

July 24, 2014

CENTRAL LANE SCENARIO PLANNING

Draft scenario policies and outcomes

Table 1. Example scenario policies

POLICY CATEGORY	SCENARIO A REFERENCE CASE	SCENARIO B ENHANCE EXISTING POLICIES	SCENARIO C EXPLORE NEW POLICIES
TRANSIT	<ul style="list-style-type: none"> • EmX system expands to 5 lines • Some expansion of regular fixed route service 	<ul style="list-style-type: none"> • Expand EmX system to 7 lines • Enhance feeder routes to EmX • Improve stop amenities • More routes added to frequent transit network (FTN) • Implement projects that increase transit reliability • Develop to higher densities along EmX corridors consistent with maximum allowable densities • Implement E-fare system 	<ul style="list-style-type: none"> • Upgrade high performing EmX lines to other higher capacity mode • Reconfigure system to enhance ridership on frequent transit network (FTN) and provide better feeder service • Reduce transit fares • Encourage development at maximum densities near frequent transit network routes • Increase service frequencies across a variety of routes
CYCLING AND WALKING	<ul style="list-style-type: none"> • Many projects built, but not all due to funding constraints • More people travel by bike 	<ul style="list-style-type: none"> • Require developers to provide high quality infrastructure • Build majority of planned cycling and walking projects • Implement bike share program, increase use of e-bikes 	<ul style="list-style-type: none"> • Increase share of regional transportation dollars spent on cycling/walking; also increase total amount spent • Implement road diets • Expand off-street trails and paths • Improve access to transit stops by biking and walking
PRICING	<ul style="list-style-type: none"> • Paid parking expands to downtown Springfield • State gas tax keeps pace with inflation 	<ul style="list-style-type: none"> • Increase daily average parking rate to \$6.00 (\$2005) • Increase state and local gas taxes • 50% of drivers adopt pay-as-you-drive insurance 	<ul style="list-style-type: none"> • Expand areas of the region where drivers must pay for parking • Expand areas where employees pay to park • Mandate pay-as-you drive insurance for most drivers • Implement carbon tax
EDUCATION AND MARKETING	<ul style="list-style-type: none"> • Travel options programs are expanded consistent with the RTOP • Workplace commute options participation increases commensurate to population and employment growth • Carsharing is confined to high density areas 	<ul style="list-style-type: none"> • Fund workplace commute option programs and individual travel reduction marketing programs at higher levels • Expand carsharing to more neighborhoods 	<ul style="list-style-type: none"> • Fund workplace commute option programs and individual travel reduction marketing programs at maximum levels • Expand transit pass program beyond large employers • Expand car sharing to less dense areas through new models

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Table 2. Scenario outcomes

CATEGORY	CRITERIA	UNIT OF MEASURE	SCENARIO A REFERENCE CASE	SCENARIO B ENHANCE EXISTING POLICIES	SCENARIO C EXPLORE NEW POLICIES
ECONOMY AND PROSPERITY	Driving costs as percentage of household income ¹	% of average household income	19.1%	19.0%	18.8%
	Average household income by housing type	\$2005		Multi-family: \$45,500 Single family: \$67,500	
	Parking costs	Average regional daily parking cost (\$2005)	\$2.74	\$6.00	\$6.00
	Value of time lost to congestion ²	\$ per person per year (\$2005)	\$513	\$363	\$300
ENERGY CONSUMPTION AND GHG EMISSIONS	Greenhouse gas emissions per capita	Tons CO2/year	1.29	1.04	0.97
	State greenhouse gas emissions reductions target	Meets or does not meet target	Does not meet target	Meets target	Meets target
	Petroleum fuel consumption	Gallons per capita per year	151	120	111
TRANSPORTATION	Vehicles miles travelled	VMT/capita (daily)	22.3	19.1	17.6
	Transit service	Revenue miles/capita (daily)	18	28	30
	Bicycle travel ³	Bicycle miles travelled/capita (daily)	0.5	1.6	1.9
	Pedestrian travel	Walk trips/capita (annual)	123	124	125
	Transit ridership	Total annual ridership	<i>T.B.D.</i>	<i>T.B.D.</i>	<i>T.B.D.</i>
	Vehicle ownership	Average no. of vehicles/household	1.9	1.8	1.8
	Hours of congestion	Hours per capita per year	41	29	24
AIR QUALITY	Criteria air pollutant emissions	% reduction or increase in pollutants (as compared to Reference Case)	-	-18%	-24%
FEASIBILITY	Legal, legislative, or regulatory barriers to implementation	Qualitative assessment	<ul style="list-style-type: none"> None. Scenario A is based on current policy direction. 	<ul style="list-style-type: none"> Parking fees must be increased. State must mandate universal pay-as-you-drive insurance e. Local governments must increase local gas tax. 	<ul style="list-style-type: none"> State must implement VMT fee and mandatory pay-as-you-drive insurance. Regional share of funds spent on cycling and transit must increase significantly.
	Public/private infrastructure costs	Qualitative assessment	<ul style="list-style-type: none"> This scenario is fiscally constrained and can be achieved with existing revenue sources. Most infrastructure costs would be public. 	<ul style="list-style-type: none"> This scenario would require private developers to build more infrastructure. Public infrastructure costs would also go up, funded by increased revenues. 	<ul style="list-style-type: none"> This scenario would have the highest public infrastructure costs. Private infrastructure costs would be the same as Scenario B.
	Local revenue from VMT fee or gas tax	Annual \$ per capita	\$79	\$118	\$216
	Political or public acceptability	Qualitative assessment	<i>T.B.D.</i>	<i>T.B.D.</i>	<i>T.B.D.</i>
HEALTH	Physical activity per capita	Number of walk and bike miles per week	Walk: 1.1 Bike: 3.7	Walk: 1.1 Bike: 11.2	Walk: 1.1 Bike: 13.4

¹ Includes both average annual vehicle ownership and operating costs.

² Value of time for personal trips is assumed to be \$12.50 per hour. From US Department of Transportation (2011).

³ This criterion represents the number of miles "diverted" from car travel and instead travelled by bike.

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CATEGORY	CRITERIA	UNIT OF MEASURE	SCENARIO A REFERENCE CASE	SCENARIO B ENHANCE EXISTING POLICIES	SCENARIO C EXPLORE NEW POLICIES
	Health benefits from increased walking and biking	Annual number of premature deaths avoided due to physical activity	11	44	50
	Chronic illness incidence	% reduction or increase	<i>T.B.D.</i>	<i>T.B.D.</i>	<i>T.B.D.</i>
	Annual cost savings due to reduced disease burden	\$	\$4,000,000	\$30,000,000	\$38,000,000
	Annual change in fatal or injury accidents	Increase in number of fatal or injury crashes over base year	Injury or fatalities: 4 Fatalities only: 1	Injury or fatalities: 3 Fatalities only: 1	Injury or fatalities: 2 Fatalities only: 1
EQUITY	Driving costs as percentage of household income	% of average household income	Driving costs as a percentage of household income are similar across scenarios. However, Scenarios B and C include increased availability of other modes (like transit and cycling) that may decrease the overall cost of travel for lower-income residents. This is dependent on whether improvements to cycling, walking, and transit are made in areas where low-income households live and work – if not, there may be a negative effect on equity. Low-income drivers may proportionately pay far more for travel.		
	Average household income by housing type	\$	The average household income by housing type does not change across scenarios.		
	Physical activity per capita	Number of walk and bike miles per week	Positive effects are likely if cycling and walking improvements are made in areas where low-income and minority households live and work.		