

Initial Study / Proposed Mitigated Negative Declaration

Subtransmission Project (STP)

Riverside, California

TECHNICAL APPENDIX E

PREFERRED ALTERNATIVE ROUTE SELECTION PROCESS



Riverside Public Utilities
3901 Orange Street
Riverside, California 92501

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Route Selection Process

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Appendix E, Summary of Route Selection Process

INTRODUCTION

The impact assessment and mitigation planning were completed by resource teams for their specific discipline. This data was then summarized for each environmental resource and selection criteria. The goal of the meetings was to get the resource team to agree on a preferred alternative end-to-end route. This required a process referred to as a multi-attribute decision analysis, and is considered a consensus-building technique, one that is intended to garner consensus and support for a preferred alternative.

May 3, 2007 Route Selection Session

The agenda for the first day included the following items:

- Introduction and Goals of Route Selection Process
- Round Table Discussion of Resources
- Resource Discussion/Define Relative Importance of Resources
- Subroute Selection
- Route Selection Process/Methodology Overview
- Summarize Results and Prepare for 69kV Route Selection

Participants

Meeting Facilitation:

- Jim Jenson
- Mike Strand
- Kevin Everett
- Tim Hazekamp (data / mapping coordinator)

Team members and the resource they represented:

- Visual Resources – Darrin Gilbert
- Biological Resources – Tom Herzog and Vanessa Gutierrez
- Land Use – Mark Shaffer and Kevin Everett
- Earth Resources – Mike Cook
- Water Resources – Linda Erdman
- Cultural Resources – Jim Rudolph
- Public Acceptability – Cindy Smith
- 69 kV engineering / cost – Darel Tracy
- SCE, 230 kV engineering / cost – Carrie Meissner

RPU present that were assisting or observing included:

RPU:

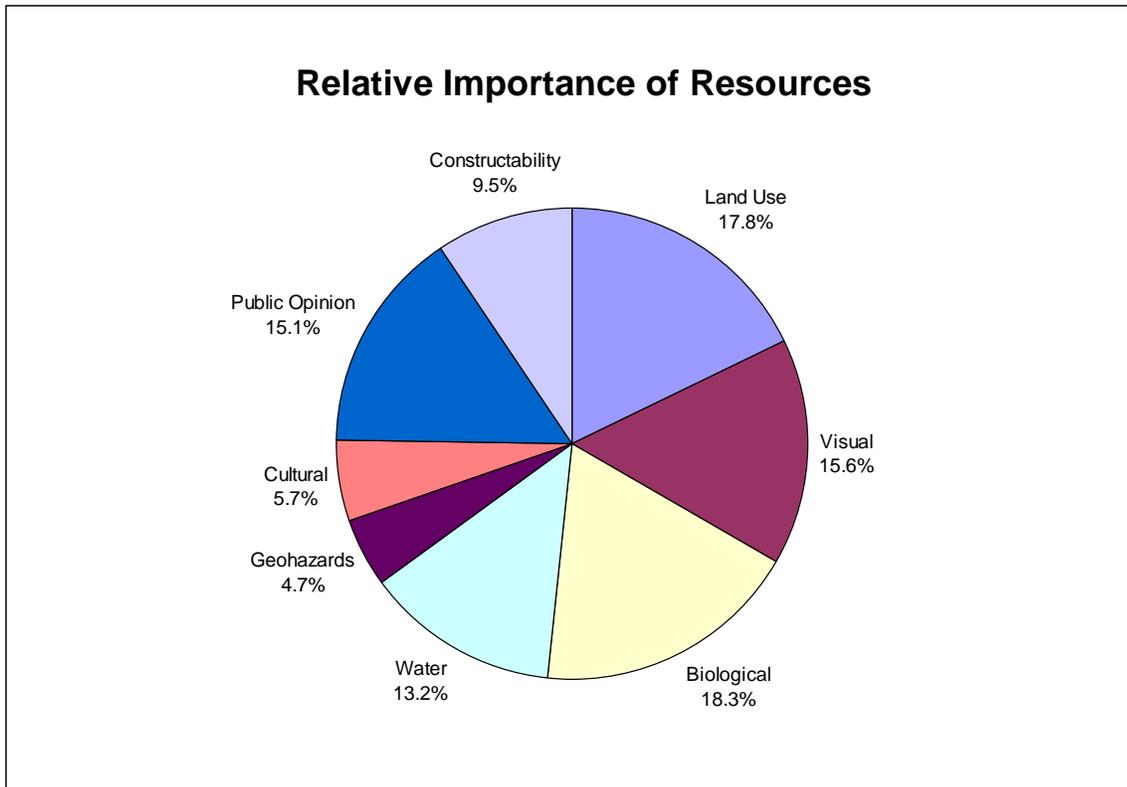
- Jorge Somoano
- Lyle Hill
- Steve Badgett
- Mike Torelli
- Barbara Gallert

The meeting began with the introductions of all members of the team, both those that were present to rank routes and represent selection criteria, and those present to either assist or observe. Jim Jenson led the discussion about the approach that was to be used in the next two days to select a preferred route.

Relative Importance of Resource Impacts

Resource criteria were compared and weighed according to their importance to the project. This information acted as a reference and only when a significant problem developed during the route selection process. The meeting coordinator Jim Jenson regulated the exercise that weighted the individual resources. All resource representatives were asked to identify which resources they felt was the least important to the selection of the preferred alternative for the project. They were then asked to identify which resource was the most important and how many times more important that resource is compared to the least. Once the least and most important criteria were established, the other resource filled in between according to how many times more important that resource representative felt it was compared to the least important. The most important resource for this project should in the end have a significant portion of the decision about which route ultimately is selected as the preferred.

The weighting of each resource criteria were than normalized to a 1 to 10 scale; 10 being the most important. A percentage was calculated for the relative importance of each criterion, based upon the normalized weighting, and shown graphically on the example pie chart below.



Route Selection Criteria

The route selection criterion includes:

- Land Use compatibility
- Visual Resources
- Biological Resources
- Cultural Resources
- Cost/Engineering
- Public Input
- Water Resources
- Geohazards

Subroute Analysis and Selection

Subroute selections were made by the Resource Team based on resource impacts, impact summaries, and comparative data for each subroute. The subroutes were determined by the combination of links that would eventually be needed to build comparative routes. The method is to first evaluate and compare for the most significant impacts, then the potentially significant impacts, etc.

Riverside / La Colima

- This line would have 2 circuits from Riverside to La Colima and intercept the existing lines going to La Colima Substation
- City of Riverside owns property that the University medical center wants to acquire in negotiations but goal is to stay away from link 22 to reduce overall impacts. The location of interest from the University is on the corner links 19 and 22, approximately 26 acres.
- University master plan wants to renegotiate removal of lines to the highway

Subroute A

- Selected links 2 and 5

Subroute B

- Selected links 12 and 15

Subroute C

- Selected links 8, 9, 12, and 18

Subroute D

- Selected links 9, 12, and 18

Subroute E

- Selected links 21, 23, and 25

Route End to End

- Riverside to La Colina
- Selected links 1, 2, 5, 8, 9, 10, 12, 15, 16, 25, and 28
- Selected Route D as the preferred
- The remaining subroutes were alternatives
- Mike suggestion for EIR – 3 alternatives (north, central, south). Each one has an option as well

69 kV Link Summary Impact Data: Riverside to La Colina / Springs

Link #	Length (feet)	Residual Impact Level	Visual	Biological	Archaeo/Architect	Tribal Concerns	Geohazards	Land Use	Water/Wetlands	TOTAL IMPACT (miles)	Houses within 300 feet
1	189.2	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0
		Low	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.5	
		Moderate	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	775.8	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0
		Low	0.2	0.2	0.2	0.0	0.2	0.2	0.0	1.0	
		Moderate	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
3	4,154.5	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	103
		Low	0.7	0.8	0.8	0.0	0.8	0.8	0.0	3.9	
		Moderate	0.1	0.0	0.0	0.8	0.0	0.0	0.0	0.9	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
4	6,530.1	NI	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	63
		Low	0.0	1.3	1.3	0.0	1.3	1.3	0.0	5.2	
		Moderate	1.3	0.0	0.0	1.3	0.0	0.0	0.0	2.6	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5	2,700.1	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	115
		Low	0.3	0.6	0.6	0.0	0.6	0.6	0.0	2.7	
		Moderate	0.3	0.0	0.0	0.6	0.0	0.0	0.0	0.9	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
6	4,063.5	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	242
		Low	0.0	0.8	0.8	0.0	0.8	0.8	0.0	3.2	
		Moderate	0.1	0.0	0.0	0.8	0.0	0.0	0.0	0.9	

		High	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.7	
7	3,100.3	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	9
		Low	0.1	0.6	0.6	0.0	0.6	0.5	0.0	2.3	
		Moderate	0.5	0.0	0.0	0.6	0.0	0.1	0.0	1.1	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
8	1,259.8	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0
		Low	0.0	0.3	0.3	0.0	0.3	0.2	0.0	1.1	
		Moderate	0.3	0.0	0.0	0.3	0.0	0.1	0.0	0.7	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
9	602.1	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0
		Low	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.8	
		Moderate	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.4	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10	116.3	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0
		Low	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.4	
		Moderate	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.2	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
11	2,593.7	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	30
		Low	0.2	0.5	0.5	0.0	0.5	0.0	0.0	1.7	
		Moderate	0.0	0.0	0.0	0.5	0.0	0.5	0.0	1.0	
		High	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3	
12	1,930.5	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0
		Low	0.4	0.4	0.4	0.0	0.4	0.0	0.0	1.6	
		Moderate	0.0	0.0	0.0	0.4	0.0	0.4	0.0	0.8	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
13	1,749.0	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	8
		Low	0.4	0.4	0.4	0.0	0.4	0.0	0.0	1.6	
		Moderate	0.0	0.0	0.0	0.4	0.0	0.4	0.0	0.8	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

14	666.9	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	8
		Low	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.8	
		Moderate	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.4	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
15	1,578.7	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0
		Low	0.3	0.3	0.3	0.0	0.3	0.0	0.0	1.2	
		Moderate	0.0	0.0	0.0	0.3	0.0	0.3	0.0	0.6	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
16	2,815.7	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0
		Low	0.6	0.6	0.6	0.0	0.6	0.0	0.0	1.8	
		Moderate	0.0	0.0	0.0	0.6	0.0	0.6	0.0	1.2	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
17	1,351.3	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	16
		Low	0.3	0.3	0.3	0.0	0.3	0.0	0.0	1.2	
		Moderate	0.0	0.0	0.0	0.3	0.0	0.3	0.0	0.6	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
18	1,444.5	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0
		Low	0.3	0.3	0.3	0.0	0.3	0.0	0.0	1.2	
		Moderate	0.0	0.0	0.0	0.3	0.0	0.3	0.0	0.6	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
19	2,537.9	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	7
		Low	0.4	0.5	0.5	0.0	0.5	0.0	0.0	1.9	
		Moderate	0.1	0.0	0.0	0.5	0.0	0.5	0.0	1.1	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
20	5,392.7	NI	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	114
		Low	0.7	0.0	1.1	0.0	1.1	0.0	0.0	2.9	
		Moderate	0.4	1.1	0.0	1.1	0.0	1.1	0.0	3.7	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
21	2,636.3	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0

		Low	0.4	0.5	0.5	0.0	0.5	0.0	0.0	1.9	
		Moderate	0.1	0.0	0.0	0.5	0.0	0.5	0.0	1.1	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
22	2,871.8	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	7
		Low	0.4	0.6	0.6	0.0	0.6	0.0	0.0	3.2	
		Moderate	0.2	0.0	0.0	0.6	0.0	0.6	0.0	1.4	
23	840.2	High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
		NI	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	
		Low	0.1	0.2	0.2	0.0	0.2	0.0	0.0	0.7	
24	2,548.2	Moderate	0.1	0.0	0.0	0.2	0.0	0.2	0.0	0.5	20
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		NI	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	
25	2,724.8	Low	0.0	0.5	0.5	0.0	0.5	0.0	0.0	1.5	14
		Moderate	0.5	0.0	0.0	0.5	0.0	0.5	0.0	1.5	
		High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
26	2,212.3	NI	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	39
		Low	0.5	0.0	0.5	0.0	0.5	0.0	0.0	1.5	
		Moderate	0.0	0.5	0.0	0.5	0.0	0.5	0.0	1.5	
27	3,695.9	High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	126
		NI	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	
		Low	0.0	0.7	0.7	0.0	0.7	0.3	0.0	2.4	
28	393.9	Moderate	0.0	0.0	0.0	0.7	0.0	0.4	0.0	1.1	8
		High	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.7	
		NI	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	
		Low	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.4	

	Moderate	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.2	
	High	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Riverside to La Colina / Springs 69 kV Alternative Routes

Riverside to La Colina / Springs 69 kV Alternative Routes		Residual Impact (miles)									
Route	Links	Residual Impact Level	Visual	Biological	Cultural (Archeo / Tribal Concern)	Geohazards	Land Use	Water/ Wetlands	TOTAL IMPACT (Miles)	Length (Miles)	Houses within 300 Feet
Route A - University North	1,2,4,8,9,12,15,16,25,28	No Identifiable	0	0	0	0	0	4.1	4.1	3.6	80
		Low	2.2	4.1	4.1	4.1	1.8	0	16.3		
		Moderate	1.6	0	4.1	0	2.3	0	8		
		High	0.3	0	0	0	0	0	0.3		
Route B - University Central	1,2,4,8, 9,12,18,21,23,25,28	No Identifiable	0	0	0	0	0	4.2	4.2	3.7	80
		Low	2.1	4.2	4.2	4.2	1.8	0	16.5		
		Moderate	1.8	0	4.2	0	2.4	0	8.4		
		High	0.3	0	0	0	0	0	0.3		
Route C - University South	1,2,4,8,10,17,20,26,27,28	No Identifiable	0	0	0	0	0	4.7	4.7	4.2	338
		Low	2	3.1	4.1	4.7	2.1	0	16		
		Moderate	2	1.6	4.1	0	2.6	0	10.4		
		High	0.7	0	0	0	0	0	0.7		
Route D - 12th Street North	1,2,5,6,10,9,12,15,16,25,28	No Identifiable	0	0	0	0	0	4	4	3.4	348
		Low	2.6	4	4	4	1.7	0	16.3		
		Moderate	0.4	0	4	0	2.3	0	6.7		
		High	1	0	0	0	0	0	1		
Route E - 12th Street Central	1,2,5,6,10,9,12,18,21,23,25,28	No Identifiable	0	0	0	0	0	4.1	4.1	3.5	348
		Low	2.5	4.1	4.1	4.1	1.7	0	16.4		
		Moderate	0.6	0	4.1	0	2.4	0	7.1		
		High	1	0	0	0	0	0	1		
Route F - 12th Street South	1,2,5,6,17,20,26,27,28	No Identifiable	0	0	0	0	0	4.4	4.4	3.9	606
		Low	2.2	2.8	4.4	4.4	2	0	15.8		
		Moderate	0.8	1.6	4.4	0	2.4	0	9.2		
		High	1.4	0	0	0	0	0	1.4		