

Appendix Employment Impacts For 2014 RTP

REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY



Employment Impacts for
2014 San Joaquin Regional Transportation Plan

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Assumptions

1. Roadway Operations, Maintenance, and Safety

Investment period 27 years

Total period investment of \$3,875 million

2. Transit

Investment period 27 years

Total period investment of \$3,520 million

3. Roadway Capacity (Mainline, Interchanges, Regional Roadways)

Investment period 27 years

Total period investment of \$3,273 million

4. Active Transportation/Community Enhancements

Investment period 27 years

Total period investment of \$282 million

Total San Joaquin 2014 RTP Investments: \$11,001 million*

**Includes aviation projects totaling \$53 million 2014 RTP investments, but were not analyzed separately.*

Economic Impact Methodology and Definitions

The economic impact analysis was performed using input-output (I/O) model calibrated to reflect the local economic data. It generated detailed representations of the San Joaquin County economy through which the Program's impacts were assessed. In deriving this model, we utilized IMPLAN Version 3.1 with data for calendar year 2011. The total employment impacts that result from the expenditures, the *Total Employment* is the sum of the direct, indirect, and induced employment:

- *Direct employment* is the jobs related exclusively to initial spending.
- *Indirect employment* represent the iterative job impacts of inter-industry transactions as supplying industries respond to the increased demands from the sector(s) where initial spending occurred. An example of indirect employment would include new jobs at a concrete manufacturer to meet the demand of the Program.
- *Induced employment* reflects jobs created by consumption expenditures of direct and indirect sector employees. Examples of induced employment include jobs created from employee's expenditures on items such as retail purchases, housing, medical services, banking, and insurance.

In this analysis all employment impacts are reported as the number of full- and part-time jobs based on an annual average of monthly jobs. That is, one job lasting 12 months is equal to two jobs lasting six months each and is equal to three jobs lasting four months each. All impacts are based on budgeted investments in 2014 dollars.

The I/O models are in a sense, general accounting system of economic transactions between industries, businesses, and consumers that estimates the full range of impacts. We use the IMPLAN software to create complete, extremely detailed Social Accounting Matrices (SAMs) and Multiplier Models of local economies that enable in-depth examinations of our focus economies. With SAMs input-output accounts are extended to include institutional, non-market, financial flows, thereby facilitating the examination of all economic transactions within an economy. It is important to note that the model is static and does not adjust for dynamic changes in an economy.

IMPLAN was developed in the late-1970s by the United States Forest Service and researchers at the University of Minnesota. The software was initially based on input-output accounts whose analysis was pioneered in the Nobel Prize winning work of Wassily Leontief. As the software evolved, it utilized SAMs in its analysis. Currently, IMPLAN is among the most widely used economic impact modeling systems. It provides a transparent and detailed approximation of impacts that is ideal for analysis of the Program. However, the actual impacts from the Program will depend on its timing, specific details of initial spending, and technological changes that might arise before or during the Program.

San Joaquin County Employment Impacts of the 2014 San Joaquin County RTP¹:

1. Roadway Operations, Maintenance, and Safety

	Direct Employment	Indirect Employment	Induced Employment	Total Employment
Average annual employment during 2014 RTP	1,250	178	448	1,875
Person-years of employment during 2014 RTP	33,753	4,801	12,083	50,636

2. Transit

	Direct Employment	Indirect Employment	Induced Employment	Total Employment
Average annual employment during 2014 RTP	938	116	256	1,310
Person-years of employment during 2014 RTP	25,323	3,129	6,901	35,357

3. Roadway Capacity (Mainline, Interchanges, Regional Roadways)

	Direct Employment	Indirect Employment	Induced Employment	Total Employment
Average annual employment during 2014 RTP	980	163	364	1,507
Person-years of employment during 2014 RTP	26,452	4,409	9,828	40,689

4. Active Transportation/Community Enhancements

	Direct Employment	Indirect Employment	Induced Employment	Total Employment
Average annual employment during 2014 RTP	87	14	31	131
Person-years of employment during 2014 RTP	2,336	381	824	3,537

Total County-Level San Joaquin 2014 RTP Employment Impacts

	Direct Employment	Indirect Employment	Induced Employment	Total Employment
Average annual employment during 2014 RTP	3,261	472	1,100	4,833
Person-years of employment during 2014 RTP	88,039	12,752	29,697	130,488

¹ Source: IMPLAN v3.1; Pacific Business Forecasting Center 2014. All impacts are based on construction cost estimates in 2014 dollars.