



MEETING OF THE REGIONAL TRANSIT TECHNICAL ADVISORY COMMITTEE

**Wednesday, April 29, 2015
10:00 a.m. – 11:45 p.m.**

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1170 W. 3rd St, Ste. 140 San Bernardino, CA 92410

If members of the public wish to review the attachments or have any questions on any of the agenda items, please contact Matt Gleason at (213) 236-1832 or gleason@scag.ca.gov.

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REGIONAL TRANSIT TECHNICAL ADVISORY COMMITTEE AGENDA April 29, 2015

The Regional Transit Technical Advisory Committee may consider and act upon any of the items listed on the agenda regardless of whether they are listed as information or action items. **TIME** **PG#**

1.0 **CALL TO ORDER**

(Wayne Wassell, Metro, Regional Transit TAC Chair)

2.0 **PUBLIC COMMENT PERIOD** - Members of the public desiring to speak on items on the agenda, or items not on the agenda, but within the purview of the Regional Transit Technical Advisory Committee, must fill out and present a speaker's card to the assistant prior to speaking. Comments will be limited to three minutes. The chair may limit the total time for all comments to twenty (20) minutes.

"

3.0 **CONSENT CALENDAR**

3.1 Approval Items

3.1.1 Minutes of the January 28, 2015 Regional Transit TAC Meeting 5 3

REGIONAL TRANSIT TECHNICAL ADVISORY COMMITTEE AGENDA April 29, 2015

4.0 INFORMATION ITEMS

4.1	<u>LA Metro Strategic Bus Network</u> <i>(Conan Cheung, Deputy Executive Officer, Metro Performance Management)</i>	20	*
4.2	<u>2016-2040 RTP/SCS Financial Model</u> <i>(Annie Nam, Manager, SCAG Goods Movement and Transportation Finance Department)</i>	20	7
4.3	<u>LA Metro Transit Asset Management</u> <i>(Randy Lamm, LA Metro)</i>	20	*
4.4	<u>2016-2040 RTP/SCS High-Quality Transit Corridor (HQTC) and Major Transit Stop Update</u> <i>(Steve Fox, SCAG Staff)</i>	20	15
4.5	<u>2016-2040 RTP/SCS Workshops Scenario Planning Efforts</u> <i>(Chris Tzeng, SCAG Staff)</i>	20	32

5.0 STAFF UPDATE

ADJOURNMENT

The next Regional Transit Technical Advisory Committee meeting is tentatively scheduled for July 29, 2015.

* Attachment under separate cover

Regional Transit Technical Advisory Committee (RTTAC)
of the
Southern California Association of Governments

January 28, 2015

Minutes

THE FOLLOWING MINUTES ARE A SUMMARY OF ACTIONS TAKEN BY THE REGIONAL TRANSIT TECHNICAL ADVISORY COMMITTEE (RTTAC). AN AUDIO RECORDING OF THE MEETING IS AVAILABLE FOR LISTENING IN SCAG'S OFFICE.

The Regional Transit Technical Advisory Committee held its meeting at SCAG's Downtown Los Angeles Office. The meeting was called to order by Wayne Wassell, Chair.

Members Present:

Wayne A. Wassell (Chair)	MTA
Lori Abrishami	MTA
David Lor	MTA
Shirley Hsiao	Long Beach Transit

Video Conference:

Amy Ahdi	Ventura County Transportation Commission
Vanessa Rauschenberger	Gold Coast Transit
Claire Johnson-Winegar	Gold Coast Transit
Dietter Aragon	Antelope Valley Transportation Authority
David Jimenez	Antelope Valley Transportation Authority
Gary Hewitt	Orange County Transportation Authority

Teleconference

Kevin Kane	Victor Valley Transit Authority
Austin Lee	Foothill Transit
Mervin Acebo	Riverside Transit Agency
Rohan Kuruppu	Riverside Transit Agency

SCAG Staff:

Philip Law	Courtney Aguirre
Matthew Gleason	Joseph Briglio
Stephen Fox	
Marco Anderson	

1.0 CALL TO ORDER

Wayne Wassell, Chair, called the meeting to order at 10:05 a.m.

2.0 PUBLIC COMMENT PERIOD

No member of the public requested to make a comment.

3.0 CONSENT CALENDAR

3.1 Approval Items

3.1.1 Minutes of the October 28, 2014 Regional Transit TAC Meeting

The Consent Calendar was approved by consensus.

4.0 INFORMATION ITEMS

4.1 2014 Clean Cities Stakeholder Survey

Marco Anderson, SCAG staff, reported on the 2014 Clean Cities Stakeholder Survey. Mr. Anderson noted the Clean Cities program is funded through the U.S. Department of Energy and the objective is to reduce petroleum gasoline use through the purchase of alternative fuel vehicles and infrastructure, increasing driving efficiency and the reduction of vehicle miles travelled. Strategies such as SCAG's RTP/SCS aim to reduce VMT's while other efforts are focused on fleet strategies.

Mr. Anderson stated a survey is conducted annually and reviewed the 2013 survey results. In 2013 there was a reduction of 8.5 million gallons of gasoline use with the majority attributed to alternative fuel vehicles (62%) and a reduction in vehicle miles travelled accounted for 37%. Additionally, there has been a reduction in Greenhouse Gas Emissions with 76% attributed to a reduction in vehicle miles travelled and 21% due to alternative fuel vehicles. Mr. Anderson noted work will begin soon on the 2014 survey and asked committee members for any assistance that can be provided in better understanding transit fleet operations. Additionally, there will be a webinar February 12, 2015 to examine the management of mixed fuel fleets.

4.2 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) Schedule Update

Courtney Aguirre, SCAG staff, provided an update on the 2016 RTP/SCS schedule. Ms. Aguirre noted that the development framework for the 2016 RTP/SCS was shared with the Technical Working Group and it will be presented in a Joint Policy Committee meeting and to the Regional Council on February 5, 2015. In April 2015, RTP/SCS scenarios and the framework for the SB 375 workshops will be reviewed with the TWG. In May or June 2015, the TWG will review feedback acquired from RTP/SCS workshop at the General Assembly and the SB 375 workshops. In August 2015, the TWG will be provided a draft of the 2016 RTP/SCS as well as a draft of the Program Environmental Impact Report. In October 2015, the Regional Council will be asked to approve the release of the draft 2016 RTP/SCS for public comment. In April 2016, Regional Council approval will be sought for the 2016 RTP/SCS so that subsequent approvals can be sought from FHWA and FTA in June 2016.

4.3 2015 Regional Transit TAC Look Ahead

Philip Law, SCAG staff, provided a RTTAC look ahead and future agenda topics. Mr. Law noted in 2007 SCAG signed several Memoranda of Understanding with

transit operators in the SCAG region that describe the roles and responsibilities of SCAG, the County Transportation Commissions, and the transit operators regarding the cooperative development of the RTP/SCS and Federal Transportation Improvement Program. As part of these agreements the RTTAC functions as the forum for obtaining input from the operators and the County Transportation Commissions into the development of the RTP/SCS.

The April 29, 2015 RTTAC meeting will review the scenarios and framework for the SB 375 public workshops, continue discussion of the 2016 RTP/SCS issues and review the transit, rail operations and maintenance assumptions in the plan. The following meeting on July 29, 2015 will review feedback from the SB 375 public workshops and continue discussing the 2016 RTP/SCS transit and rail project strategies and performance. The next meeting on October 28, 2015 will discuss the draft 2016 RTP/SCS.

4.4 Overview of 2012-2035 RTP/SCS Passenger Rail Element

Steve Fox, SCAG staff, provided an overview of the 2012-2035 RTP/SCS Passenger Rail Element and outlined the elements for the 2016 RTP/SCS. Mr. Fox first reviewed the 2012 RTP/SCS projects in development and stated several of those projects are now under construction including Metrolink service expansion in Orange County, the Perris Valley line and the downtown San Bernardino Metrolink station. Additionally, high-speed rail has begun construction and the conversion of the Pacific Surfliner to local control is nearly completed. Mr. Fox further reviewed the current state of existing passenger rail service including ridership, on time performance and farebox recovery.

It was noted the 2016 RTP/SCS rail elements will include existing and future rail conditions, the state of the system, needs assessment, sustainability, land use and progress toward implementation of the 2012 RTP/SCS. 2016 passenger rail recommendations and themes are to include improved rail airport connectivity, improving Bus Rapid Transit connections to rail service and implementation of First Mile/Last Mile policies around rail stations. Rail recommendations and themes for 2016 include a need for a dedicated funding stream for capital projects, double tracking, sidings and grade separations for more frequent service and faster train speeds.

Gary Hewitt, OCTA, noted that a closely defined definition of Bus Rapid Transit has been brought forth and it may be useful to align BRT/rail strategies with this more specific definition.

4.5 Overview of 2012-2035 RTP/SCS Transit Element

Matt Gleason, SCAG staff, provided an overview of the 2012-2035 RTP/SCS Transit Element and emerging issues for the 2016 RTP/SCS. Mr. Gleason reviewed the planned and existing regional transit network as well as operational and capital investments. Next, major capital projects and recommended operational and access strategies were presented. Transit trip mode shares data

indicate bus trips declining from 86% to 82% mainly due to a shift to rail for longer transit trips.

Mr. Gleason reviewed the completed and initiated transit projects since 2008 as well as transit services initiated. Next, service hour trends, per capita ridership and annual ridership were reviewed. It was noted 2016 emerging issues include an examination of technology and the impacts of innovative fuels and information technologies on mobility. Additional issues include First Mile/Last Mile connectivity, emergency and preparedness, poverty and stagnating per capita demand.

Shirley Hsiao, Long Beach Transit, asked about the corridors with increased frequency map and noted they fall outside Los Angeles County. Ms. Hsiao asked if additional methods to calculate future route growth can be considered as the greatest regional density is in Los Angeles County and perhaps some corridors in this area hold potential to increase rider frequency.

4.6 2016-2040 RTP/SCS High-Quality Transit Corridor (HQTC) and Major Transit Stop Methodology

Steve Fox, SCAG staff, stated as a follow-up to previous discussions on methodology, 15 minute route service tables have been sent to regional transit agencies for confirmation. Mr. Fox noted maps will be created for the 2016 RTP/SCS reflecting 15 minute or better service lines. Regional transit operators have also been asked to indicate future service routes they expect to increase to 15 minute or better headways.

Shirley Hsiao, Long Beach Transit, asked if questions posed to transit agencies regarding their future routes operating at 15 minutes or better headways can also ask if the agency anticipates that it will have the operational funding to increase service.

STAFF UPDATE

5.1 FY 2011-12 Transit System Performance Report

Matt Gleason, SCAG staff, thanked the committee for their contributions to the report and stated the final report will be sent after mid-February and hard copies could be available at the next RTTAC meeting, upon request.

ADJOURNMENT

The meeting adjourned at 11:50 a.m. The next meeting of the Regional Transit Technical Advisory Committee is April 29, 2015.

2016-2040 RTP/SCS Financial Plan Development

Regional Transit Technical Advisory Committee

April 29, 2015

Annie Nam, Manager of Goods
Movement and Transportation Finance



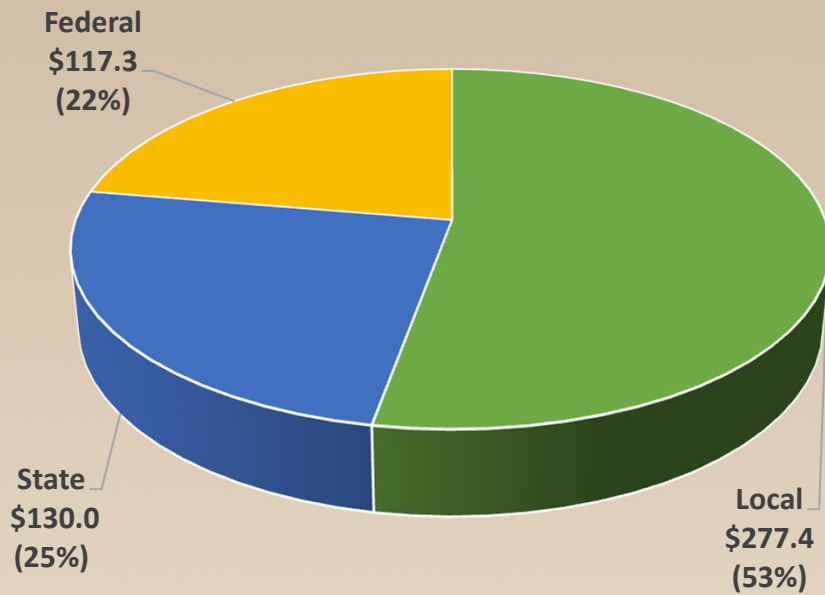
Adopted 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy

- Almost \$525 billion in investments to improve the SCAG region's transportation system through 2035
- \$263 billion in capital investments
- \$217 billion in system operations, preservation, and maintenance
- \$45 billion in debt service to advance construction of projects

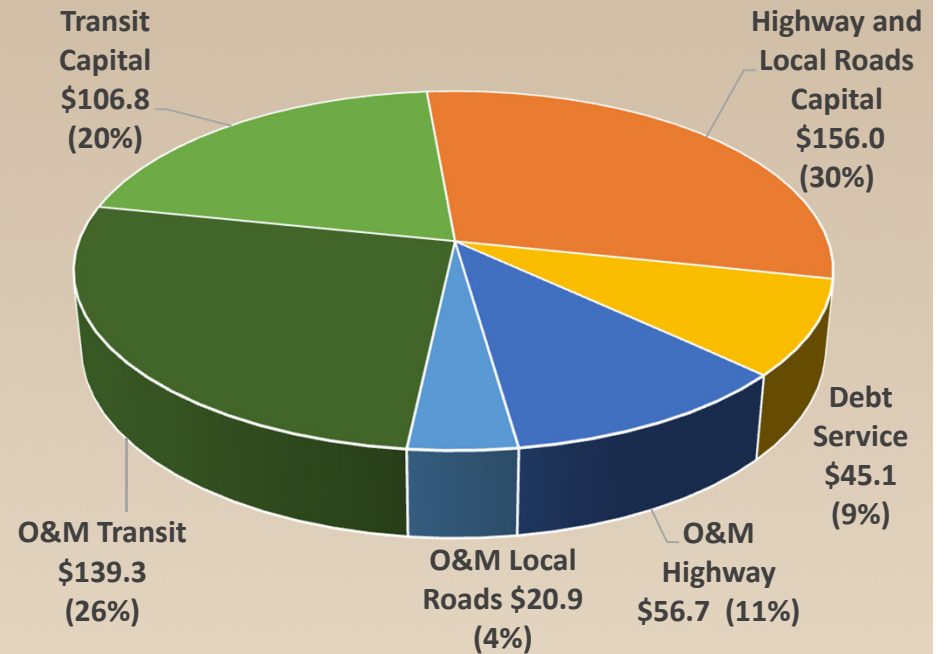


Adopted 2012-2035 RTP/SCS Budget

REVENUES



EXPENDITURES

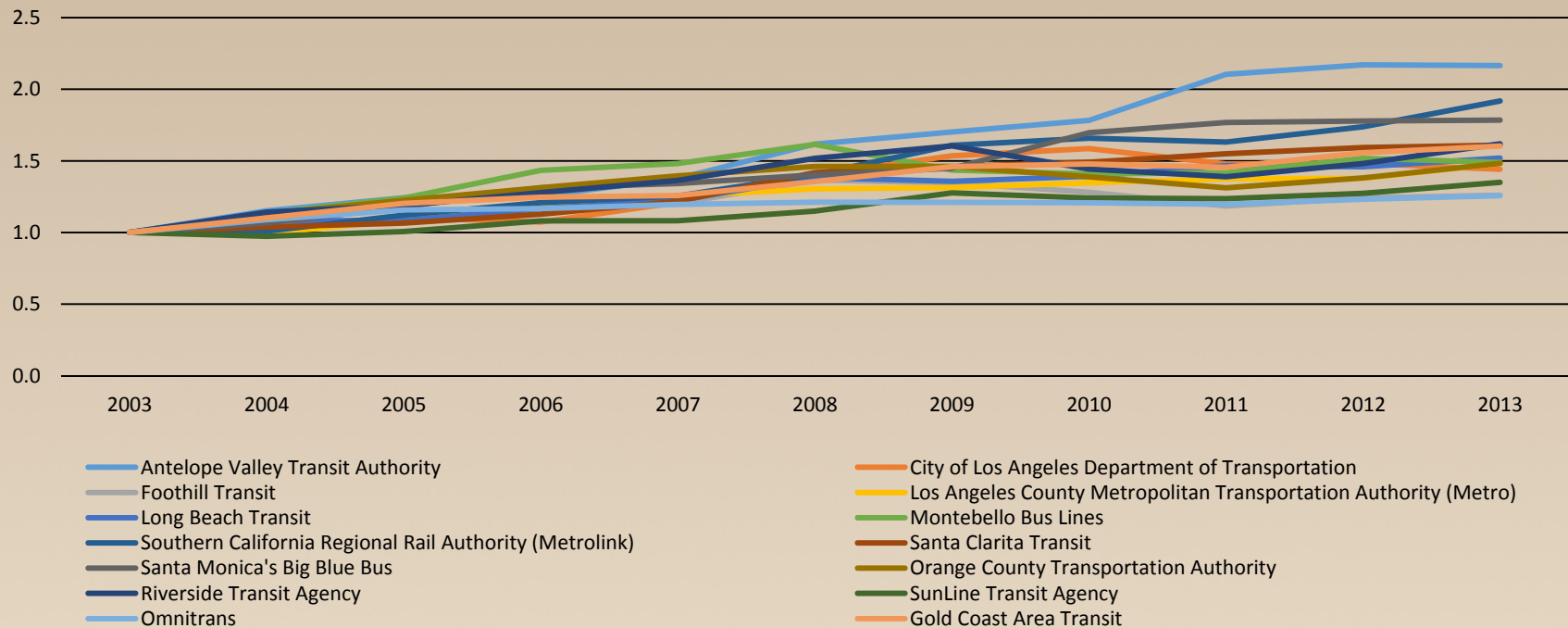


Transit System Operations, Preservation, and Maintenance Costs

- Future transit costs difficult to predict because they depend on variety of factors, such as:
 - Future revenue-miles of service
 - Labor contracts
 - Age of rolling stock
- Addition of new transit service and capital projects can add to ongoing O&M costs, such as:
 - Metrolink Perris Valley Line

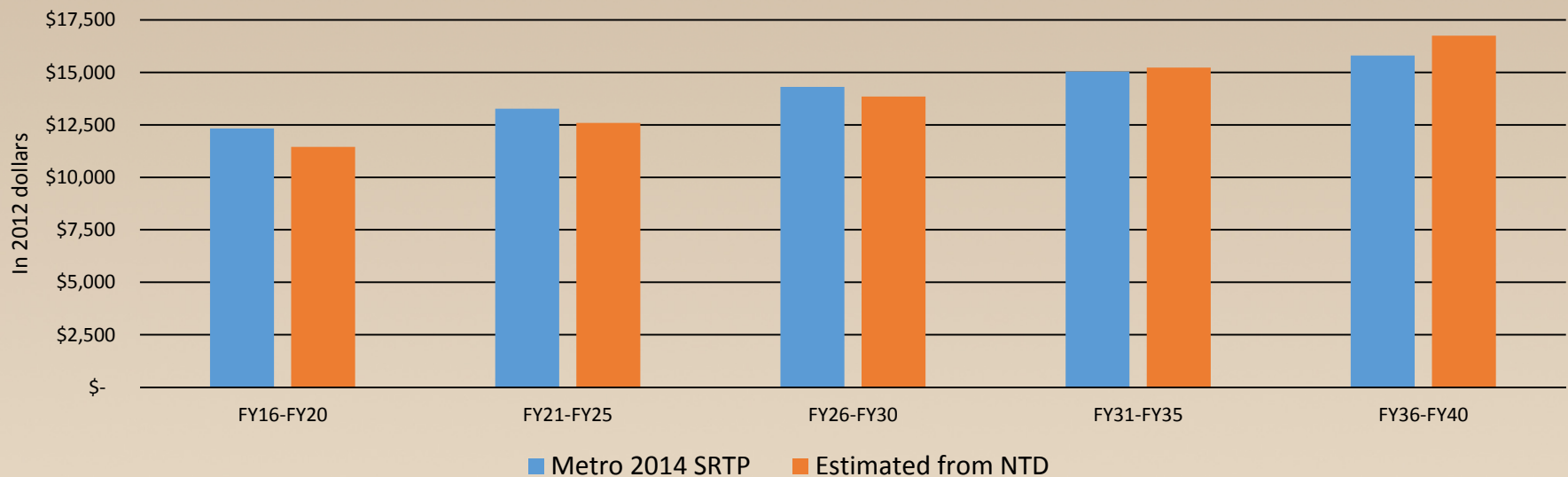
Growth in Transit O&M Costs Based on Analysis of NTD Statistics

- Over last decade, costs grew 1 to 10 percent annually



Use of NTD Statistics for Estimating Transit O&M Costs

- Less than 1.3% difference over 25-year planning period in countywide transit O&M forecast for Los Angeles County between NTD-based approach and Metro 2014 SRTP



Focus areas for 2016-2040 RTP/SCS Financial Plan

- Estimating cost of achieving state of good repair
 - Historically used rehabilitation and replacement cost projections from Metro (for entire Los Angeles County) and Metrolink but lacked comparable estimates for other counties
 - Gap between business-as-usual investments in preservation and level to achieve state of good repair
- Plans for significant service changes impacting plan
 - Metrolink Strategic Plan Update

Thank You



2016-2040 RTP/SCS High Quality Transit Corridors

Regional Transit Technical
Advisory Committee

April 29, 2015



High-Quality Transit Corridors

- HQTC and Major Transit Stop methodology vetted through RTTAC and other large MPOs
- Draft 15-minute services sent to transit operators in December (identified by SCAG staff)
- Based on current 2014/2015 schedules
- SCAG model peak 6:00 a.m. to 9:00 a.m.; 3:00 p.m. to 7:00 p.m.
- Can be flexible, e.g., OCTA

High-Quality Transit Corridors and Major Transit Stops

- Asked for future 15-minute corridors as well as possible bus lane corridors
- 50 fixed-route operators contacted
- Good response rate and some future corridors identified
- Maps produced for current and future corridors
- Met with county commissions earlier this month to present operator submittals

Thank You

Steve Fox, Senior Regional Planner
fox@scag.ca.gov



High Quality Transit Corridors - Input from LA County Operators & CTC

AVTA - Future

Line	Name	Headway	Alignment Boundaries	Year of Revenue Service	Notes
Route 1	Palmdale/ Lancaster	15 min.	10th Street West Palmdale Blvd.	FY 2016	Service will increase to 15 min. frequencies by FY2016. Route 1 BRT service implemented.

Big Blue Bus - Current (2014)

Line	Name	Headway	Alignment Boundaries	Notes	Agency Comments
R3	Lincoln Blvd Rapid	15.85			
7	Pico Blvd	12.00	Broadway & 6th to Rimpau Transit Center	Service every 12 minutes until 6:29 PM Eastbound & Service every 12 minutes until 5:30 PM Westbound	
R7	Pico Blvd Rapid	12.92	Broadway & 6th to Purple Line Wilshire/Western		
12	Westwood & Palms	14.74	UCLA Hilgard Terminal to Robertson & Venice		

Burbank - Current (2014)

Line	Name	Headway	Alignment Boundaries	Notes	Agency Comments
Metrolink	Metrolink/Media District	12.35	Downtown Metrolink Station (E); Olive Ave. (N); Riverside Dr. (S); Pass Ave. (W)	Buses depart Downtown Burbank Station every 12 minutes from 5:57 to 9:45 a.m., and again from 2:22 to 6:10 p.m. (Monday through Friday).	Buses only run during a.m. and p.m. peak periods, Monday-Friday.
NoHo	NoHo/Media District	12.00	NoHo Station (W); Magnolia Bl. (N); Olive Ave. (S); Buena Vista St. (E)	Buses depart NoHo Station every 12 minutes from 6:05 to 9:17 a.m., and again from 2:50 to 6:38 p.m. (Monday through Friday).	Buses only run during a.m. and p.m. peak periods, Monday-Friday.

Culver City - Current (2014)

Line	Name	Headway	Alignment Boundaries	Notes	Agency Comments
1	Washington Blvd	13.21	WLATC Washington & Fairfax to Venice Beach Windward & Main	-	-
R6	Sepulveda	15	Green Line Station to UCLA	With Rapid Sepulveda is a HQTC.	-

Culver City - Future

Line	Name	Headway	Alignment Boundaries	Year of Revenue Service	Notes
3	Crosstown	15	Westfield Transit Center to Westfield Century City (Constellation Blvd, Westwood Blvd, Pico Blvd, Motor Ave, Overland Ave, Slauson Ave)	2015	Service Effective 02/09/15

Foothill - Current (2014)

Line	Name	Headway	Alignment Boundaries	Notes	Agency Comments
Silver Streak	I-10	11.67	West Covina & California to Grand & Olympic		
187	Foothill	14.48	Montclair TransCenter to Raymond & Walnut		
291	Garey	15.56	Town & Markeplace to Durward & D st.		
486	Amar	13.13	Temple & Campus to El Monte		
493	Colima/Golden Springs	13.33	Diamond Bar Park & Ride to Hope & 9th st.	Two-hour peak period in a.m. and peak direction only.	
498	Grand	9.55	West Covina PNR to downtown L.A. WB only	Peak direction only	
499	San Dimas	13.85	San Dimas Park & Ride to Hope & 9th st.	Two-hour a.m. peak period and Peak direction only	
699	Montclair	9.13	Montclair TransCenter to USC in EB direction	Peak direction only	

Foothill - Future

Line	Name	Headway	Alignment Boundaries	Year of Revenue Service	Notes
280	HQTC	15	Entire route	2016	
488	HQTC	15	Grand Avenue between Citrus College and West Covina/California	Upon opening of Gold Line Extension (2016?)	15 minute frequency only during peak (both directions). 498 would be eliminated with opening of Gold Line and replaced by increased frequencies of 488
New line		15	SR-60 Between Altantic Gold Line Station and Puente Hills mall	2020	
486	HQTC	15	Existing route, plus a route extension from Temple/South Campus to Pomona Transit center along Valley/Holt Blvds	2016	
492	HQTC	15	Arrow Highway between Grand and El Monte Station	2016	
480	HQTC	15	Valley/Mission Blvds between Cal Poly and Pomona Transit Center	2016	

Gardena - Current (2014)

Line	Name	Headway	Alignment Boundaries	Notes	Agency Comments
2	Western/Vermont	15	Western and 166th to Normandie and PCH North on Western and Harbor Gateway Transit Center to Normandie and PCH North on Normandie	Did not include school trippers.	
3	South Bay/Compton	15	Hawthorne and Redondo Beach to Compton Station along Redondo Beach, Gardena, and Alondra	Route includes school trippers, but provided information does not include account for those trips	

Glendale Beeline - Future

Line	Name	Headway	Alignment Boundaries	Year of Revenue Service	Notes
32	Glendale Galleria to Glendale College	15	Harvard/Louise to Glendale College/Canada	FY 2016	
4	Roosevelt to Glendale Galleria	15	Brand/Chevy Chase to Colorado/Central	FY 2016	
1	GTC to Stocker	15	GTC to Stocker/Brand	FY 2018	Routes 1 & 2 are interlined
2	GTC to Stocker	15	GTC to Stocker/Brand	FY 2018	Routes 1 & 2 are interlined
7	Riverside Rancho to Glendale College	15	Victory/Western to Glendale College/Canada	FY 2025	

LADOT - Current (2014)

Line	Name	Headway	Alignment Boundaries	Notes	Agency Comments
Route A	Downtown	7	Little Tokyo, City West	Frequency every 7 minutes from 6:00 am - 6:30 pm	
Route B	Downtown	8	Chinatown, Financial District	Frequency every 8 minutes from 5:50 am - 6:30 pm	
Route D	Downtown	5-15	Union Station, South Park	Frequency every 5 minutes from 5:50 am - 6:00 pm & every 15 minutes from 6:00 PM - 7:00 PM	
Route E	Downtown	5	City West, Fashion District	Frequency every 5 minutes from 6:30 am - 6:00 pm	
Route F	Downtown	10-20	Financial District, Exposition Park, USC	Frequency every 10 minutes from 6:30 am - 5:50 pm & every 20 minutes from 5:50 PM - 6:30 PM	
Pico Union/Echo Park	Pico Union/Echo Park	11.20	Grand & Washington to Echo Park & Donaldson		

Long Beach Transit - Current (2014)

Line	Name	Headway	Alignment Boundaries	Notes	Agency Comments
21; 22	Cherry/Downey	15.00	Long Beach Transit Mall to Cherry at Carson		
45; 46	Anaheim St. - Santa Fe/Downtown	8.00	Anaheim at Long Beach to Anaheim at PCH		
51;52	Long Beach Blvd	15.27	Long Beach Transit Mall to Artesia Station		
61	Atlantic	12.35	Long Beach Transit Mall to Artesia Station		
91; 92; 93; 94	Bellflower/Woodruff/Clark/Los Altos	10.12	Long Beach Transit Mall to Bellflower at Willow	91 and 93 produce 17.14 minute frequency.	
96	ZAP - 7th St.	12.63	6th at Long Beach to Cal State LB Admin	Morning Service EB and Afternoon Service WB only - Peak periods = two hours in a.m. and p.m.	
172; 173; 174	PCH - Palo Verde/Studebaker/Ximeno	14.00	Long Beach Transit Mall to Ximeno at PCH		
191; 192	Santa Fe - Del Amo/South St.	12.54	Long Beach Transit Mall to Santa Fe and Wardlow	Del Amo Blvd. Between Santa Fe Ave. and Long Beach Blvd. also qualifies.	

Metro - Current (2014)

Metro's 15 Minute Peak Transit Network Segments
For SCAG CEQA Purposes: December 2014 Service Change

Line	Headway	Segment	Notes
2	7.9	Fairfax/Sunset - Vermont/Sunset	
	8.6	Le Conte/Westwood - Fairfax/Sunset	
	8.9	Vermont/Sunset - Echo Park/Sunset	
	13.1	Echo Park/Sunset - Broadway/Venice	

FOR DISCUSSION ONLY, NOT FOR DISTRIBUTION

4		11.2	Nebraska/Sepulveda - Broadway/Venice	
10		11.1	Melrose/Vine - Main/Venice	
14		7.4	Beverly/La Cienega - Main/Venice	
16		4.9	6th/LA & 5th/Wall - San Vicente/Gracie Allen	
		14.5	San Vicente/Gracie Allen - Century City	
18		8.9	Wilshire/Western - Montebello Metrolink Station	
20		10.5	Wilshire/Westwood - 7th/Main & Maple	
28		12.7	Olympic/Fairfax - Colorado/Eagledale	
30		7.1	Pico/Rimpau - Temple/Alameda	
33		13.1	Main/Sunset (Venice) - Main/7th & Spring/6th	
35		11.7	Washington/Fairfax - Broadway/Venice	
37		8.3	Washington/Fairfax - Main/Venice	
40		10.6	Green Line Hawthorne Station - Broadway/Washington	
45		6.8	Figueroa/117th St - Chavez/Broadway	
		10.8	Chavez/Broadway - Thomas/Broadway	
48		11.8	Sepulveda/Manchester - Temple/Figueroa	
51		5.3	103rd St./Avalon - 7th/Alvarado	
		8.6	7th/Alvarado - Wilshire/Vermont	
		9.7	Avalon Green Line Station - 103rd St/Avalon	
53		9.9	Avalon Green Line Station - 5th/Beaudry	

FOR DISCUSSION ONLY, NOT FOR DISTRIBUTION

55		11.5	Firestone Blue Line Station - Sunset/Figueroa	
60		7.1	Pacific/Slauson - Sunset/Figueroa	
		13.5	Artesia Blue Line Station - Pacific/Slauson	
66		7.6	8th/Western - Olympic/Soto	
		10.0	Wilshire/Western - 8th/Western	
70		12.0	Venice/Broadway & 17th/Hill - El Monte Transit Station	
78		9.1	Olive/18th - Huntington/Maycrest	
81		9.8	Harbor Fwy Green Line Station - La Loma/Figueroa	
108		8.7	Mesmer/Major - Eastern/Slauson	
		12.0	Eastern/Slauson - Paramount/Slauson	
110		13.1	Florence Blue Line Station - Gage/Wilcox	
111		10.1	Inglewood Transit Center - Florence/Garfield	
115		10.5	Manchester/Sepulveda - Firestone/Lakewood	
150		12.9	Reseda/Ventura - Universal Red Line Station	
152		11.2	Topanga Cyn/Roscoe - Lankershim/Roscoe	
162/163		12.2	West Hills Medical Center - Lankershim/Sherman Way	
165		13.3	Topanga Cyn/Vanowen - Laurel Cyn/Vanowen	
166		12.7	Chatsworth Station - Brand/Glenoaks	
190/194		9.9	El Monte Transit Station - Ramona/Valley	
200		7.7	Hill/MLK - Montana/Logan	
204		9.9	Manchester/Vermont - Hollywood/Vermont	

FOR DISCUSSION ONLY, NOT FOR DISTRIBUTION

206		10.9	Vermont Green Line Station - Sunset/Vermont	
207		11.8	Imperial Hwy/Western - Franklin/Western	
210		13.8	Roscrans/Crenshaw - Hollywood/Vine	
212		9.3	La Brea/Wilshire - Hollywood/Highland	
217		13.8	La Cienega/Jefferson Station - Hollywood Vine Station	
224		12.0	Chandler/Lankershim - Vanowen/Lankershim	
233		12.5	Ventura/Van Nuys - Glenoaks/Van Nuys	
251/252		10.1	Olympic/Soto - Marengo/Soto	
603		11.4	Grand/Washington - Glendale Galleria	
704		13.5	San Vicente/Santa Monica - Patsaouras Bus Plaza	Local is Line 4
705		14.0	Santa Monica/San Vicente - Pacific/Santa Fe	Local is Line 105 which does not have 15 minute peak service
710		13.3	Western/Wilshire - Crenshaw/Redondo Beach	Local is Line 210
720		4.9	Wilshire/Westwood - 5th & 6th/Main	Local is Line 20
		9.3	5th & 6th/Main - Commerce Center	
		12.4	Broadway/3rd St. (Santa Monica) - Wilshire/Westwood	
728		14.0	Century City - Patsaouras Bus Plaza	Local is Line 28
733		12.9	Ocean/Santa Monica - Patsaouras Bus Plaza	Local is Line 33
750		15.0	Warner Center - Universal Rail Station	Local is Line 150
745		10.8	Florence/Broadway - Patsaouras Bus Plaza	Local is Line 45
		12.9	Harbor Fwy Green Line Station - Florence/Broadway	

754		7.2	Manchester/Vermont - SunsetVermont	Local is Line 254
		10.2	120th/Vermont - Manchester/Vermont	
757		6.8	Crenshaw Green Line Station - Hollywood/Western	Local is Line 257
760		14.2	Long Beach Green Line Station - 4th/Beaudry	Local is Line 60
770		14.0	Venice/Broadway & 17th/Hill - El Monte Transit Station	Local is Line 70
780		13.1	Washington/Fairfax - Colorado/Hill	Local is Line 180
901		10.6	Canoga Station - North Hollywood Station	Orange Line
910		6.0	Harbor gateway Transit Center - El Monte Transit Station	Silver Line

Montebello - Current (2014)

Line	Name	Headway	Alignment Boundaries	Notes	Agency Comments
10	Atlantic/Whittier	11.05	Whittier & Rosemead to East LA College		

High Quality Transit Corridors - Input from Orange County Operators & CTC

OCTA - Current (2014)

Line	Name	Headway	Alignment Boundaries	Notes	Agency Comments
29	Beach Blvd.	15.3	La Mirada and Beach to South Terminal short line	Used Knott's Berry Farm timepoint on north end.	
38	La Palma Blvd.	15.8	La Palma and Beach to La Palma & Manassero St. short line		
47	Anaheim Blvd./Fairview St.	14.3			
53	Main St.	11.3	MacArthur Blvd. to ARTIC		
55	Standard Ave./Bristol St./Fairview St./17th St.	17.0	Flower & 6th (Santa Ana) to Newport Transportation Center		15 min service in one direction
57	State College/Bristol	10.7	Sunflower to Orangethorpe		
60	17th/Westminster	10.9	Goldenwest to Tustin		
64	Bolsa/1st	13.4	Edwards to Larwin Square		
66	McFadden	12.0	McFadden and Grand to McFadden and Harbor		
70	Edinger Ave.	15.3	Goldenwest Transportation Center to Tustin Metrolink Station		
543	Harbor Blvd. (Bravo)	12.0	Fullerton Transportation Center to Harbor & MacArthur		

OCTA - Future

Line	Name	Headway	Alignment Boundaries	Year of Revenue Service	Notes
30	Orangethorpe Blvd.	15	Orangethorpe Ave. & Magnolia Ave. (Fullerton) to Orangethorpe Ave. & State College Blvd. (Fullerton)	2035	
37	Euclid Ave.	15	1st Ave. & Main St. (La Habra) to Sunflower Ave. & Sakioka Dr. (Costa Mesa)	2035	
54	Chapman Ave.	15	Chapman Ave. & Beach Blvd. (Stanton) to Chapman Ave. & Tustin St. (Orange)	2035	

High Quality Transit Corridors - Input from Riverside County Operators & CTC

RTA - Current (2014)

Line	Name	Headway	Alignment Boundaries	Notes	Agency Comments
50	Jury Trolley	13	Full Alignment	Only 13 min between 7:20 a.m. and 9:00 a.m.	Specialized parking shuttle service
55	Temecula Trolley	15	Full Alignment	Only 15 min between 6:30 a.m. and 8:00 a.m. and 2:30 p.m. to 4:15 p.m.	Community shuttle

RTA - Future

Line	Name	Headway	Alignment Boundaries	Year of Revenue Service	Notes
1R	UCR - Corona	15	UCR University Ave/Canyon Crest Drive; Corona (Six/Smith)	2017	Has 3 years of CMAQ funding
16	UCR-Moreno Valley-Perris	15	UCR University Ave/Canyon Crest Drive; Perris Station Transit Center	2023	Subject to funding

SunLine - Future

Line	Name	Headway	Alignment Boundaries	Year of Revenue Service	Notes
111	Hwy 111	15	Entire alignment plus easterly extension in to downtown Coachella	2025	

High Quality Transit Corridors - Input from San Bernardino County Operators & CTC

Omnitrans - Current (2014)

Line	Name	Headway	Alignment Boundaries	Notes	Agency Comments
1	ARMC-San Bernrdino-Del Rosa	14.48	ARMC to Highland & Sterling		
3 & 4	Baseline-Highland-San Bernardino	15.56	4th & F to 17th & Medical Center		
14	Fontana-Foothill Blvd.-San Bernardino	15.56	4th and F to Fontana Metrolink		
61	Fontana-Ontario Mills-Pomona	15.32	Pomona Transit Center to Fontana Metrolink	Headway with 3:00 to 6:00 p.m. peak	
66	Fontana-Foothill Blvd.-Montclair	15.32	Montana TransCenter to Fontana Metrolink	Headway with 3:00 to 6:00 p.m. peak	
Green	E Street	10-15	Palm and Kendall to VA Hospital	10-minute frequency for AM peak and 10-15 minute frequency for PM peak - No published timetable	

Omnitrans - Future

Line	Name	Headway	Alignment Boundaries	Year of Revenue Service	Notes
Purple	West Valley Connector	10 to 15	Pomona Transit Center to Fontana Metrolink via Milliken and Foothill Blvd.	2025	BRT Light
Red/Blue	Foothill /5th	10 to 15	Foothill Blvd./5th St. between Montclair TransCenter and Highland Plaza	2025	Full BRT
Orange	Mountain/Euclid	10 to 15	Mountain Ave./Euclid Ave. between Foothill Blvd. and Corona Metrolink	2030	BRT Light
Grey	Grand/Edison	10 to 15	Grand Ave./Edison Ave. bet. Chino Hills Civic Center and Milliken Ave.	2030	BRT Light
Lime	Sierra	10 to 15	Sierra Ave. between I-15 PNR and South Fontana Transit Center	2030	BRT Light
Cobalt	Riverside	10 to 15	Riverside Ave. between I-15 PNR and Downtown Riverside	2030	BRT Light
Pink	Haven	10 to 15	Haven Ave. from Chaffey College to Edison Ave. (Grey Line)	2030	BRT Light
Yellow	San Bernardino	10 to 15	San Bernardino Ave./Valley Blvd. between South Fontana Transit Center and San Bernardino Transit Center	2025	BRT Light

Note:

1. Purple Line alignment is currently a HQTC by means of Lines 61 and 66.
2. Red and Blue Line alignments are currently HQTCs by means of Lines 66 and 14 to downtown San Bernardino limit.

High Quality Transit Corridors - Input from Ventura County Operators & CTC

Gold Coast Transit - Future

Line	Name	Headway	Alignment Boundaries	Year of Revenue Service	Notes
6	Maint St to Oxnard Transit Center	15 (Currently at 23)		2040	
1A/1B	Port Hueneme	15 (Currently at 22)		2040	



2016 2040 RTPSCS

DRAFT SCENARIOS DISCUSSION

Regional Transit TAC

April 29, 2015

CALTHORPE ANALYTICS

Today's Presentation

- Southern California Growth Perspectives
- 2016 RTP/SCS Alternatives Development Process Overview
- Scenarios Overview
- Next Steps
 - Scenario and modeling refinements (late April)
 - Presentation at General Assembly (May 7-8)
 - Public workshops (May-June)
 - Draft Preferred scenario development (June-July)

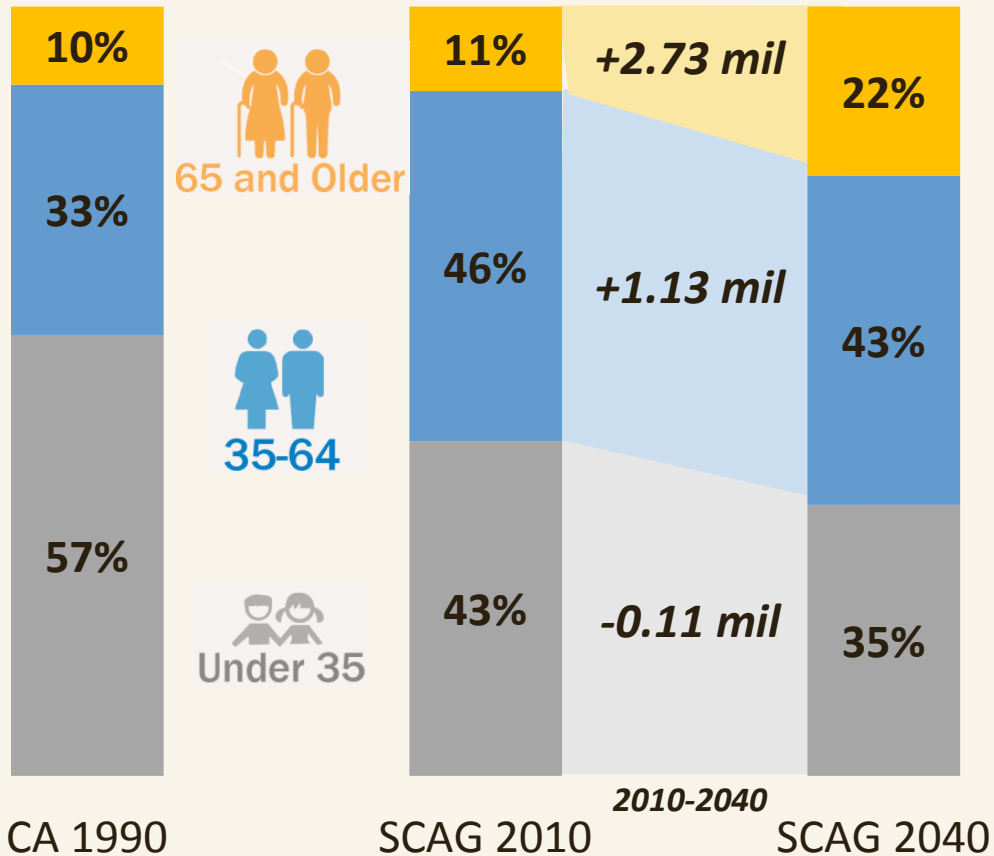
Introduction to the 2016 RTP/SCS Alternatives



Perspectives on Southern California Growth

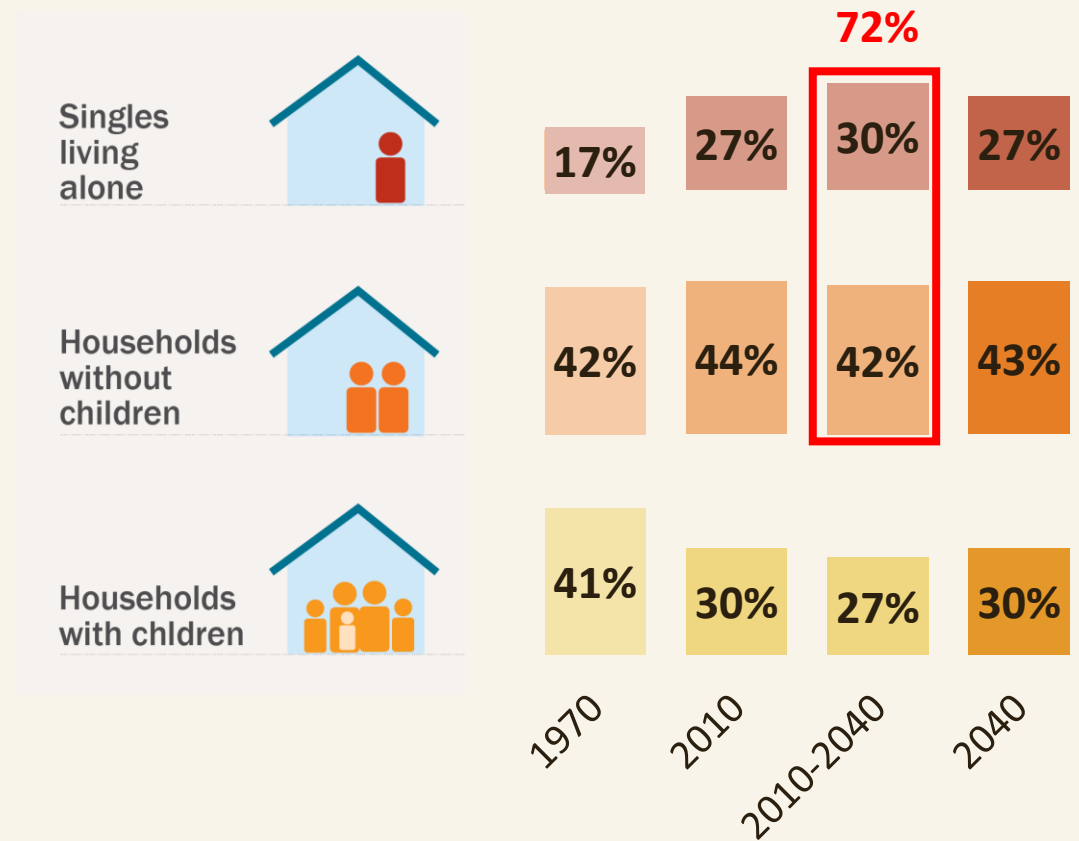
Changing Age and Household Types

Growth to 2040: **3.75 million people, 1.53 million households**



Current & Future Population by Age Group

Source: CA Department of Finance, 2014



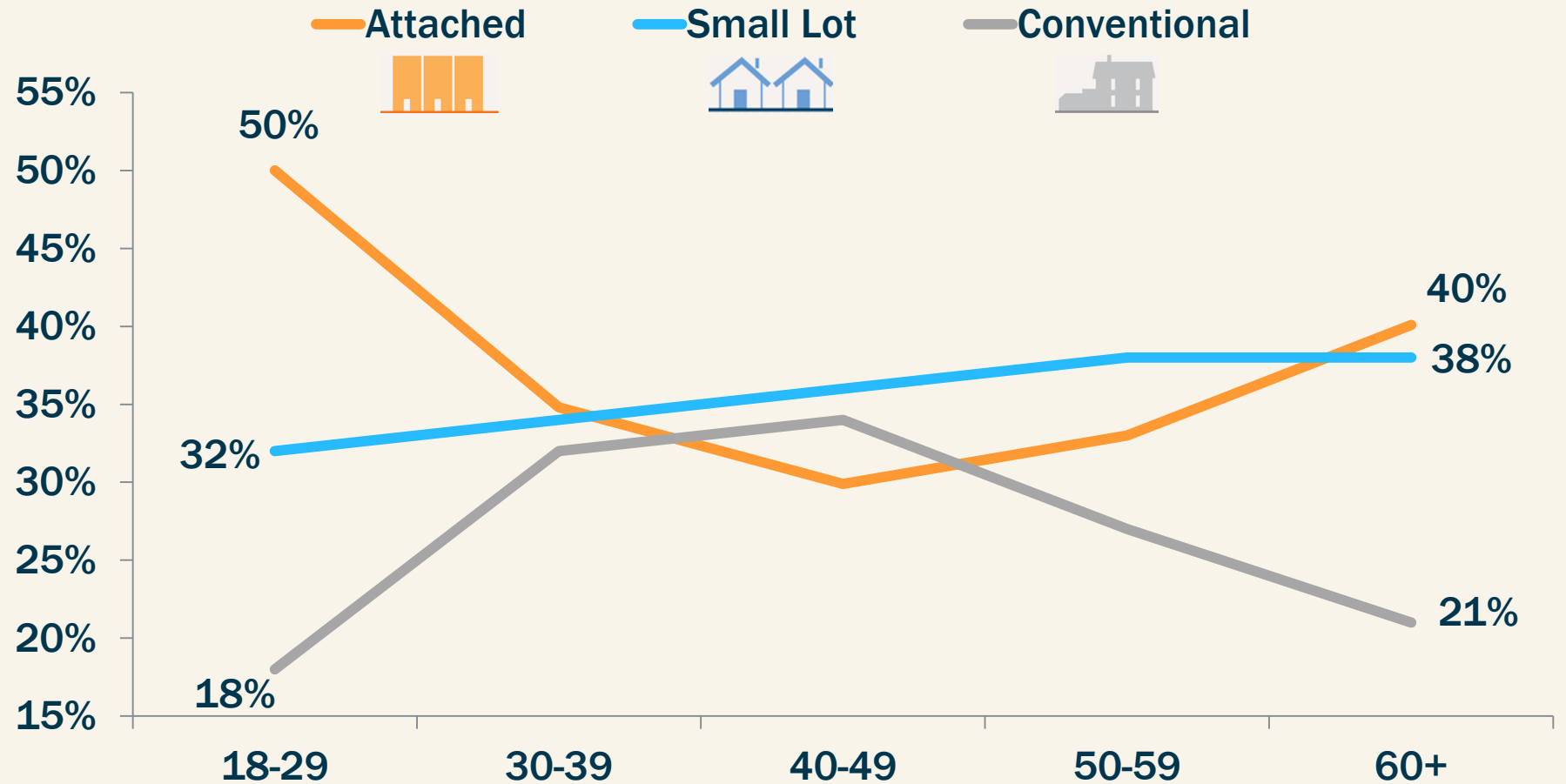
Current & Future Population by Household Type

Source: US Census Bureau, American Community Survey 2012

Perspectives on Southern California Growth

A Life Cycle of Housing Preferences

Housing Preferences by Age

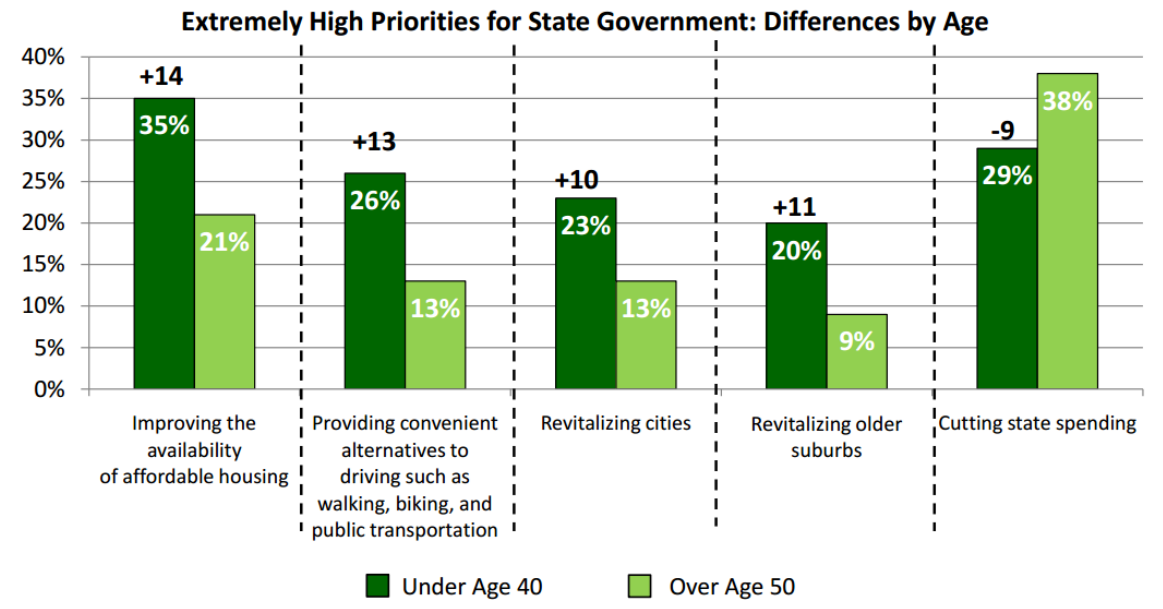


Source: National Association of Realtors (2011)

Perspectives on Southern California Growth

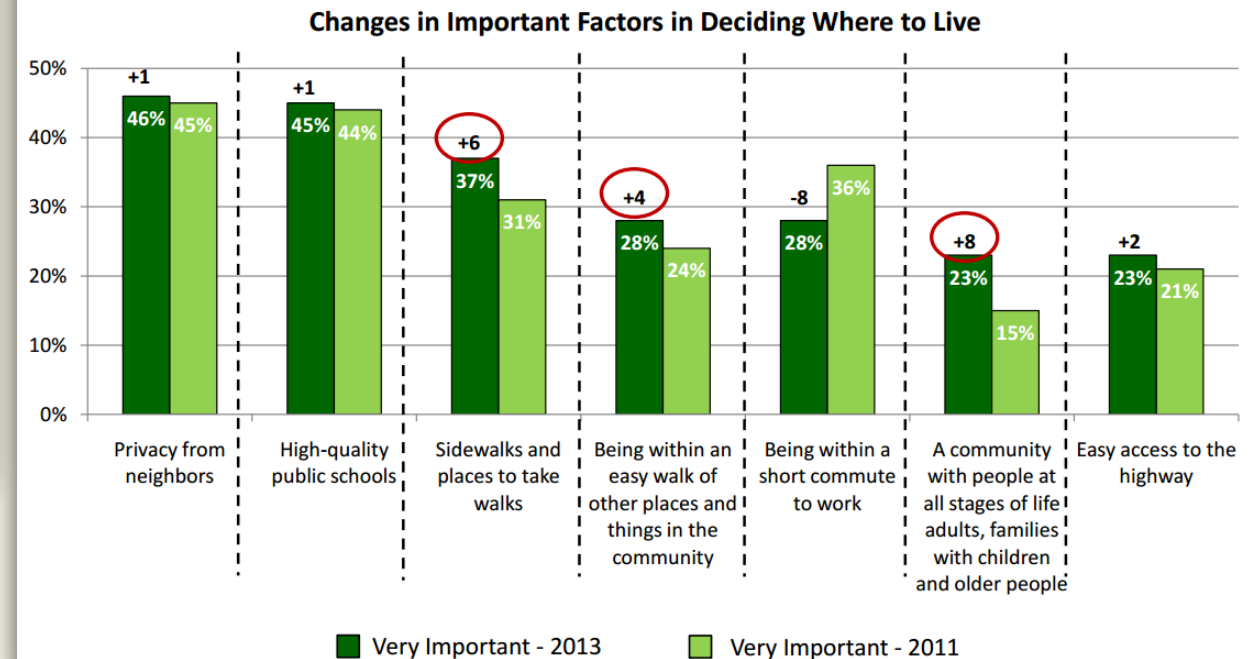
The Market is Changing (or has changed)

Younger Americans Place Higher Priority on Alternatives to Driving, Affordable Housing and Urban/Suburban Revitalization



Source: National Association of Realtors (2013)

Walkability and Age-Diversity Gaining in Importance



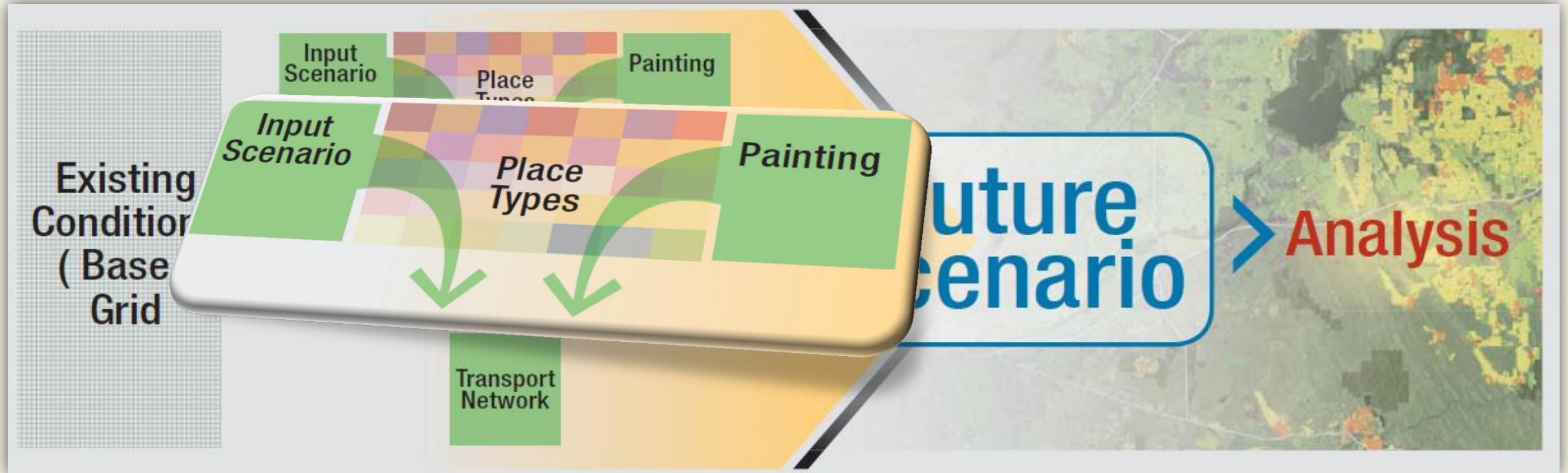
Perspectives on Southern California Growth

New Mobility Options

- Neighborhood Electric Vehicles (NEVs)
- Urban Mobility Platforms
- eBikes
- Car/Bike Sharing
- Travel Planning Apps
- Connected Vehicle Technologies
- Semi-automated drive modes
- Adaptive Cruise Control
- Lane centering
- Fully Autonomous Vehicles



Building the Scenario Alternatives



Place Types

Land Patterns



Urban



Compact



Standard

35 Detailed Types

Mixed Use Centers and Corridors	1	Urban Mixed Use
	2	Urban Residential
	3	Urban Commercial
	4	City Mixed Use
	5	City Residential
	6	City Commercial
	7	Town Mixed Use
	8	Town Residential
	9	Town Commercial
	10	Village Mixed Use
	11	Village Residential
	12	Village Commercial
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	14	Neighborhood Low
Employment Areas	15	Office Focus
	16	Mixed Office and R&D
	17	Office / Industrial
	18	Industrial Focus
	19	Low-Density Employment Park
Suburban	20	High Intensity Activity Center
	21	Mid Intensity Activity Center
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	23	Retail: Strip Mall / Big Box
	24	Industrial / Office / Residential Mixed High
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Suburban Residential	26	Suburban Multifamily
	27	Suburban Mixed Residential
	28	Residential Subdivision
	29	Large Lot Residential Area
Rural	30	Rural Residential
	31	Rural Ranchettes
	32	Rural Employment
Institutional	33	Campus / University
	34	Institutional
	35	Parks and Open Space

Key Characteristics

Density

Mix of Uses

Street Connectivity

Location/Accessibility

Distribute Place Types to Build a Scenario

Mixed Use Centers and Corridors	1	Urban Mixed Use
	2	Urban Residential
	3	Urban Commercial
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	5	City Residential
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Existing development

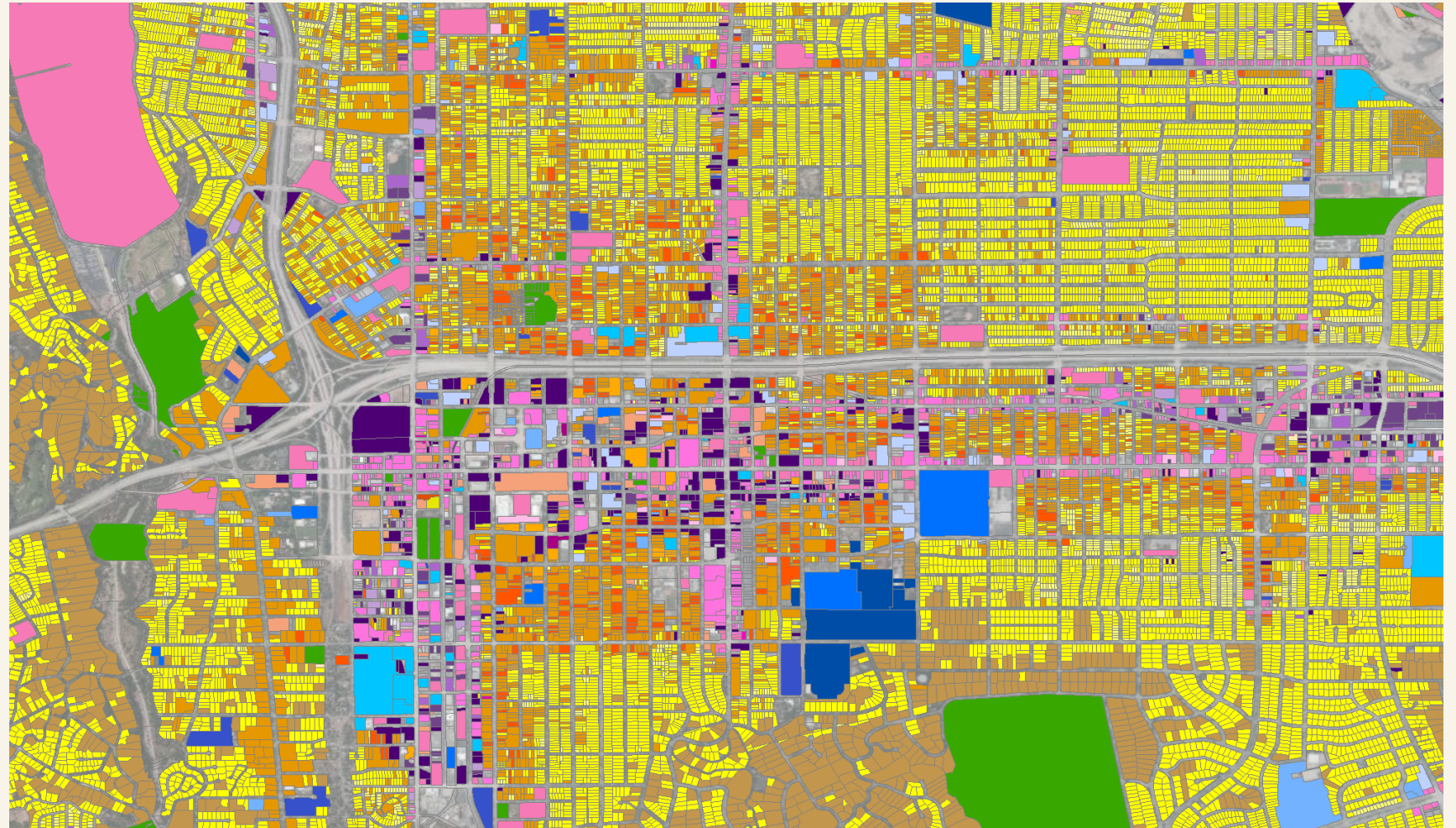


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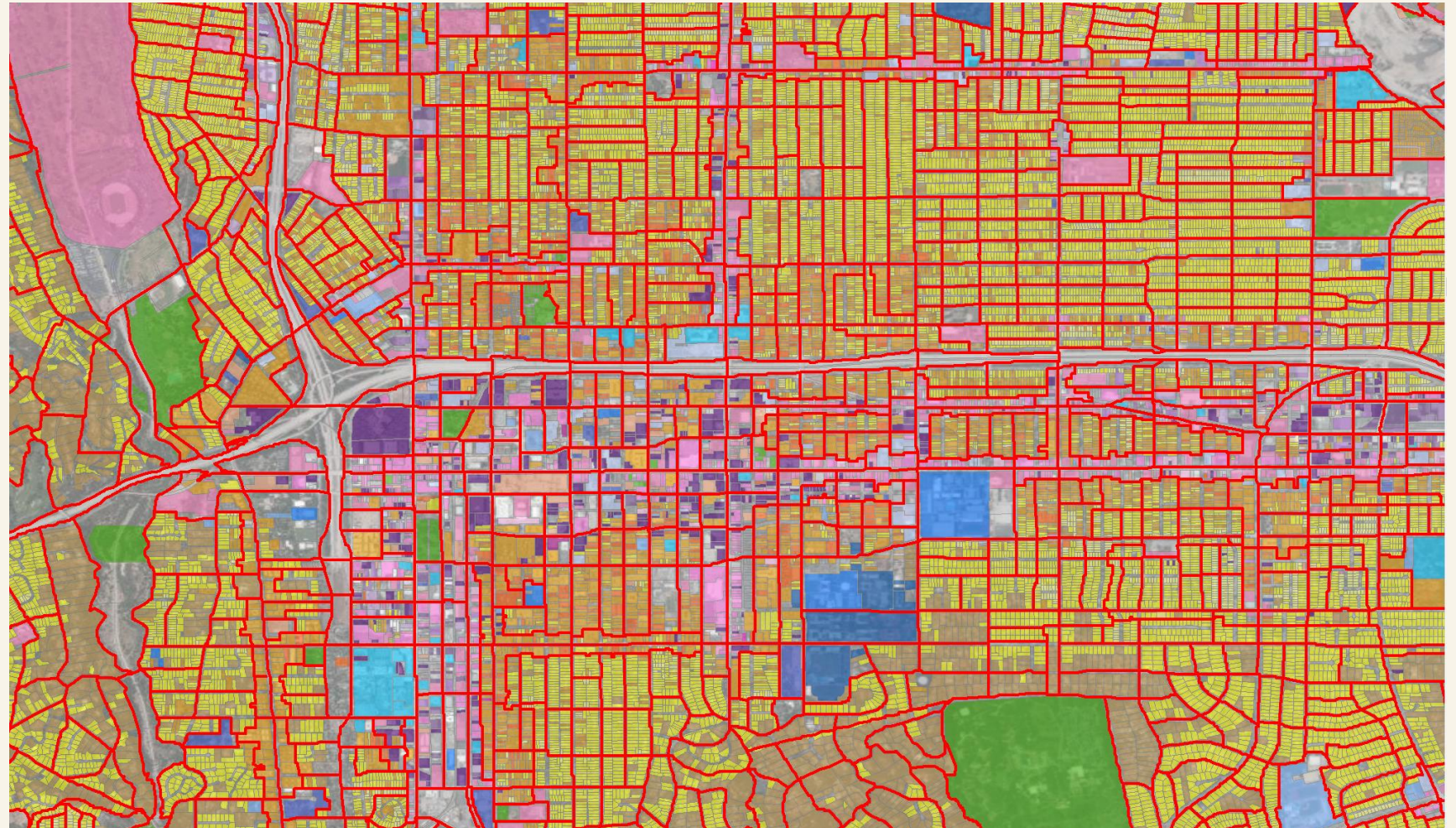
Parcels



Distribute Place Types to Build a Scenario

Scenario Planning Zones (SPZs)

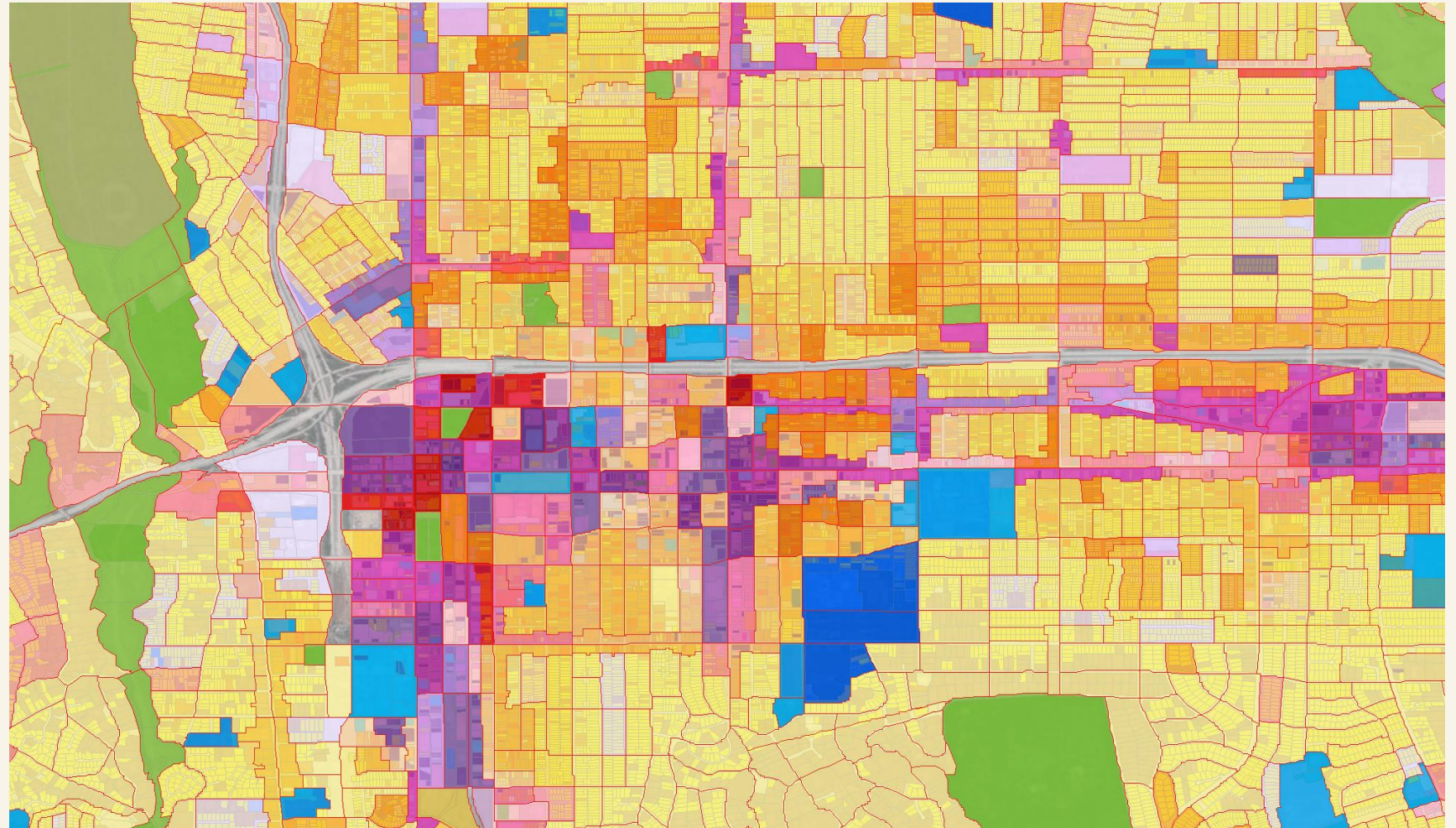
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Distribute Place Types to Build a Scenario

Scenario Planning Zones (SPZs) and Parcels

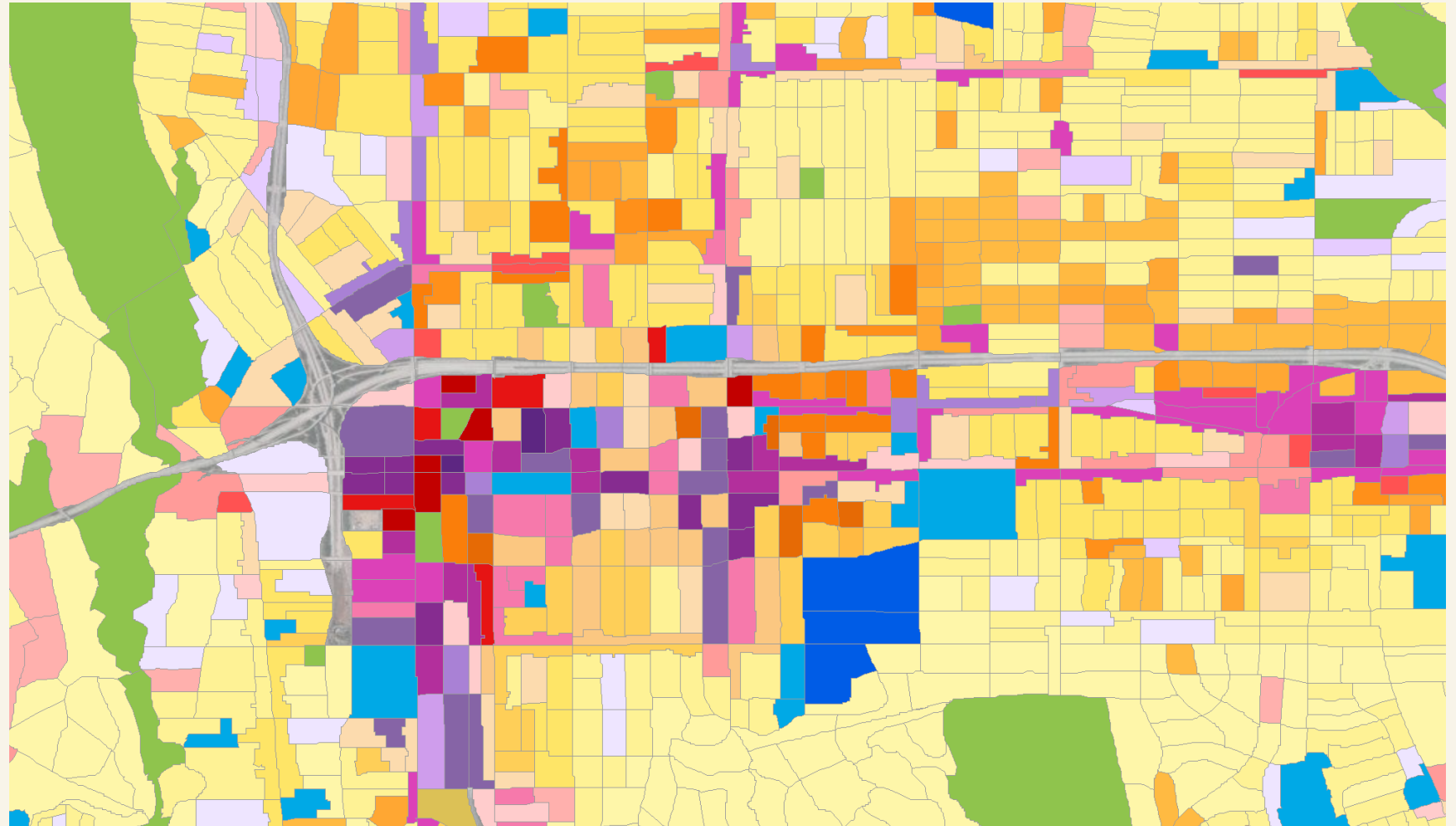
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Scenario Planning Zones (SPZs)

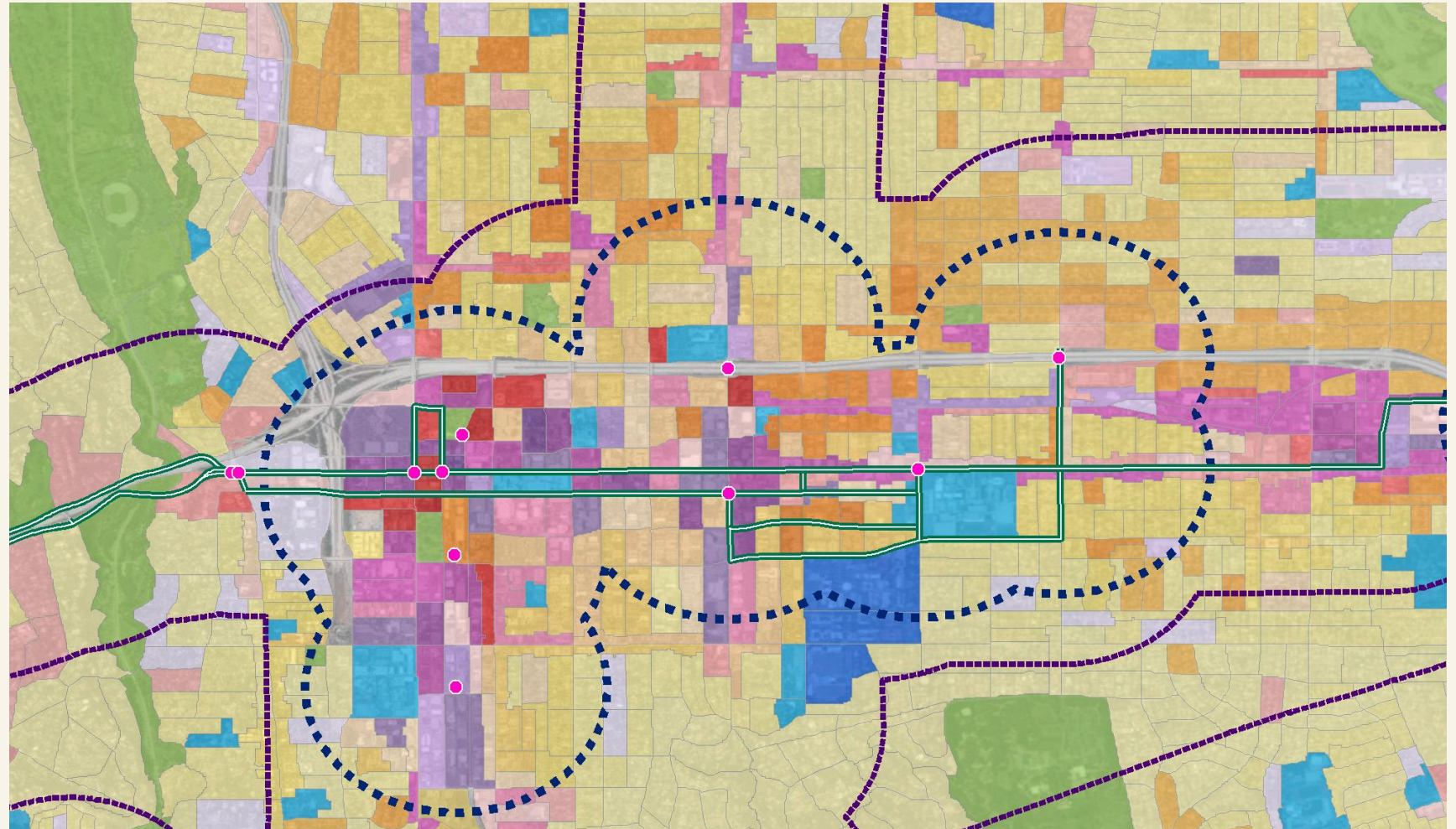
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Distribute Place Types to Build a Scenario

Transit, HQTAs, and TPAs

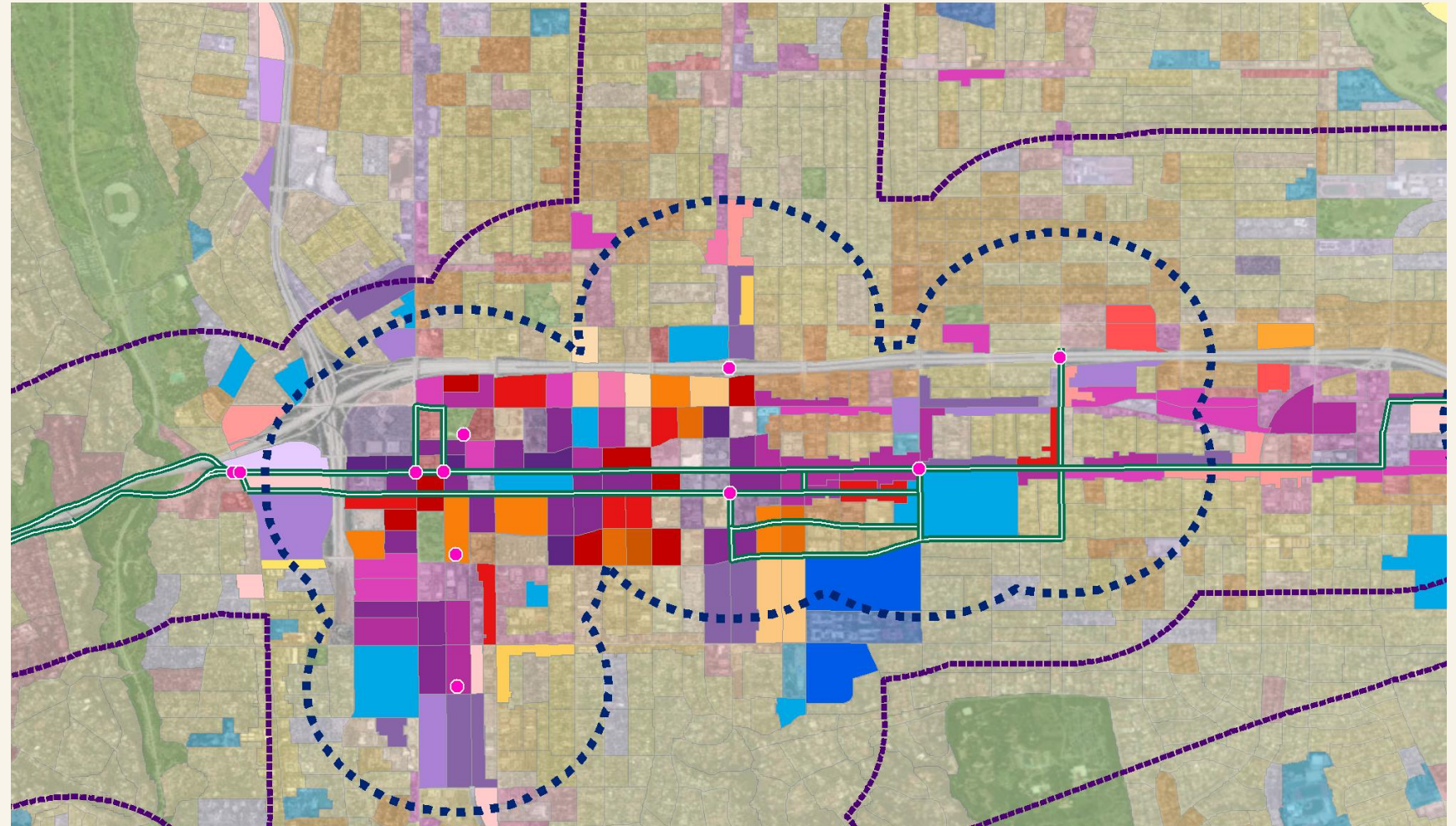
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Distribute Place Types to Build a Scenario

New Growth (2012-2040) Applied with Place Types

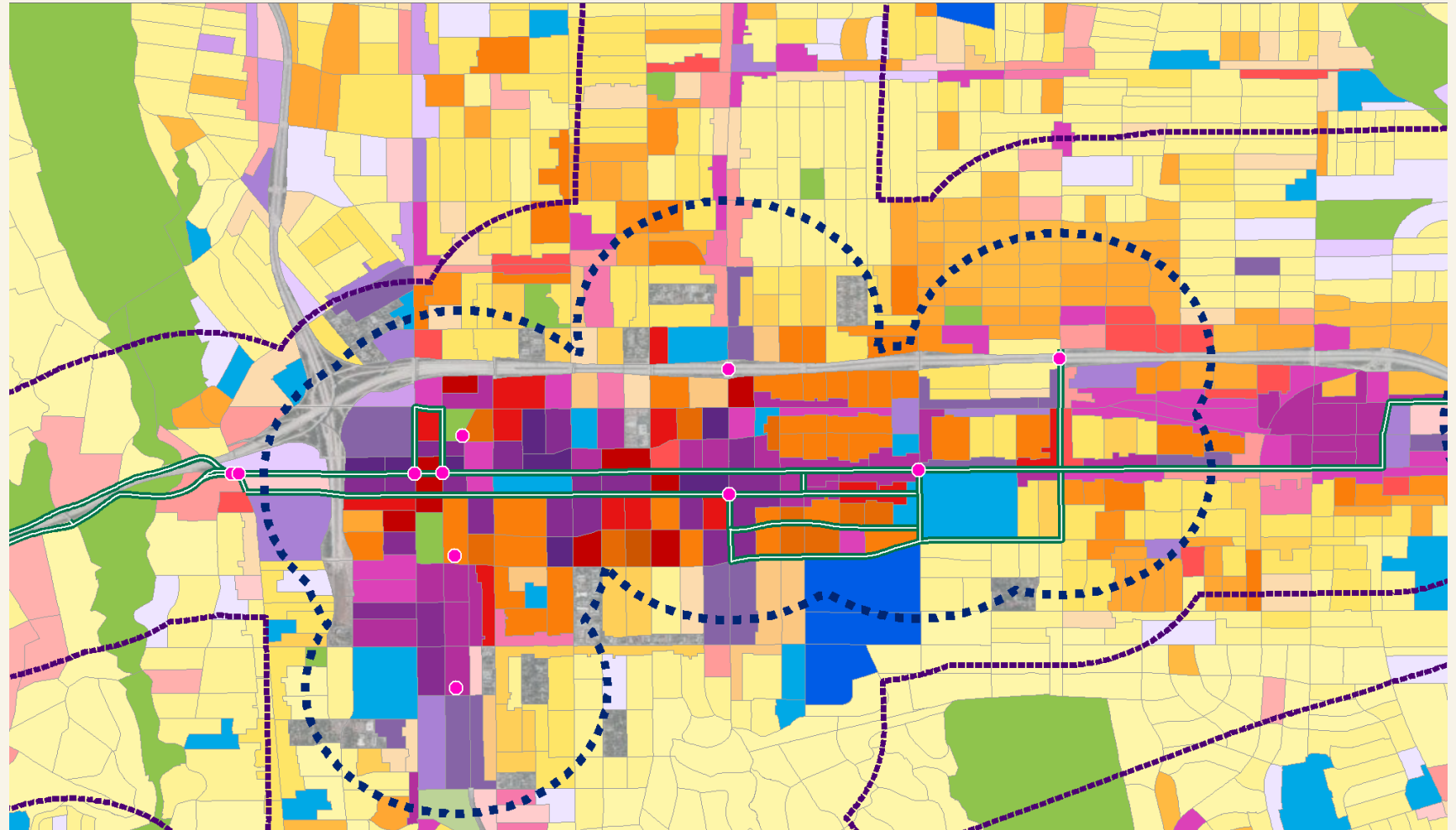
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Distribute Place Types to Build a Scenario

2040 Scenario

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2016 RTP/SCS Scenario Alternatives

MAJOR COMPONENTS

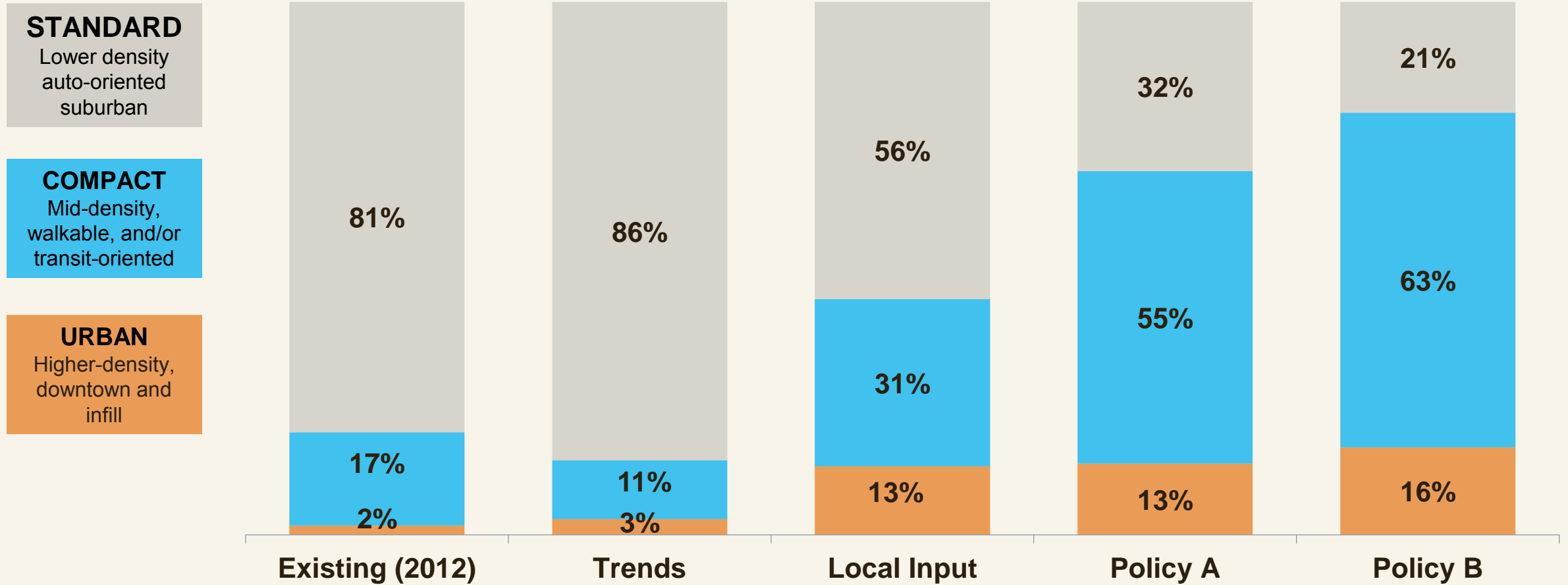
	TREND	LOCAL INPUTS	POLICY A	POLICY B
Theme	Past trends extrapolated forward	How does the 2012 Plan look 4 years later?	More focused land use based on new policy considerations and shifting demographics/preference	Pushing the envelope with more aggressive transit investments, land use coordination, technology change
Projections (2012-2040) 21% Population Growth 25% Housing Growth 32% Jobs Growth	<ul style="list-style-type: none"> • 2012 Base Year: 18 million population, 6.4 million homes, 7.4 million jobs • 2012-2040 Change: 3.7 million population, 1.6 million homes, 2.4 million jobs • 2040 End State: 21.7 million population, 8 million homes, 9.8 million jobs 			
Transportation Network	<ul style="list-style-type: none"> ✓ 2012 RTP Network 	<ul style="list-style-type: none"> ✓ Updated 2012 RTP Network ✓ HQTAs/TPA Focus per plans 	<ul style="list-style-type: none"> ✓ Updated 2012 RTP Network ✓ Additional HQTAs ✓ Active Transport Investment ✓ Improved Walkability ✓ 'Last-Mile' Focus 	<ul style="list-style-type: none"> ✓ Updated 2012 RTP Network ✓ Increase in bus headways ✓ Additional Active Transport Investment ✓ Improved Walkability ✓ 'Last-Mile' Focus

2016 RTP/SCS Scenario Alternatives

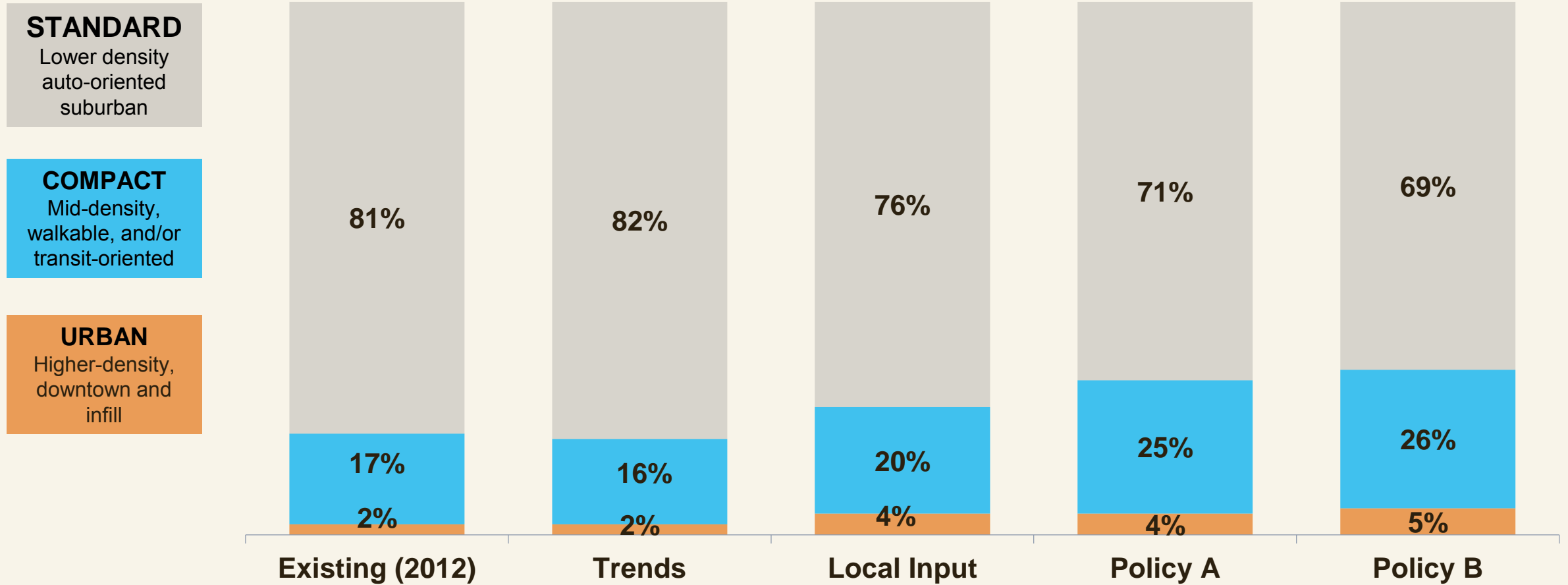
LAND USE VARIABLES

	TREND	LOCAL INPUTS	POLICY A	POLICY B
Housing Mix	Based on Past Trends <i>Growth Increment:</i> 67% Single Family 33% Multifamily/Townhome	Based on Local Plans <i>Growth Increment:</i> 44% Single Family 56% Multifamily/Townhome	Based on Shifting Demand <i>Growth Increment:</i> 31% Single Family 69% Multifamily/Townhome	Based on Shifting Demand <i>Growth Increment:</i> 27% Single Family 73% Multifamily/Townhome
Land Use/Transit Coordination	<i>2040 Housing/Jobs Transit Focus</i> High Quality Transit Areas: 35% homes/ 42% jobs Transit Priority Areas: 15% homes/ 20% jobs	<i>2040 Housing/Jobs Transit Focus</i> High Quality Transit Areas: 48% homes/ 60% jobs Transit Priority Areas: 20% homes/ 28% jobs	<i>2040 Housing/Jobs Transit Focus</i> High Quality Transit Areas: 53% homes/ 64% jobs Transit Priority Areas: 21% homes/ 29% jobs	<i>2040 Housing/Jobs Transit Focus</i> High Quality Transit Areas: 64% homes/ 76% jobs Transit Priority Areas: 33% homes/ 44% jobs
Land Pattern Focus	<i>2012 – 2040 New Growth</i> 3% Urban Infill 11% Compact Walkable 86% Standard Suburban	<i>2012 – 2040 New Growth</i> 15% Urban Infill 26% Compact Walkable 59% Standard Suburban	<i>2012 – 2040 New Growth</i> 20% Urban Infill 36% Compact Walkable 45% Standard Suburban	<i>2012 – 2040 New Growth</i> 24% Urban Infill 55% Compact Walkable 22% Standard Suburban
Conservation & Climate Resilience				Avoid New Growth in: ✓ Most Critical Habitat Areas (CHAP Level 5) ✓ 5 Foot Sea Rise Zones (NOAA/CalAdapt Year 2100)

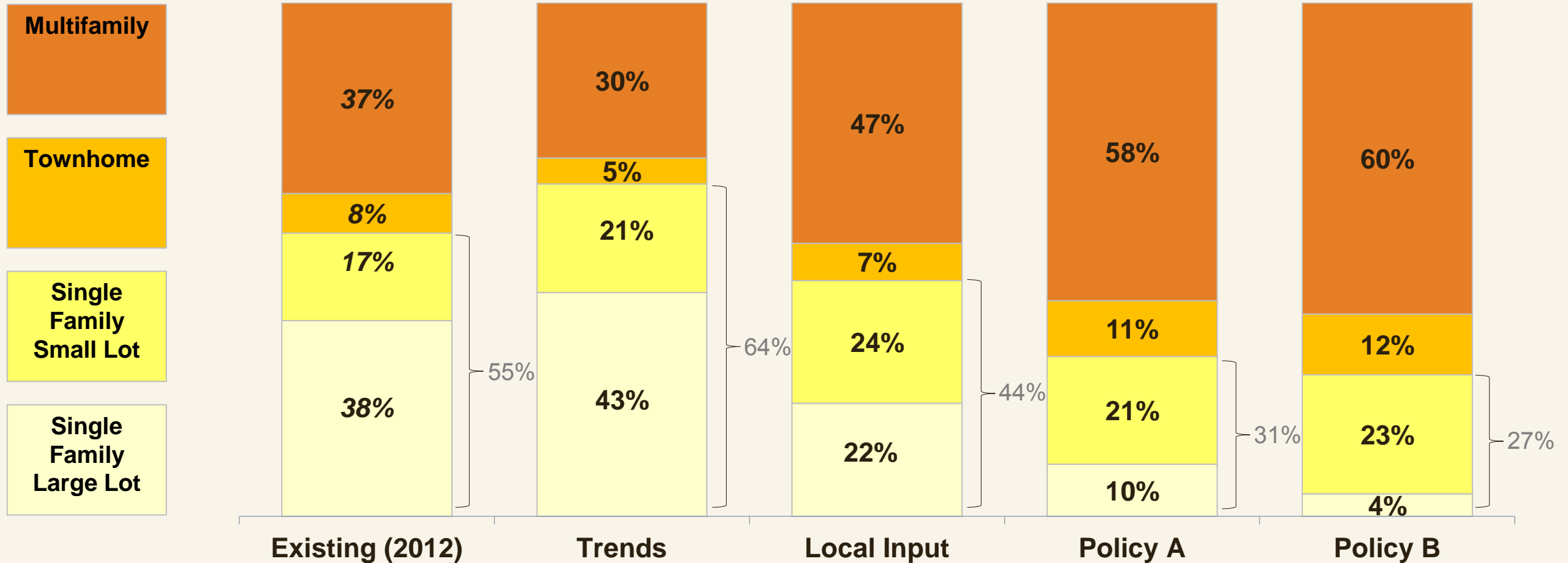
Land Patterns New Growth (2012-2040)



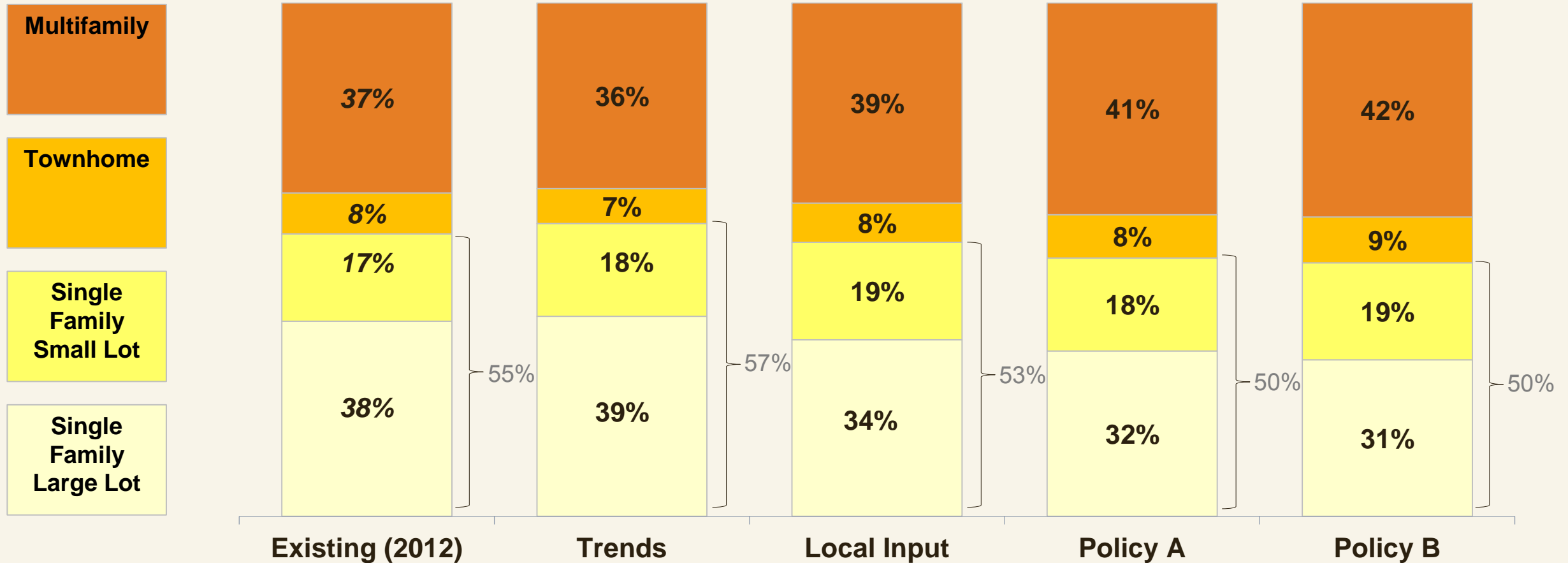
Land Patterns End State (2040)



Housing Mix New Growth (2012-2040)

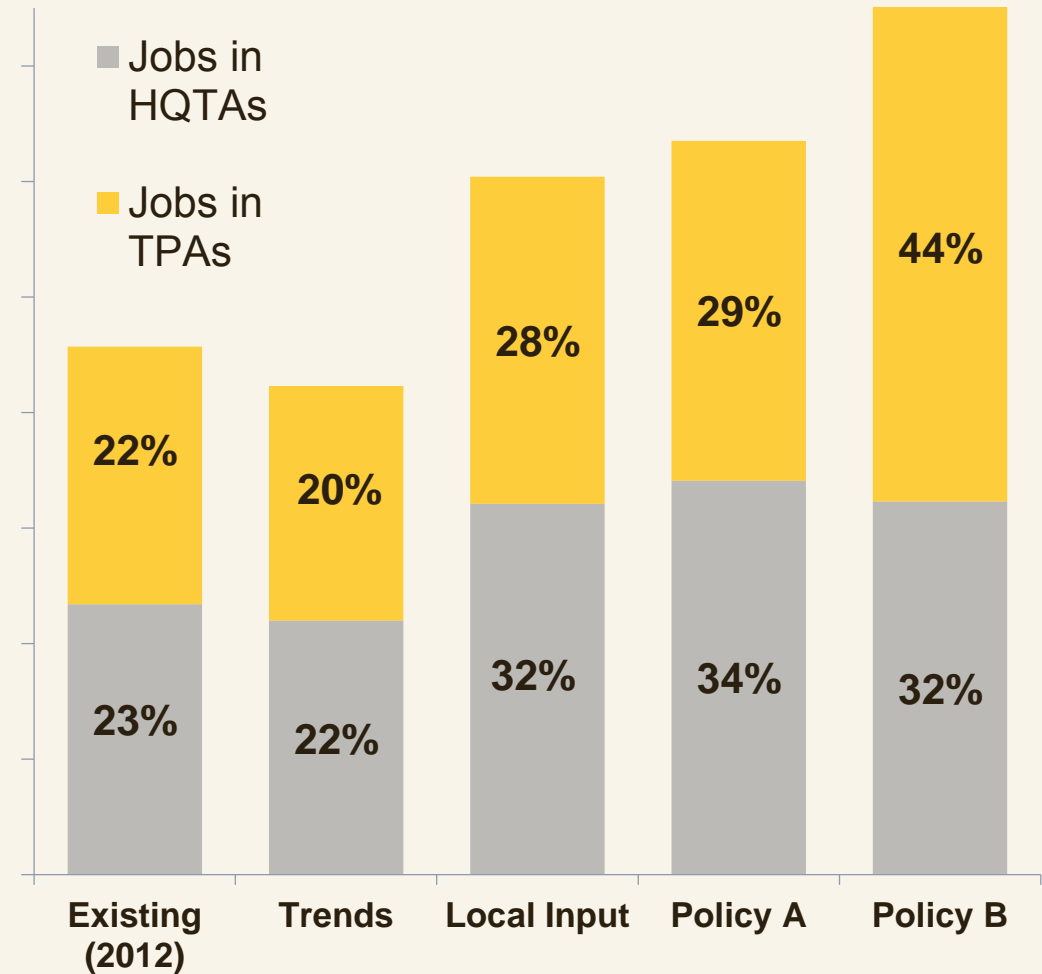
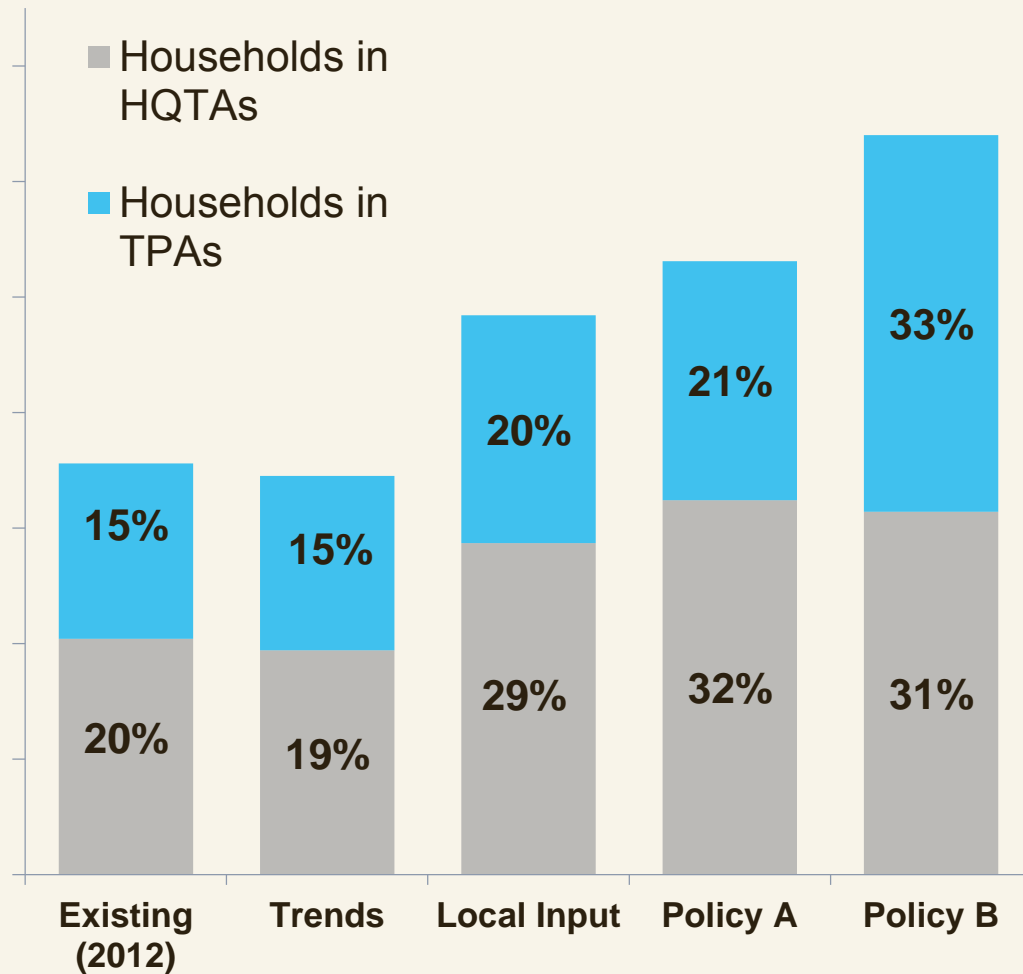


Housing Mix End State (2040)



HQTA & TPA Focus

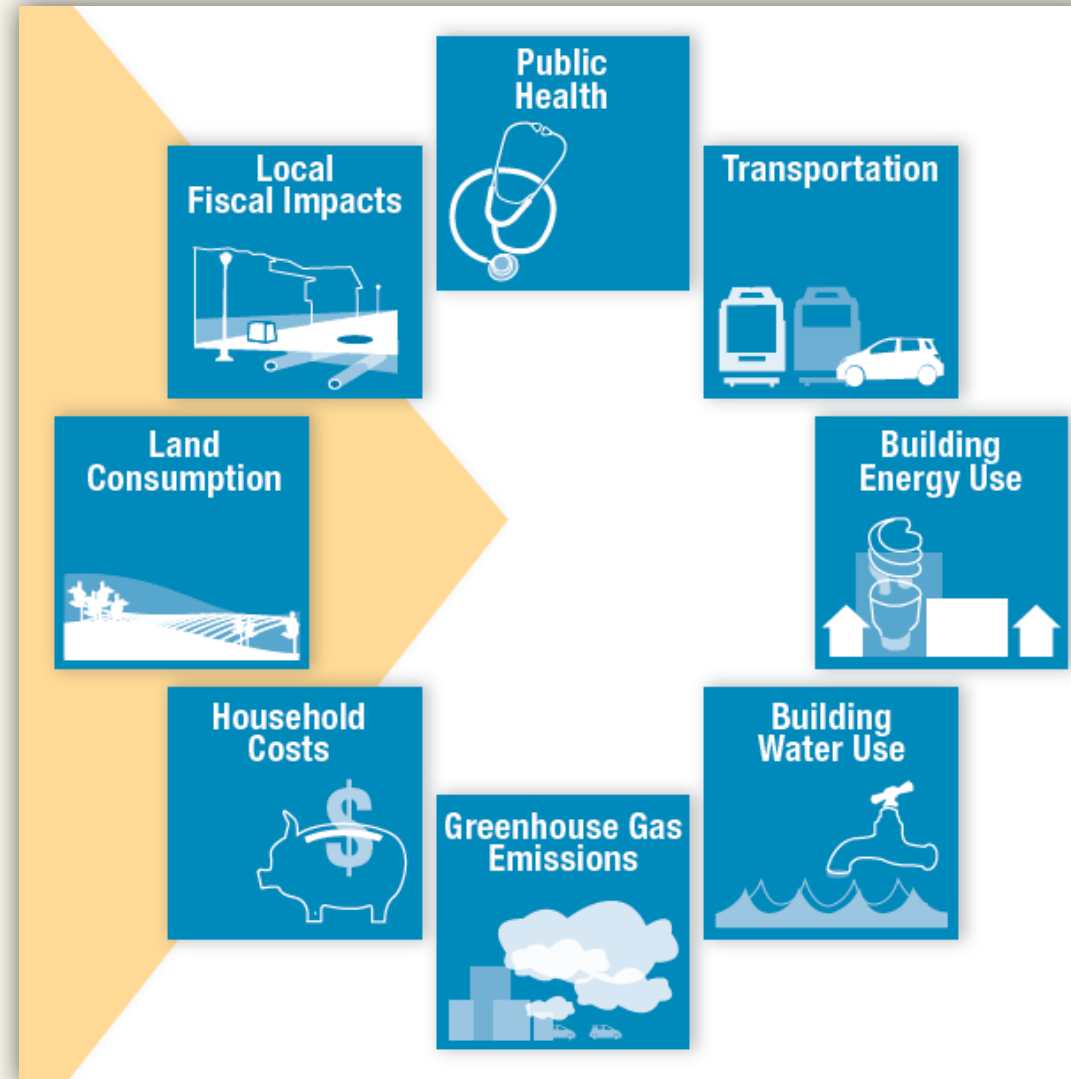
Households and Jobs in High Quality Transit Areas (HQTAs) and Transit Priority Areas (TPAs) - 2040



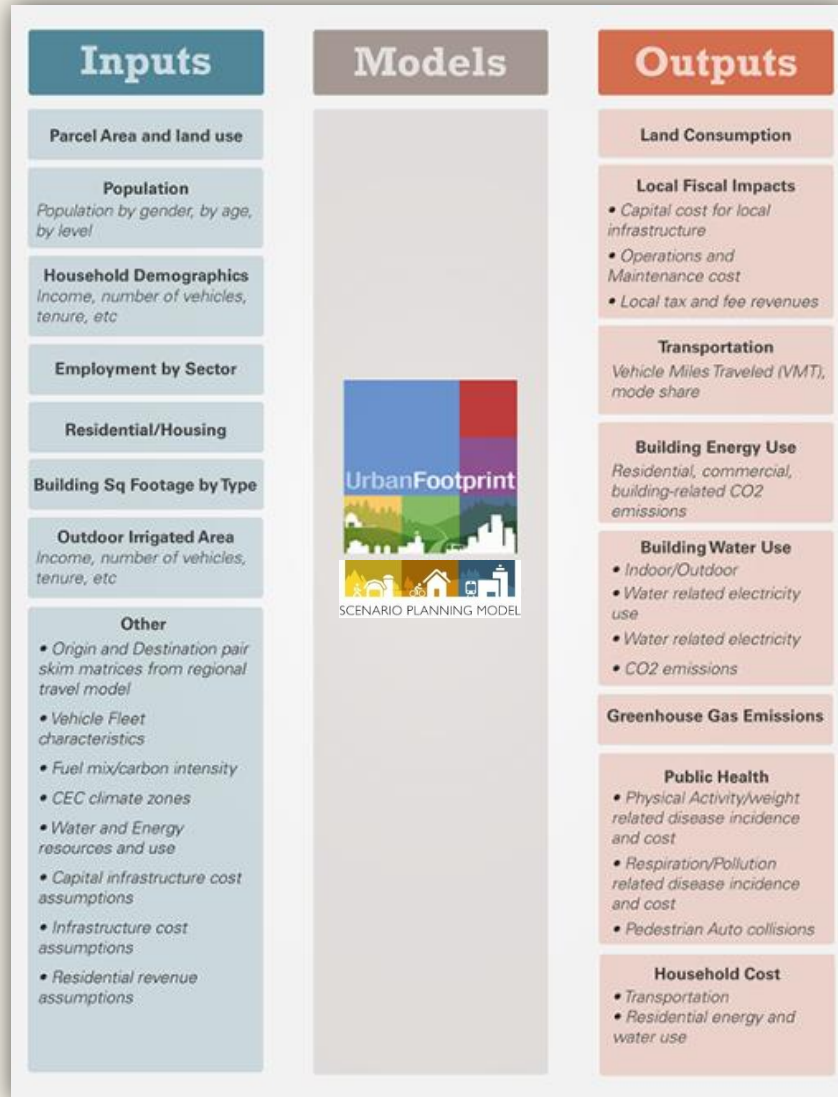
Draft Scenarios Analysis – Coming Soon



Multi-Metric Analysis = More Informed Decisions

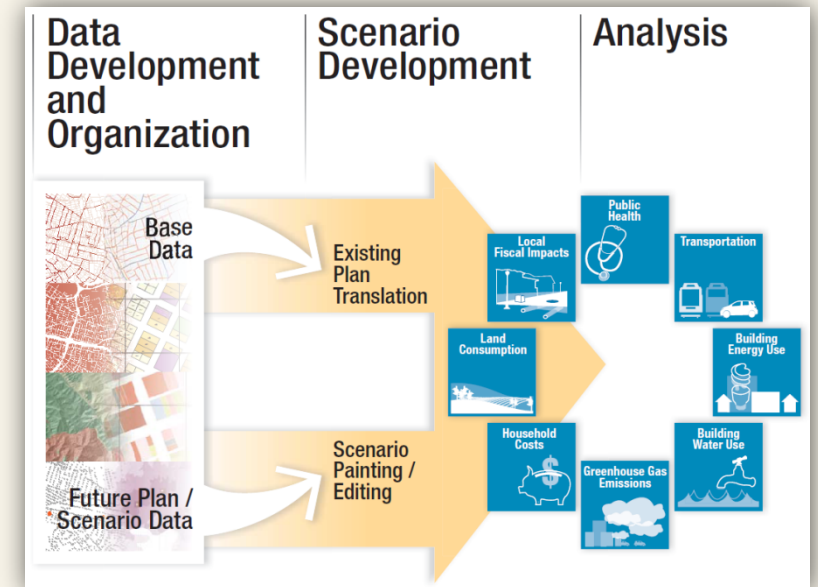


UrbanFootprint Analytical Models

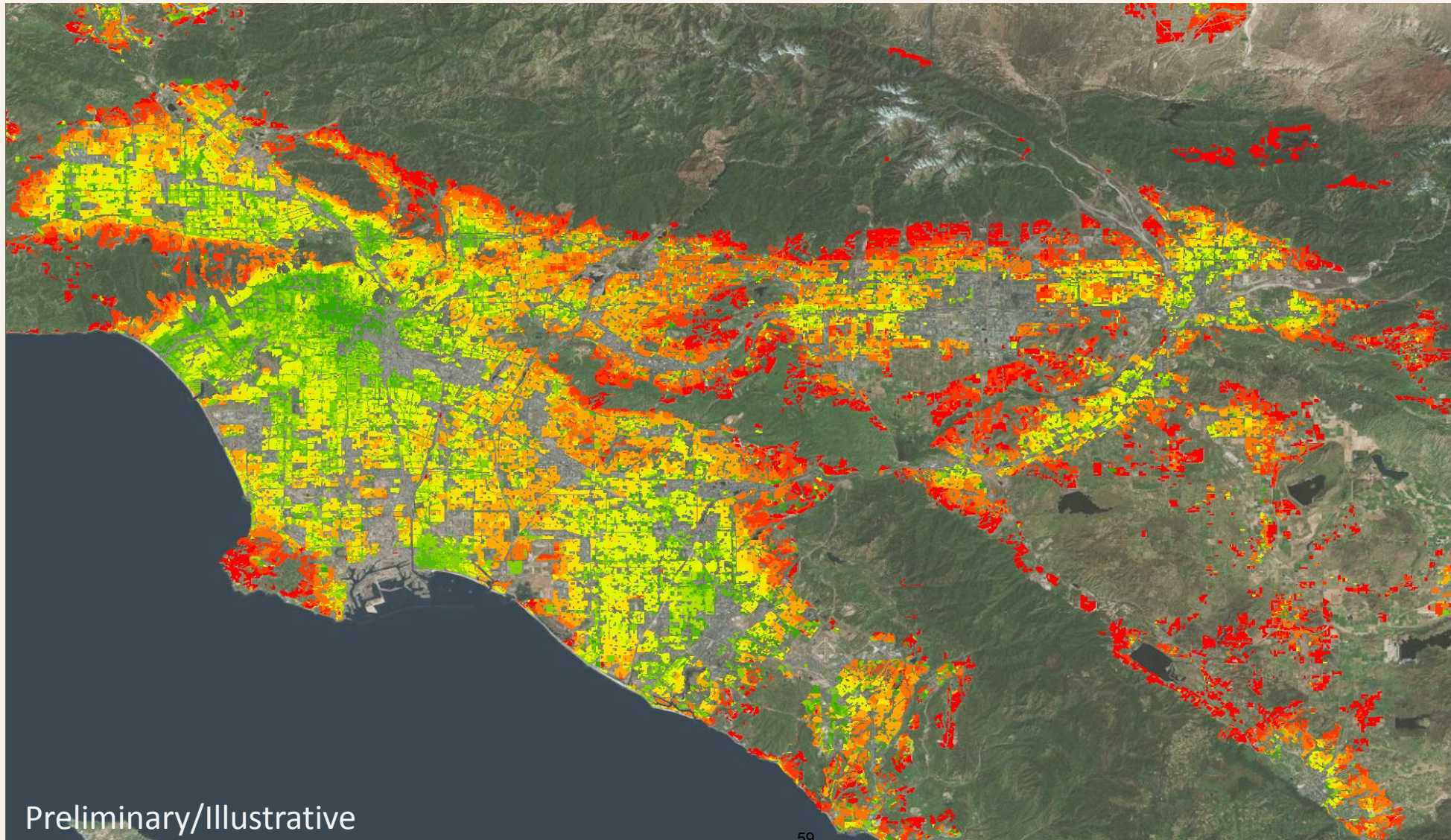


Localization & Calibration

- Baseline Energy & Water Factors
- Energy Portfolio Mix and Emissions Rates
- Vehicle Fleet & Fuels
- Regional VMT
- Costs (fuel, energy, water)



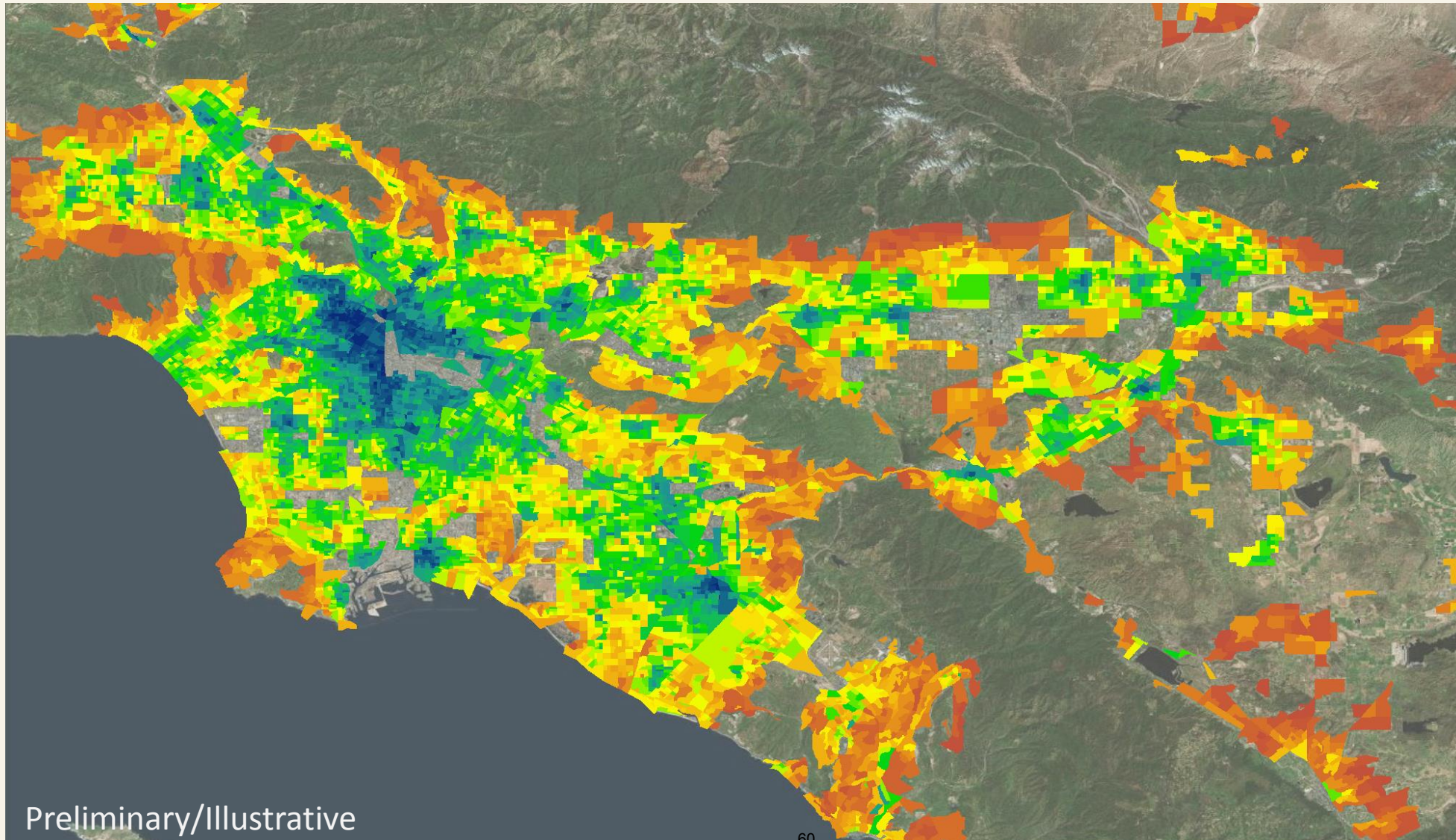
UrbanFootprint Analytical Models



Base Year
(2012)
VMT Per Capita

Preliminary/Illustrative

UrbanFootprint Analytical Models



Base Year
(2012)
Transportation
Walking

Preliminary/Illustrative



2016 2040 RTPSCS

DRAFT SCENARIOS DISCUSSION

Regional Transit TAC

April 29, 2015

CALTHORPE ANALYTICS