



Organization

**Clark County Department of Public Works
(DUNS No. 083782953 / CCR 3VNR8)
500 South Grand Central Parkway
Las Vegas Nevada, 8915-4000**



A CENTURY OF SERVICE

Project Title and Name

Cactus Avenue / Interstate 15 Interchange

Type of Project

Arterial / Highway

Location

**State of Nevada
County of Clark, Urban Area
Nevada Congressional District 3**

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Amount of Grant Request

\$ 38,400,000.00

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A. PROJECT DESCRIPTION

Interstate 15 (I-15) is the major freeway corridor that traverses north south through the Las Vegas Valley. It provides regional travel to destinations such as Northern Nevada, California, Utah, and beyond. It also is the main freeway corridor that links the residential areas of the south and southwest to the commercial and business areas centralized within the Las Vegas Valley. Clark County Public Works proposes to construct a new interchange on I-15 at Cactus Avenue to serve the south-central part of the Valley.

Based on right-of-way constraints at the project site, the interchange will be a Tight Urban Diamond Interchange (TUDI) configuration. The Cactus Avenue Interchange bridge over I-15 will be a two-span continuous Composite Steel Plate Girder structure. An existing flood control facility consisting of a three-cell (3) 12' x 4' reinforced concrete box (RCB) culvert crosses I-15 at an approximate skew of 44 degrees within the footprint of the proposed bridge structure for Cactus Avenue. The substructure will provide a cap beam spanning the existing three-cell box culvert.

The project includes roadway improvements along Cactus Avenue from Dean Martin Drive to Las Vegas Boulevard, a distance of 3,500 ft., to connect the interchange to the existing arterial street network. The proposed Cactus Avenue bridge over I-15 will be 132 feet wide, comprised of four 11-foot and two 15-foot traffic lanes, four 10-foot traffic turning lanes, one four-foot median, two 5.5-foot sidewalks, and two 1-foot barriers with Type "M" pedestrian rail. Roadway improvements will include drainage, traffic, and utility work from Dean Martin Drive to Las Vegas Boulevard. The project will also include landscaping of the interchange.

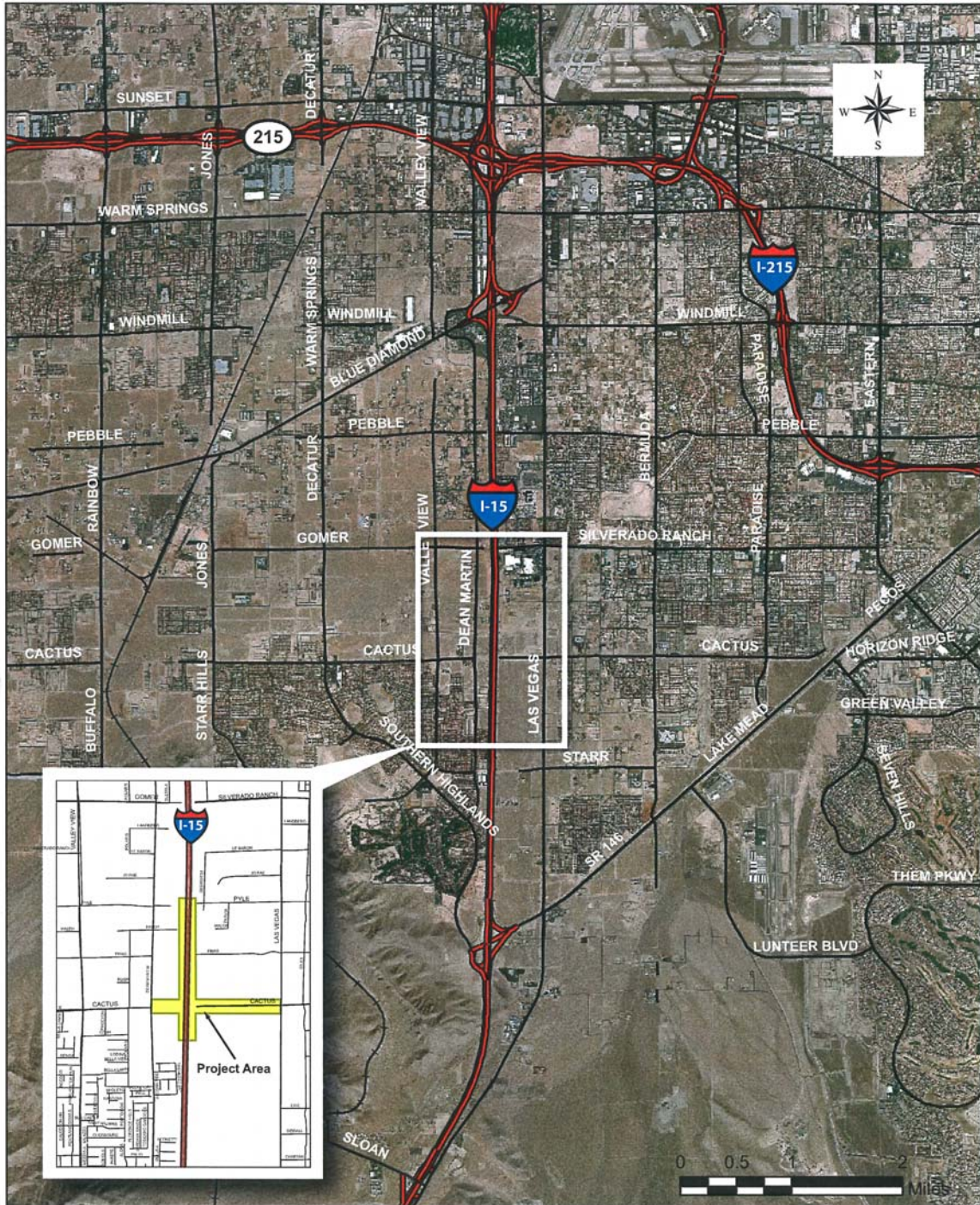
1. Project Location

CCPW proposes to construct a new interchange along Interstate-15 (I-15) at Cactus Avenue located in the south-central part of the Las Vegas Valley and within an unincorporated area of Clark County, Nevada. The proposed interchange at Cactus Avenue will be located between the existing interchanges at Silverado Ranch Boulevard and St. Rose Parkway (State Route 146).

Figure 1 illustrates the vicinity of the Cactus Avenue and I-15 Interchange within the Las Vegas Valley.



Figure 1 – Project Vicinity Map



**Cactus Avenue / I-15 Interchange
Vicinity Map**





2. Project Need

The purpose of the project is to construct a new interchange on I-15 in order to provide improved access and better circulation within the transportation network. There are only three (3) interchanges along a 6-mile stretch of I-15 within the south-central part of the Las Vegas Valley. These interchanges include St. Rose Parkway, Silverado Ranch Boulevard, and Blue Diamond Road.

In recent years, the growth that the Las Vegas Valley has experienced has been concentrated within the south and southwest. The residents of these areas depend heavily on I-15 to commute from residential neighborhoods to the business and commercial areas centralized within the valley. This growth has contributed to increased demands on the road network and decreased levels of service. The proposed interchange at Cactus Avenue would provide additional local access to the freeway and across the freeway. This will serve several needs:

- It will provide much needed access to the Freeway for local residents;
- It will reduce congestion at nearby overloaded interchanges;
- It will facilitate and stimulate planned commercial development in accordance with local land use plans; and,
- It will provide a new crossing of the freeway providing an improved transportation network for commerce, employment and community cohesion.

In particular, to stimulate economic development, the area around the proposed Cactus Avenue Interchange at I-15 has been included in the Enterprise Land Use Plan¹ adopted by Clark County September 2, 2009 for commercial tourist development within a designated Mixed Use Overlay District and within a Gaming Enterprise District where the most intense Las Vegas Resort style development is encouraged.

Furthermore, the proposed new Cactus Avenue overcrossing of I-15 will provide connectivity between the Clark County residents of the Southwest Valley and the recently annexed portions of the City of Henderson east of I-15 as outlined in the South Enterprise/West Henderson Land Use Plan² adopted by the City of Henderson in March 2000.

¹ The "Enterprise Land Use Plan" can be found at http://www.accessclarkcounty.com/depts/comprehensive_planning/landuse/Pages/enterprise.aspx

² The "South Enterprise/West Henderson Land Use Plan" can be found at <http://pwgate.co.clark.nv.us/arra/tiger/cactus/cactus.asp>



B. PROJECT PARTIES

CCPW in conjunction with the Nevada Department of Transportation (NDOT) is requesting consideration for the Cactus Avenue at I-15 Interchange Project for construction funding through the TIGER Discretionary Grant Program. NDOT is the project administrator for projects funded under Federal Highway Administration within the State of Nevada, and NDOT will be the direct recipient of the funds. A Stewardship Agreement between NDOT and CCPW will transfer the project construction funds and construction oversight to CCPW.

NDOT and CCPW are in the process of developing the final Stewardship Agreement for the Cactus Avenue at I-15 Interchange Project. Both parties are working towards executing the Stewardship Agreement to obligate the funds already allocated for the project. It is anticipated that the Stewardship Agreement will be executed by the end of 2009. When CCPW is notified of the selection for construction using ARRA funds from the TIGER Discretionary Grant Program, an amendment to the Stewardship Agreement will be prepared immediately and executed.

- **Nevada Department of Transportation:** NDOT currently owns and maintains Interstate 15 and has been a Project Stakeholder through the design phase of the project. NDOT will continue to be involved through the completion of the design and through the construction of the project. (<http://www.nevadadot.com/>)
- **Regional Transportation Commission (RTC) of Southern Nevada:** The RTC is the Metropolitan Planning Organization for the Las Vegas Valley and oversees the transportation planning process within the region. The RTC has identified the Cactus Avenue at I-15 Interchange Project as a significant project for the valley and has included the project in the Regional Transportation Plan. The RTC has also allocated local revenues generated by the Question 10 initiatives in 1992 and 2001 to fund the design phases of the project. (<http://www.rtcsonthernnevada.com/>)

C. GRANT FUNDS AND SOURCES AND USES OF PROJECT FUNDS

CCPW has received funding for the planning and design phases for the project through the Regional Transportation Commission of Southern Nevada. Impacts of the economy and decreases in local revenues have impacted the budgets at the County and RTC, and the ability to fund the construction of the Cactus Avenue at I-15 Interchange Project. Funding for construction of the project has been delayed until sufficient funds are available.

The total estimated costs for the Cactus Avenue at I-15 Interchange Project include \$5,500,000 for right-of-way acquisition and \$57,900,000 for construction of the interchange, roadway improvements, and drainage facilities. Federal funding has been allocated through SAFETEA-LU in the amount of \$6,843,780, the Surface Transportation Program (Clark) in the amount of \$25,500,000, and an additional \$200,000 has been appropriated through the Funding Year 2004 Appropriations Act for right-of-way acquisition and construction of the interchange.



CCPW in conjunction with the Nevada Department of Transportation (NDOT) is requesting consideration for the Cactus Avenue at I-15 Interchange Project for construction funding through the TIGER Discretionary Grant Program in the amount of **\$38,400,000**.

A summary of the project costs, available funding sources, and percentage shares from each party are provided in **Table 1**.

Table 1 – Summary of Project Costs versus Available Funding Sources

	Total Cost	Available Funding Source				Unfunded Balance
		RTC Q10 High Speed Lane Miles Program	FY04 Appropriations Act	Surface Transportation Program (Clark)	SAFETEA-LU Funding	
A. Preliminary Engineering Costs	\$3,073,200	\$3,073,200	\$0	\$0	\$0	\$0
B. Right-of-Way Costs	\$5,500,000*	\$0	\$0	\$5,500,000	\$0	\$0
C. Construction Engineering Costs	\$7,527,000	\$0	\$0	\$0	\$0	(\$7,527,000)
D. Estimated Construction Costs	\$57,900,000	\$0	\$200,000	\$20,000,000	\$6,843,780	(\$30,856,220)
Total Project Cost	\$74,000,200	\$3,073,200	\$200,000	\$25,500,000	\$6,843,780	(\$38,383,220)
Percentage Per Party	100%	4%	0.3%	34%	9%	52%

**The cost shown for Right-of-Way Acquisition is for property to be acquired by land sale. Additional right-of-way will be obtained by dedication from adjacent property owners. It should be noted that the value of the land to be dedicated is not included in the total right-of-way costs, but should be recognized as a financial contribution to the project.*



D. SELECTION CRITERIA

1. Primary Selection Criteria

a. Long Term Outcomes

The Cactus Avenue at I-15 Interchange Project is expected to have significant long-term impacts within the Las Vegas valley. Below is a summary of the expected long-term outcomes from the project.

i) State of Good Repair

This project is expected to improve the condition of the existing transportation network by adding an interchange to I-15 along a 6 mile urban freeway segment that currently only has three (3) existing interchanges which are unable to accommodate projected traffic. In addition, I-15 is a barrier to commuters on the east- and west-sides of the Las Vegas Valley. The Cactus Avenue overpass over I-15 will also provide an east-west connection for the local commuters.

The project is part of and consistent with State and local efforts to improve mobility along the I-15 South Corridor. In October 2008, the Nevada Department of Transportation completed the Interstate 15 South Corridor Improvement, Sloan Road to Tropicana Avenue, Clark County, Nevada Environmental Assessment (FHWA-NV-EA 07.02)³. Per the Environmental Assessment, I-15 has been designated as a Corridor of the Future by the FHWA from San Diego, California to Salt Lake City, Utah. The goal of the Corridor of the Future program is to provide a managed corridor for safe travel, sustained traffic flow, and reliable travel times. The proposed Cactus Avenue Interchange provides capacity and operational improvements in accordance with the Corridor of the Future Program.

Within the Environmental Assessment document, levels of service of the transportation network along I-15 between Sloan Road and Tropicana Avenue were evaluated based on no-build and build conditions. The traffic analysis for the future year 2030 No Build scenario indicated that five of the six existing interchanges on I-15 within the study area from Sloan Road to Tropicana Avenue would operate with a level of service of E or worse during peak periods. Improvements to the I-15 corridor are needed in order to accommodate future traffic volumes.

The Build scenario within the Environmental Assessment included the construction of the Cactus Avenue Interchange with I-15 as well as improvements to the I-15 corridor. The new interchange provides additional, alternate access to I-15 from the southern Las Vegas Valley, relieving congestion on the existing interchanges just north and south of Cactus Avenue. The traffic analysis for the future year 2030 Build scenario improves the operating conditions within the Corridor with all but one interchange expected to operate with level of service of D or better during peak periods.

³ The "Environmental Assessment" can be found at <http://pwgate.co.clark.nv.us/arra/tiger/cactus/cactus.asp>



The Build Alternative outlined within the Environmental Assessment will be constructed in phases. Improvements to I-15 from Tropicana Avenue to Blue Diamond Road, north of Cactus Avenue, to be constructed utilizing a design-build construction method, is underway. The Cactus Avenue at I-15 interchange would be complimentary to the I-15 Design-Build project. It would provide immediate relief to the adjacent interchanges and provide a critical link for east-west travel within the southern portion of the Las Vegas Valley.

The web link to the Environmental Assessment for the I-15 South Corridor, Sloan Road to Tropicana Avenue is provided in Section I, Index of Website Supporting Information.

The I-15 at Cactus Avenue Interchange Project is included in the following statewide and local transportation planning documents:

- NDOT's Statewide Transportation Improvement Program (STIP)
(http://www.nevadadot.com/traveler/construction_projects/STIP/)
- RTC's Transportation Improvement Program (TIP)
(<http://www.rtcsonthernnevada.com/mpo/plansstudies/rtp0930/index.cfm>)

ii) Economic Competitiveness

Clark County Comprehensive Planning prepares Land Use Plans for each of the planning areas within Clark County. The planning area in which the project is located is Enterprise. The Enterprise Land Use Plan Information can be found at the following website:
http://www.accessclarkcounty.com/depts/comprehensive_planning/landuse/Pages/enterprise.aspx

As of July 2008, the Enterprise area had approximately 151,115 residents as compared to only 5,505 residents in 1990. Enterprise has experienced many changes in the past several years, with considerable new residential developments including Mountain's Edge, Pinnacle Peaks, Rhodes Ranch, and Southern Highlands. This planning area has experienced a growth rate greater than any other jurisdiction within the Las Vegas Valley Urban Area. Per the Enterprise Land Use Plan, Enterprise is still a prime area for commercial development. The growth rate of Enterprise has out-paced the rate of development of public facilities and infrastructure. **The Cactus Avenue / I-15 Interchange Project will bring much needed freeway access to residential areas and access to large tracts of developable land along the Las Vegas Boulevard Corridor which is planned for high density resort style development.**

The land on both the east and west sides of I-15 at Cactus Avenue is undeveloped. The proposed Cactus Avenue Interchange at I-15 is located in the Las Vegas Boulevard Corridor of the Enterprise Planning Area of Clark County. According to the Enterprise Land Use Plan, adopted September 2, 2009, "the Las Vegas Boulevard Corridor is the Central Business District for Enterprise." As such, the Las Vegas Boulevard Corridor, with Cactus Avenue at its center, is designated in the Enterprise Land Use Plan for commercial tourist development. This is the most intense land use designation in Clark County, reserved for Las Vegas Strip style resort developments. To encourage high-density resort development, the adopted Enterprise Land Use



Plan has included the area around the proposed Cactus Avenue Interchange within a Mixed Use Overlay District and within a Gaming Enterprise District.

A report prepared for the FHWA entitled “Preliminary Economic Impact of the Southern Tier Expressway: Western Portion”⁴ stated that the economic growth resulting from highway construction may not be readily apparent for ten or more years after completion of highway construction. The long-term growth may be predicted by:

- Expressions of interest in land development
- Local land use planning initiatives
- Increased land sales and rising prices
- Permits and construction of new (and expanded) buildings
- Penning of new (and expansion of existing) business establishments
- Increased tourism and visitor spending
- Increasing number of jobs

The Cactus Avenue / I-15 Interchange Project is an example of how the development of public infrastructure can increase the expressions of interest in land development leading to increases in number of jobs, tourism, and visitor spending. It is believed that these benefits would be realized sooner than the ten-year benchmark as indicated in the FHWA document. Currently, Station Casinos (a national gaming company) and Southern Highlands (a development corporation) own land directly adjacent to the interchange project. Station Casinos and Southern Highlands have expressed interest in the Cactus Avenue / I-15 Interchange Project and desire to dedicate right of way for the interchange. The design has been coordinated with these companies so that the interchange is compatible with the development plans of the adjacent parcels. With the construction of the interchange at Cactus Avenue, it is expected that the attractiveness to develop the parcels for Hotel/Casino and Commercial land uses will increase.

The I-15 South Corridor Environmental Assessment projected that the Hotel/Casino projects will generate new employment (more than 300,000 jobs) within the I-15 South Corridor. Figure 2a, Casino/Employment Growth, included in the Environmental Assessment, illustrates the concentration of additional employment along the I-15 corridor and specifically adjacent to I-15 at Cactus Avenue due to the anticipated development. Figure 2a illustrates a significant increase in employment. For these employment centers to be developed, roadway infrastructure is needed to attract development.

These economic benefits will be significant to the Las Vegas Valley that has experienced an average unemployment rate of 7.59%⁵ for the past 24-month period from July 2009 to August 2007 as compared to the national unemployment rate for the same 24-month period of 6.48%. Furthermore, the unemployment rate for the Las Vegas Valley was 13.1% in July 2009. Per Section 301 of the Public Works Economic Development Act of 1965, one of the

⁴ See <http://www.fhwa.dot.gov/planning/econdev/i86ny.htm> for full report, specifically section 2.3 Measurement of impacts.

⁵ Rates have been obtained from www.nevadaworkforce.com



criteria to designate an area as economically distressed is that the area has an unemployment rate that is, for the most recent 24-month period for which data are available, at least 1 percent greater than the national average unemployment rate. As seen by the unemployment rates outlined above, the Las Vegas Valley (Clark County) unemployment rate is 1.11% above the national unemployment rate thus classifying Las Vegas Valley (Clark County) as an economically distressed area.

iii) Livability

As indicated in the previous subsection, the Enterprise planning area has experienced a tremendous growth rate in residential development that has exceeded the rate of development of public facilities and infrastructure. The construction of the Cactus Avenue at I-15 Interchange will enhance users' mobility by providing another convenient freeway access point in a 6 mile stretch of freeway that only currently has three (3) existing interchanges. It is expected that the new interchange would help to reduce congestion from the overloaded interchanges.

Furthermore, the connection of Cactus Avenue over I-15 will also provide commuters another option for east-west travel in a transportation network that is lagging to "catch-up" with the tremendous development that has been experienced in the south and southwest portion of the Las Vegas Valley.

The RTC TransCADD Traffic Forecasting Model was used to determine the transportation benefits of constructing the Cactus Avenue at I-15 Interchange Project. The Cactus Avenue at I-15 Interchange will reduce travel time and travel distance by providing a new, conveniently located access to the I-15 freeway for motorists commuting from the Southern Las Vegas Valley to the employment centers served by I-15 including the Las Vegas Resort Corridor and Downtown Las Vegas.

Using the RTC's model to calculate transportation savings, by the year 2030, the Cactus Avenue at I-15 Interchange will reduce the distance traveled by Las Vegas Motorists by 184,000 miles annually and will reduce travel time by motorists by 635,000 hours annually. The perceived benefits of improved travel especially during home-work based trips will help to reduce driver frustration.

The project will also include an aesthetic component to landscape the newly constructed interchange. The landscaping improvements within the interchange will help to promote a sense of community and pride for residents and a gateway for tourists visiting Las Vegas and arriving from South I-15. As indicated in NDOT's "A Landscape and Aesthetics Master Plan for the Nevada State Highway System"⁶, landscape and aesthetics projects have a positive influence on Nevada's tourist based economy, and they improve the visual quality of our highways and driving experience of its visitors.

⁶ NDOT's "A Landscape and Aesthetics Master Plan for the Nevada State Highway System" can be found at http://www.nevadadot.com/pub_involvement/landscape/



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iv) Sustainability

Clark County is an EPA non-attainment area for carbon monoxide. The RTC TransCADD Traffic Forecasting Model was used to determine the transportation benefits of constructing the Cactus Avenue at I-15 Interchange Project. The Cactus Avenue at I-15 Interchange is expected to save 184,000 vehicle miles of travel annually. Using an average of 20 miles per gallon, the proposed project will save an estimated 9,200 gallons of gasoline annually. This will, in turn, provide a reduction of approximately 2 tons of carbon monoxide annually.

v) Safety

Crash data was requested from NDOT Safety Division during a 3-year period from January 1, 2006 to December 31, 2008. A total of 698 crashes were reported on I-15 between St. Rose Parkway and the 215 Beltway. Of the collisions, 311 (45 percent) were rear-end collisions, 75 (11 percent) were sideswipe collisions, and 109 (16 percent) were angle collisions. The crashes resulted in one (1) fatal crash, 174 injury crashes, and 523 property damage only crashes. As indicated in NDOT's Environmental Assessment⁷ for the South I-15 Corridor, rear-end collisions and sideswipe collisions are associated with congested roadways where heavy merging and diverging movements occur. The proposed improvements to the I-15 corridor including the Cactus Avenue at I-15 Interchange may reduce collisions by redistributing merging and diverging operations to new interchanges and reducing congestion at overloaded interchanges.

The project includes flood control improvements in the vicinity of the interchange, which will reduce the flood hazard area providing relief from potential inundation for area residences and businesses.

b. Evaluation of Expected Project Costs and Benefits

The Cactus Avenue Interchange has an estimated construction and right-of-way cost of \$74 million and, if selected, would be constructed using American Recovery and Reinvestment Act Funds through the TIGER Discretionary Grant Program in 2010 through 2012. The net present value (2009 dollars) of \$74 million in construction and right-of-way funds expended from 2010 through 2012 is \$63.8 million using a 7% discount rate.

The Regional Transportation Commission of Southern Nevada's (RTC) TRANSCADD Traffic Forecasting Model was used to determine the transportation benefits of constructing the Cactus Avenue Interchange. The Cactus Avenue Interchange will reduce travel time and travel distance by providing a new, conveniently located access to the I-15 Freeway for motorists commuting from the Southern Las Vegas Valley to the employment centers served by I-15, including the Las Vegas Resort Corridor and Downtown Las Vegas. Using the RTC's model to calculate transportation savings, by the year 2030 the Cactus Avenue Interchange will reduce the distance traveled by Las Vegas motorists by 184,000 miles annually and will reduce travel time by motorists by 635,000 hours annually.

⁷ The "Environmental Assessment" can be found at <http://pwgate.co.clark.nv.us/arra/tiger/cactus/cactus.asp>



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Using an average \$0.75 per mile as the cost to operate and maintain a motor vehicle and a time value of \$18.22 per hour (average Las Vegas Wage Rate derived from the U.S. Bureau of Labor Statistics), the economic benefits of vehicle-miles and vehicle-hours saved were calculated over the 50-year life of the project (**Table 2**). Using a 7% discount factor, the net present value (2009 dollars) of transportation savings over the life of the Cactus Avenue Interchange Project is \$104 million.

The benefits to cost ratio of the Cactus Avenue at I-15 Interchange Project is, therefore, \$104.2 million / \$63.8 million = 1.63.

Table 2 – Benefit to Cost Analysis

Year	(A) Estimated Construction Cost	(B) Estimated Reduction in Daily VMT	(C) Estimated Benefits from Reduced VMT	(D) Estimated Reduction in Daily VHT	(E) Estimated Benefits from Reduced VHT	(F) Total Estimated Benefits	(G) Present Worth Factor	(H) Net Present Value of Estimated Costs	(I) Net Present Value of Estimated Benefits
2009	\$0	0		0		\$0	1.00	\$0	\$0
2010	\$14,800,000	0		0		\$0	0.93	\$13,764,000	\$0
2011	\$29,600,000	0		0		\$0	0.87	\$25,752,000	\$0
2012	\$29,600,000	0		0		\$0	0.82	\$24,272,000	\$0
2013	\$0	250	\$68,438	873	\$5,805,712	\$5,874,149	0.76	\$0	\$4,464,354
2014	\$0	265	\$72,544	924	\$6,144,877	\$6,217,421	0.71	\$0	\$4,414,369
2015	\$0	280	\$76,650	975	\$6,484,043	\$6,560,693	0.67	\$0	\$4,395,664
2016	\$0	295	\$80,756	1,026	\$6,823,208	\$6,903,964	0.62	\$0	\$4,280,458
2017	\$0	310	\$84,863	1,077	\$7,162,373	\$7,247,236	0.58	\$0	\$4,203,397
2018	\$0	325	\$88,969	1,128	\$7,501,538	\$7,590,507	0.54	\$0	\$4,098,874
2019	\$0	340	\$93,075	1,179	\$7,840,704	\$7,933,779	0.51	\$0	\$4,046,227
2020	\$0	355	\$97,181	1,230	\$8,179,869	\$8,277,050	0.48	\$0	\$3,972,984
2021	\$0	370	\$101,288	1,281	\$8,519,034	\$8,620,322	0.44	\$0	\$3,792,942
2022	\$0	385	\$105,394	1,332	\$8,858,200	\$8,963,593	0.42	\$0	\$3,764,709
2023	\$0	400	\$109,500	1,383	\$9,197,365	\$9,306,865	0.39	\$0	\$3,629,677
2024	\$0	415	\$113,606	1,434	\$9,536,530	\$9,650,136	0.36	\$0	\$3,474,049
2025	\$0	430	\$117,713	1,485	\$9,875,696	\$9,993,408	0.34	\$0	\$3,397,759
2026	\$0	445	\$121,819	1,536	\$10,214,861	\$10,336,680	0.32	\$0	\$3,307,737
2027	\$0	460	\$125,925	1,587	\$10,554,026	\$10,679,951	0.30	\$0	\$3,203,985
2028	\$0	475	\$130,031	1,638	\$10,893,191	\$11,023,223	0.28	\$0	\$3,086,502
2029	\$0	490	\$134,138	1,689	\$11,232,357	\$11,366,494	0.26	\$0	\$2,955,288
2030	\$0	505	\$138,244	1,740	\$11,571,522	\$11,709,766	0.24	\$0	\$2,810,344
2031-2062	\$0	505	\$138,244	1,791	\$11,910,687	\$12,048,931	3.06	\$0	\$36,869,729
TOTAL	\$74,000,000							\$63,788,000	\$104,169,048

VMT - Vehicle Miles of
Travel
VHT - Vehicle Hours of Travel

**Benefit-
cost ratio** **1.63**



c. Evaluation of Project Performance

In accordance with the requirements outlined in Federal Register (Volume 74, No. 115), CCPW will measure the short- and long-term performance of the project with respect to the economic recovery measures and long-term outcomes. CCPW will maintain a record of the employment data as provided by the Contractor based on the requirements of American Recovery and Reinvestment Act. The types of short-term economic data that may be recorded include the Contractor's name, Subcontractor's name, workforce per month, hours worked per month, and total dollar amount of wages paid per month. The long-term benefits may be evaluated by using the database maintained by the Nevada Department of Employment, Training and Rehabilitation for employment rates within Clark County.

Additionally, the project may be evaluated on a number of factors as specified in the long-term outcomes listed in the Federal Register Notice for TIGER. Below is a summary of the types of performance measures that may be evaluated for the project. Once notice is given for selection for funding, the project performance criteria will be finalized by CCPW and as specified in the individual grant agreement.

- **State of Good Repair:** Evaluate the levels of service at the interchanges on I-15 at Cactus Avenue as well as Silverado Ranch Boulevard and St. Rose Parkway to evaluate the impact of the new interchange on travel patterns and operating conditions.
- **Economic Competitiveness:** As mentioned above, the economic data such as workforce maintained per month, hours worked per month, and total dollar amount for wages paid per month will be tracked by the Contractor throughout the project. These indicators would quantify the economic impact of the project on the Las Vegas Valley.
- **Livability / Sustainability:** The development within the area adjacent to the Cactus Avenue / I-15 project could be evaluated to determine the impacts of the new interchange on the desirability of new development.
- **Safety:** Data relating to the time, date, and type of crash has been obtained from NDOT fro the time period between 2006 and 2008. The crash data may be obtained for a period of 3 years after the completion of the project to evaluate any differences in the crash trends based on the project.

d. Job Creation and Economic Stimulus

The project is expected to have a one (1) year construction schedule that will provide direct employment opportunities. The project will have requirements in accordance with the Disadvantaged Business Enterprise (DBE) and equal opportunity policies to promote employment opportunities for Women and Minorities. This is especially significant as Clark County is currently experiencing the highest unemployment rates in recent years.



Applied Analysis prepared an “Economic Impact Assessment”⁸ dated September 2009 for the Cactus Avenue at Interstate 15 Interchange Project. This paper outlines the economic impacts of the project to the economy of Southern Nevada. Below is a bullet summary of the findings:

- **Direct Employment:** The project is estimated to require 487 person years of employment, which will generate \$27.0 million in wage and salary payments for those working on the project, which is expected to generate \$57.8 million in economic activity to the Las Vegas valley.
- **Short Term Infusion on Las Vegas Economy:** The project will have an impact on industry suppliers and supporting industries such as grocery stores and family physicians as a result of the direct employee spending within the community. It was estimated within the Applied Analysis’ assessment that 278 person years of employment and \$10.9 million in wages and salary will generate approximately \$31.3 million in economic activity to the Las Vegas valley.
- **Total Project Impact:** The project as a whole is expected to support an estimated 765 person years of employment and generate \$37.9 million in wage and salary payments and stimulate approximately \$89.1 million in aggregate economic activity.
- As indicated in the Economic Assessment, for every \$1.00 spent on the Project, \$1.54 in economic activity is generated throughout the Clark County local economy.

These economic benefits will be significant to Clark County that has experienced an average unemployment rate of 7.59%⁹ for the past 24-month period from July 2009 to August 2007 as compared to the national unemployment rate for the same 24-month period of 6.48%. The unemployment rate for Clark County was 13.1% in July 2009. Per Section 301 of the Public Works Economic Development Act of 1965, one of the criteria to designate an area as economically distressed is that the area has an unemployment rate that is, for the most recent 24-month period for which data are available, at least 1 percent greater than the national average unemployment rate. As seen by the unemployment rates outlined above, the Clark County unemployment rate is 1.11% above the national unemployment rate thus classifying Clark County as an economically distressed area.

Furthermore, the RTC has prepared a paper entitled “State of the Southern Nevada Economy and its Implications on Transportation”¹⁰. Within this paper, the RTC outlines the economic indicators for the Las Vegas Valley and illustrates the severe negative trends that have been experienced. Of note, unemployment is at the highest rate in years with significant unemployment experienced in the construction sector. These economic indicators strongly show

⁸ Applied Analysis’s “Economic Impact Assessment” can be found at <http://pwgate.co.clark.nv.us/arra/tiger/cactus/cactus.asp>

⁹ Rates have been obtained from www.nevadaworkforce.com

¹⁰ The “State of the Southern Nevada Economy and its Implications on Transportation” Memorandum can be found at <http://pwgate.co.clark.nv.us/arra/tiger/cactus/cactus.asp>



that Clark County has been suffering significantly from the recession and should be classified as an economically depressed area.

i) Project Schedule

Currently, the project plans are at the 70% design level and the design team is mobilized to complete the design of the project. The critical path item during the design is the land acquisition process. The design team has contacted the adjacent property owners and is working with NDOT to finalize the footprint of the interchange versus the land that will need to be acquired. Below is an overview of the project schedule that outlines the dates for the significant project milestones.

Table 3 – Project Schedule Overview

Task	Start Date	End Date
Design	Aug-06	Oct-10
ROW Acquisition	Sep-09	Oct-10
Advertise	Nov-10	Jan-11
Award	--	Feb-11
Construction	Mar-11	Feb-12

ii) Environmental Approvals

The Environmental Assessment for Interstate 15 South Corridor Improvement, Sloan Road to Tropicana Avenue was completed in October 2007. NDOT and FHWA have subsequently issued a F.O.N.S.I in October 2008. See the project website at <http://pwgate.co.clark.nv.us/arra/tiger/cactus/cactus.asp> for the Environmental Assessment Report, dated October 2007 and the approval by FHWA and NDOT, issued in October 2008.

iii) Legislative Approvals

Legislative approvals were not required for this project. It should be noted that the State and National Legislature support the project as evident in the funding that has been allocated to the project to date. Below is a summary of the entities that have shown support for the project.

- Regional Transportation Commission (RTC) of Southern Nevada: The RTC is in support of the Cactus Avenue at I-15 Interchange Project and has submitted a letter of support, which can be found at <http://pwgate.co.clark.nv.us/arra/tiger/cactus/cactus.asp>
- Nevada Department of Transportation (NDOT): NDOT has been a stakeholder and partner during the design of the project. NDOT has shown support for the project during its development as well as inclusion of the project within their Statewide Transportation Improvement Program. NDOT and the other three major Metropolitan Planning



Organizations within Nevada have signed a letter outlining the projects that are supported statewide for consideration through the TIGER Discretionary Grant Program, which includes the Cactus Interchange in conjunction with the I-15 South Improvement Project. The letter can be found at

<http://pwgate.co.clark.nv.us/arra/tiger/cactus/cactus.asp>

- City of Henderson: The Transportation Element of the City of Henderson's South Enterprise/West Henderson Land Use Plan, adopted March 2000, encourages Clark County and NDOT to build the Cactus Avenue Interchange at I-15 to improve access to Henderson communities.

iv) State and Local Planning

The Cactus Avenue at I-15 Interchange Project is included in the local Las Vegas Valley transportation plan maintained by the Regional Transportation Commission (RTC) of Southern Nevada and the statewide transportation improvement plan maintained by NDOT. The Project is included in the RTC's Regional Transportation Plan (RTP) for FY 2009 to 2030. RTC's RTP is a long-range plan for the transportation system in the Las Vegas valley. It outlines the transportation improvements that are needed within the valley by the year 2030. (Website: <http://www.rtcsonthernnevada.com/mpo/plansstudies/rtp0930/index.cfm>)

NDOT develops a Statewide Transportation Improvement Program (STIP) for statewide transportation projects. The Cactus Avenue at I-15 Interchange Project is included in NDOT's STIP. (Website: http://www.nevadadot.com/traveler/construction_projects/STIP/)

v) Technical Feasibility

The project is technically feasible to meet the time constraints as outlined in the TIGER Discretionary Grant Application. The preliminary engineering work for the project is 70% complete and the land acquisition process is underway. Section D.1.b.i, Project Schedule outlines the significant project milestones and overall project schedule. Allocation of ARRA funding through the TIGER Grant Application process would allow this project to be constructed, remain on schedule, and be completed by February 2012.

vi) Financial Feasibility

The preliminary engineering and land acquisition for the Project is currently funded. Construction funding was anticipated to be from local and federal sources. The federal sources include appropriations through the SAFETEA-LU High Priority Projects and the Surface Transportation Program. The remaining funds required for the construction of the project were anticipated to come from local revenues. However, due to revenue shortfalls, sufficient funds are currently not available from the RTC or Clark County. ARRA funding through the TIGER Discretionary Grants would complete the financing package and allow for construction of the



project. The ARRA TIGER Discretionary Grant, if received, would be used to fund the Construction of the project.

NDOT is currently charged with the stewardship of the Federal Highway Program for the State of Nevada. In 1999 the Nevada Department of Transportation (NDOT) and FHWA entered into a Stewardship Plan allowing NDOT to assume the responsibilities of the FHWA under Title 23 of the United States Code for the design, plans, specifications, estimates, contract awards and inspection of projects. The plan further allows NDOT to delegate project review and administration to capable local public agencies. NDOT has documented the requirements for delegation of the stewardship responsibility to the local public agencies within the Local Public Agencies (LPA) Manual.

Clark County Public Works has worked closely with NDOT through the Stewardship Plan process to transfer the design, plans, specifications, estimates, contract awards, and inspection of a project from NDOT to Clark County for federally funded projects. When selected for funding through the TIGER Grant Application program, Clark County Public Works staff will be dedicated to work with NDOT to fulfill the requirements of Stewardship for the project.

2. Secondary Selection Criteria

a. Innovation

As stipulated in USDOT Federal Register Volume 74, No. 115, Docket No. OST-2009-1005 (TIGER Discretionary Grants Notice), the project will be evaluated based on the extent that the project “utilizes innovations that demonstrate the values of new approaches to, among other things, transportation funding and finance, contracting, project delivery, congestion management, safety management, asset management, or long-term operations and maintenance”. The Cactus Avenue at I-15 Interchange project demonstrates the innovation of transportation funding and financing. CCPW has begun discussions with Station Casinos (a national gaming company) and Southern Highlands (a development corporation) for dedication of adjacent land for the interchange. The dedication of the right-of-way would illustrate the positive aspect of a public-private partnership for innovative methods for land acquisition for construction of the interchange. Furthermore, if selected by the Office of Transportation, this project would benefit from the innovation of American Recovery and Reinvestment Act funding made available through the TIGER Discretionary Grant program.

b. Partnership

Involvement of Non-Federal Entities: The construction of the interchange will require land acquisition. Adjacent property owners include the Bureau of Land Management (BLM), Station Casinos (a national gaming corporation), and Southern Highlands (a development company). Station Casinos and Southern Highlands have expressed interest in dedicating right-of-way for the interchange on the east side of I-15. These private entities have been working with Clark



A CENTURY OF SERVICE

County Public Works through the design and determination of the footprint of the interchange for identification of the required right-of-way. The dedication of right-of-way is a significant contribution, which will reduce land acquisition costs. This private contribution will reduce the amount of public funds required for land acquisitions. Clark County Public Works has also been working with BLM to obtain land leases for encroachment of the interchange within the BLM owned land.

Completion of Overall Financing Package: Non-federal entities and non-federal funds are involved with this project. As outlined in Section C, the design of the project has been funded through local revenues made available through the RTC. Portions of the construction were also expected to be funded through the RTC; however, due to the current economic conditions and reductions in revenues, the funding for construction is currently not available. There are currently Federal and Local Funding sources allocated to the project in the amount of \$32,543,780 and \$3,073,200, respectively. An additional \$38,383,220 is required to complete the overall funding package. Funding made available through the Tiger Discretionary Grant Program would allow this project to be constructed and remain on schedule.

Collaboration Among Entities: The Cactus Avenue at I-15 Interchange Project has been included in the I-15 South Corridor Improvement Environmental Assessment. This process solicited input from local and state governmental organizations, the general public, and other entities. The project included public information meetings and design/location hearings. In addition, the project included a Technical Advisory Committee (TAC) consisting of NDOT, FHWA, BLM, RTC, Clark County, and City of Henderson. The TAC met monthly from February 2005 through November 2006 to develop and evaluate alternatives, and serve as technical advisors to the project team. NDOT has been the lead agency through this process. The recommended Build scenario includes the construction of the Cactus Avenue at I-15 Interchange.

E. FEDERAL WAGE RATE REQUIREMENT

The undersigned certifies that this application complies with the requirements of subchapter IV of chapter 31 or title 40, United States Code (USC) Federal Wage requirements as required by the Recovery Act.



Denis Cederburg, P.E., Director of Public Works



F. NEPA REQUIREMENT

With the March 2008 approval (Issuance of a Finding of No Significant Impact) from NDOT and FHWA of the Environmental Assessment for the Interstate 15 South Corridor Improvement, Sloan Road to Tropicana Avenue, this project's NEPA process is complete.

G. ENVIRONMENTALLY RELATED FEDERAL, STATE AND LOCAL ACTIONS

The project is expected to require actions by other agencies. Below is a summary of the permits and actions expected to be completed prior to construction of the project.

- NDOT Occupancy Permit: The Cactus Avenue at I-15 Interchange Project will require a Right-of-Way Occupancy Permit from the Nevada Department of Transportation (NDOT). Currently, NDOT owns/maintains I-15 and the permit is required for performance of work within NDOT's right-of-way. Since all work shall be completed within one year from the date of issuance, the permit will be obtained once final plans are completed and funding is secured for construction of the project. NDOT has been a stakeholder during the project design phase and is aware of the improvements to be constructed. The permit will be obtained concurrent with the project advertisement and no delays are anticipated to the project schedule due to the acquisition of the Right-of-Way Occupancy Permit.
- Dust Control and Water Pollution Control Permits: A dust control¹¹ permit from Clark County and water pollution control¹² permit from the State of Nevada will be required for the construction of the project. These permits are to be obtained by the General Contractor responsible for the construction of the project. The requirements for these permits are included in the Special Provisions in Section 637, Pollution Control of the Contract Documents.
- Environmental Site Assessment: A Phase I Environmental Site Assessment (ESA) will be completed for all land acquisitions and significant right-of-way acquisitions.

¹¹ Dust control permit information is located at:

http://www.accessclarkcounty.com/depts/daqem/aq/permit/pages/permits_dust.aspx

¹² Water pollution control permit information is located at: <http://ndep.nv.gov/bwpc/storm01.htm>



H. PROTECTION OF CONFIDENTIAL BUSINESS INFORMATION

This application does not include confidential or financial data or information considered to be a trade secret.

I. INDEX OF WEBSITE SUPPORTING INFORMATION

The following documents supporting the grant application statements and status of project can be found at <http://pwgate.co.clark.nv.us/arra/tiger/cactus/cactus.asp>.

- Economic Impact Assessment for Cactus Avenue at Interstate 15 Project prepared by Applied Analysis, dated September 2000
- Enterprise Land Use Plan, adopted September 2, 2009
- Enterprise Planned Land Use Map, adopted September 2, 2009
- Environmental Assessment for I-15 South Corridor Improvement by NDOT
- Improvement Plans for Cactus Avenue / I-15 (70% Design Submittal)
- Interchange Type Selection Study, Cactus Avenue / Interstate 15 Interchange
- Letters of Support
 - Regional Transportation Commission of Southern Nevada
 - Metropolitan Planning Organization Joint Letter
- South Enterprise/West Henderson Land Use Plan, adopted by City of Henderson in March 2000
- State of the Southern Nevada Economy and its Implications for Transportation prepared by Regional Transportation Commission of Southern Nevada
- Technical Drainage Report for Cactus Avenue / I-15 Interchange

Additional back-up information can be found at the following websites:

- Local and State Improvement Programs
 - Regional Transportation Commission's Transportation Improvement Plan:
<http://www.rtcnv.com/mpo/plansstudies/tip0912/Revised%20AmendedTable-2-FY2009-2012%20TIP-9-2-2009.pdf>
 - NDOT's Statewide Transportation Improvement Program:
http://www.nevadadot.com/traveler/construction_projects/stip/pdfs/clark.pdf