

# Smart Growth Area Trip Generation and Parking Demand Study

Edward Schafer

San Diego Association of Governments

# Background

- Smart Growth Concept Map
- Climate Action Plan
- Four-Step Transportation Model

# SANDAG Smart Growth Concept Map

- In 2004, SANDAG adopted the Regional Comprehensive Plan (RCP) for the San Diego region.
- The RCP provides a vision for the region based on smart growth and sustainability.
- A key implementation action of the RCP has been the development of a “Smart Growth Concept Map” illustrating the location of existing, planned, and potential smart growth areas.

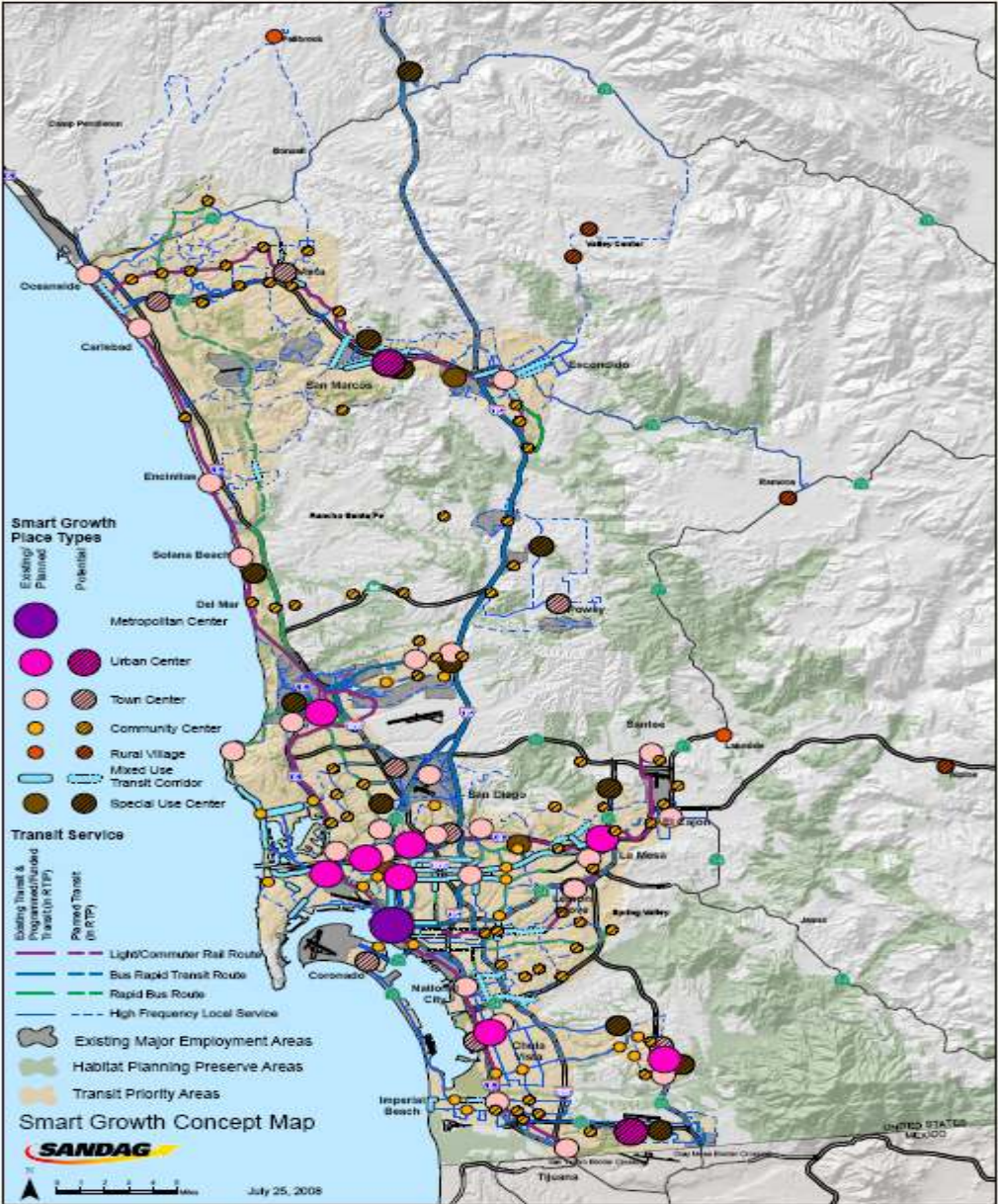
# Types of Smart Growth Areas

- Metropolitan Center
- Urban Centers
- Town Centers
- Community Centers
- Rural Villages
- Mixed Use Transit Corridors
- Special Use Centers

# Status of Smart Growth Areas

- Existing or Planned – Current development or planned development meets thresholds for residential and employment intensities and area is serviced or planned to be serviced by transit
- Potential – Areas identified by jurisdictions that could be developed or re-developed into Smart Growth areas and are serviced or planned to be serviced by transit

**San Diego Regional Comprehensive Plan (RCP)  
Smart Growth Concept Map**



*All Smart Growth Opportunity Areas shown on the map have been identified and recommended for inclusion on the map by local jurisdictions.*

# Climate Action Plan

- A land use and transportation plan that will return greenhouse gases (CO<sub>2</sub>-equivalent) to 1990 levels.
- Requires:
  - Wholesale smart growth development
  - Enhanced transit system
  - Enhanced transportation demand measures (TDM)

# Four Step Transportation Model

- Thought insensitive to smart growth characteristic
  - Ds
    - Density of development
    - Diversity of uses (e.g. mix of housing, commercial, office, etc..)
    - Distance to transit
    - Design for walk/bike (e.g. intersection density, sidewalk completeness)
  - These characteristics are thought to effect
    - Trip generation
    - Trip mode
    - Trip length

# Trip Generation and Parking Demand Survey

- Sites selected in a range of geographic settings
- All sites will have one or more of the following smart growth characteristics: infill (IND), mixed-use (MXD), and/or transit oriented (TOD)
- Transit orientation will consider both rail stations and high-frequency bus corridors
- Sites will include several located in transit oriented zones where parking requirements are as much as 20% lower than requirements elsewhere in the jurisdiction, as well as sites that provide standard suburban amounts of parking

## Land Uses Surveyed

- Residential
  - Retail
  - Office
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- No specialty uses such as hospitals or universities

# Time of Data Collection

- Most surveys will occur in September and October
- One or two surveys may occur over the summer in coastal locations where visitor/tourist conditions represent the “design” condition for traffic and parking
- The summer surveys will also serve as pilot tests for data collection methods and survey instruments

# Personal Interviews

- Surveys will be conducted at half or more of the study sites
  - Mode of travel
  - Purpose of trip
  - Trip was pass-by, diverted or primary
- Between 100 and 200 interviews will be completed at each survey site

# Types of Products

- **Case Studies**
  - Hourly and daily vehicle trip generation rates
  - Parking generation for the peak and surrounding hours
  - Average rates of vehicle trips by diversion category
    - pass-by
    - linked-diverted
    - primary
  - This will allow
    - Generation rates from analogous cases to represent their assumptions for studies of comparable new development proposals
    - Analyst to select a case that specifically represents development in their own geographic area of the region

# Average Rates by Smart Growth Category

- Where at least three studies are completed within a given smart growth category, the results will be averaged and compared with the average ITE rate for that same category.
- Using the data from the interview surveys and other studies of mode choice, the trip generation rates will also be reported in terms that could be useful for incorporation into SANDAG travel modeling:
  - a) person trips by work, other and non-home-based purposes
  - b) transit trips by purpose
  - c) vehicle trips by purpose.

# Extrapolated Rates from Statewide and National Studies

- Compare SANDAG's rates to state and national data
- If comparable, use state or national rates when necessary

# Relationships from National Synthesis on Smart Growth Trip Generation

- Development of statistical relationships between combinations of development characteristics (“8Ds”) and the developments’ travel generation
  - The multivariate equation that can be used to predict trip generation based on the correlated D’s,
  - A graph plotting the relationship curve, and showing a scatter-plot of the individual data points with the San Diego data points specifically identified

# Implementation of Results

- Modify current four step model
- Use in development of add-on post processing model
- Incorporate into development of Activity Based Model

# Questions