scenario 1. This scenario is based on the compilation of General Plans produced by Fregonese Associates using the Local Sustainability Planning Tool (LSPT). This scenario includes a fair amount of development in existing urban areas but does not heavily focus on TPP areas. Housing mix is derived from the LSPT scenario and is comprised of ~58% single family products. The scenario does not meet demand for housing by type, but does include more multifamily product than BAU. The transportation system is based on the package of improvements in the 2008 RTP. This scenario holds to jurisdictional and subregional control totals.

Scenario 2. This scenario focuses more growth in walkable, mixed-use communities and in existing and planned high-quality transit areas. It would see increased investments in transit and non-auto modes, with strategies to support less auto-dependent growth patterns. Employment growth is focused in urban centers, around transit. This scenario strives to meet demand for a broader range of housing types, with new housing weighted towards smaller-lot single family homes, townhomes, and multifamily condos and apartments. The housing profile is informed by state and national studies on changing demographics and preferences, as well as A.C. Nelson's latest estimate of housing demand in California and its major regions. This scenario will include a fair amount of walkable, mixed-use development that is not necessarily dependent on the regional transit network, yet still exhibits significant VMT reductions and other benefits due to higher walk/bike mode share, shorter auto trips, and a more efficient housing program. Transportation system investments in this scenario would be more weighted towards transit investments, TDM, and non-auto strategies, which would support the move away from more auto-oriented development patterns. This scenario holds to jurisdictional and subregional control totals.

Scenario 3. This scenario builds on the walkable, mixed-use focus of the growth in Scenario 2, and also aims to improve fiscal and environmental performance by shifting a portion of the region's growth into areas that are closer to transit, less auto-centric, and less intensive for building energy and water needs. Like Scenario 3, this scenario aims to meet demand for a broader range of housing types, with new housing weighted towards smaller-lot single family homes, townhomes, and multifamily condos and apartments. Also like Scenario 3, transportation system investments would be more weighted towards transit investments, TDM, and non-auto strategies, which would support the move away from more auto-oriented development patterns.

Scenario 4. Like Scenario 3, this scenario aims to improve environmental and fiscal performance by shifting a portion of the region's growth into areas that are closer to transit, and have lower demands on building energy and water use. Scenario 4 maximizes growth in urban and mixed-use configurations in already developed areas, and around existing and planned transit investments. In general, an attempt is made to better coordinate development with investments, with a significant proportion of job and housing growth occurring in mixed-use areas served by transit. To support this shift, transportation system investments are heavily weighted towards transit infrastructure and operational improvements (i.e. higher frequencies

and more feeder service), as well as improvements to bicycle and pedestrian infrastructure. Scenario 4 specifically deemphasizes single-use development for either jobs or housing. This scenario goes beyond Scenario 3 in its emphasis on maximizing growth around transit infrastructure. Like Scenario 3, this scenario aims to improve environmental and fiscal performance by shifting a portion of the region's growth into areas that are closer to transit, and have lower demands on building energy and water use.

Note that, while the scenarios are constructed in the Rapid Fire model at the subregional scale in order to capture critical climate and transportation variations across the SCAG region, scenarios and their results will only be presented at the regional level.

Pricing, Vehicle Policies, and Other Scenario Considerations

The scenarios described above vary in their land use programs and patterns, and in the package of transportation investments that support the quality and location of growth in the scenarios. It is possible to also include other scenario 'pivot points' that facilitate discussions of other important SCS or RTP options or strategies including pricing strategies and vehicle technology. Staff and consultants are currently considering how this can be accomplished within the constraints of scenario development and other on-going work. All scenarios will include an assumption that system pricing is in place to facilitate implementation and function. The assumption will be expressed as an increase in auto operating costs per mile. Each scenario assumes a hypothetical 2 cent per mile VMT charge, which on average, would result in a 2% reduction in total VMT.

We can treat vehicle efficiency policies, fuel standards, power generation standards, and building efficiency standards as a "toggle" in the scenario analysis. That is, we can turn on or off more aggressive vehicle or other policy schemes to express that impact above and beyond the land use/transportation system. We would need to decide the specifics of which policies to adjust and how to adjust them (i.e., average mpg, carbon intensity of fuel, clean vehicle technologies, and building conservation measures). Within each of these policy discussions, it is essential that the public be able to understand the impact that land use and overall transportation system variations have on scenario outcomes independent of these policy variables.

Scenario Outcomes

Each of the SCAG scenarios will be modeled for a range of metrics and outcomes. In this first round of scenario development, outcomes will likely include the following indicators:

- Land consumption
- Vehicle miles traveled (VMT) and fuel consumption
- Transportation GHG and air pollutant emissions
- Building energy and water consumption and related GHG emissions
- Household costs for transportation and utilities
- Public health (air pollution-related) impacts and costs
- City/jurisdictional infrastructure costs (capital and O&M)

Subsequent discussions will determine which outcomes to include in workshop presentations and discussions, and how to present them.