

A COMPARATIVE STUDY OF
AESTHETIC TRANSPORTATION
DESIGNS AND PROCEDURES

By

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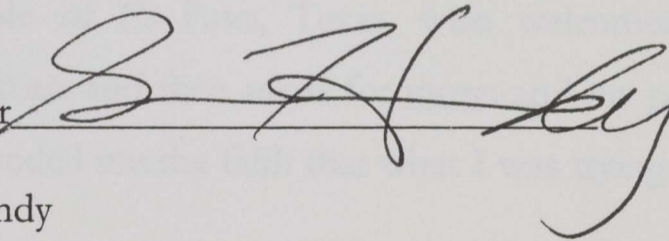
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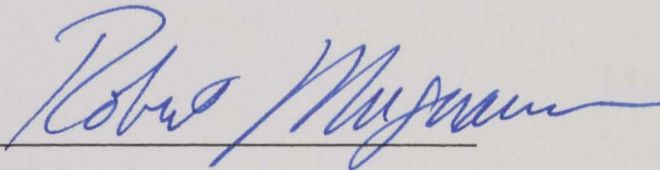
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The University of Texas at Austin, 2000

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State Departments of Transportation (DOTs) have primarily focused their roadway corridor designs on meeting the technical criteria of traffic safety and capacity. Recent legal requirements permitting the consideration of 'aesthetics' as part of the transportation design paradigm have put DOTs in an awkward situation. Many of them do not know what 'aesthetics' are and how to handle the integration of aesthetics into the mainstream of the DOT engineering design of roadway corridors. This paper explores the question of aesthetics in transportation roadway corridors, and compares the installed aesthetic roadway designs of two DOTs (Texas and Arizona) in two urban areas (El Paso and Phoenix) located in similar natural environments (a desert region). The paper illustrates examples of aesthetic designs and presents some observations and conclusions on the emerging transportation aesthetic paradigm.

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Chapter 1

TRANSPORTATION DESIGNS AND AESTHETICS

“As new and greater road-systems are added year by year they are more splendidly built. I foresee that road will soon be architecture, great architecture.”
Frank Lloyd Wright ¹

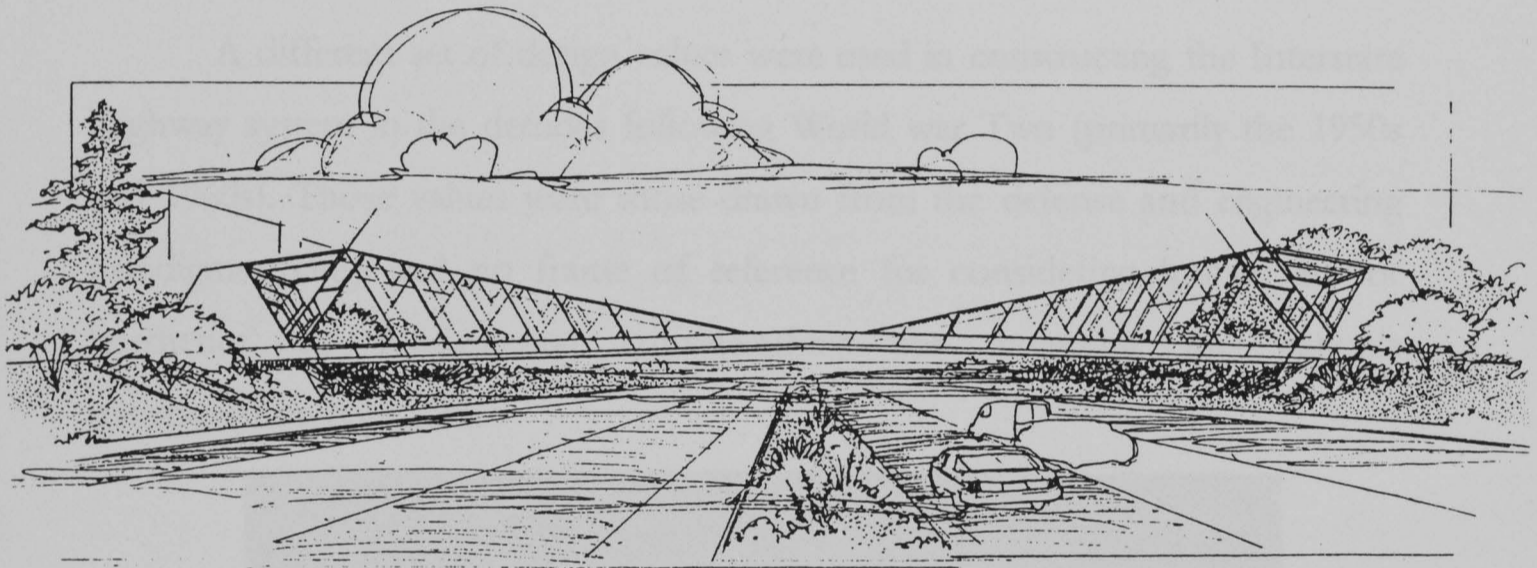


Figure 1: Frank Lloyd Wright design for Third Avenue Bridge

In the year 2001, the Minnesota Department of Transportation will open the first Frank Lloyd Wright designed overpass/bridge, spanning the interstate highway system, IH-94, in Minneapolis. The bridge design is drawn from his 1934 futuristic Broadacre City project and is a stayed cable structure that reflects his concerns about amenities for people and nature. Taliesin Architects (successor to Mr. Wright's architectural practice) provided the revised concept design, featuring generous bike paths, pedestrian sidewalks and ample landscaping. Lighting and banners will tie the bridge in with the rest of the "Avenue of the

¹ Tom Lewis, *Divided Highways*, Penguin/Putnam Inc., New York, NY, 1997, page 230.

Arts” moniker for Third Avenue, the street that the bridge carries over the Interstate.

The project began with the announcement that the Dayton department store, based in Minneapolis, intended to donate one million dollars toward the construction of the Wright designed bridge. “We see the bridge as public art. We want to make it [the bridge] a beautiful, functional space that inspires the city” said the director of community relations for Dayton’s.²

A different set of design values were used in constructing the Interstate Highway system in the decades following World war Two (primarily the 1950s and 1960s). Those values were those drawn from the defense and engineering paradigms. They had no frame of reference for considering ‘public art’ or ‘aesthetics’ as fundamental considerations for designing the nation’s transportation corridors.

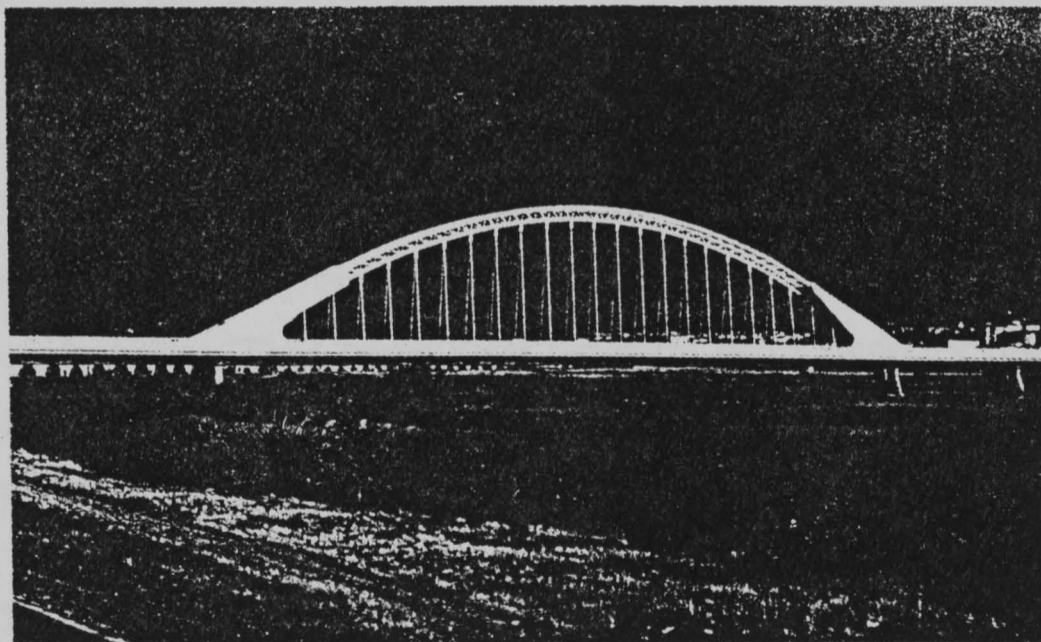


Figure 2: Proposed Calatrava bridge design

Minnesota is not the only sign that times are changing. In 1999, in Dallas Texas, a private donor has written a personal check for two million dollars to

² Stephanie Gregory, Metropolis, New York, NY, November 1999, page 67.

help pay for the design fees for Spanish architect Santiago Calatrava's distinctive sculptural 'half moon' suspension bridges. The set of five Calatrava bridges spanning the Trinity River in downtown Dallas would be part of the largest public works transportation project in the city's history (1.2 billion dollars). Mayor Kirk said "that the donation underscores how committed the community is to ...creating a new image for Dallas."³ The Texas Department of Transportation is charged with managing and developing the complex project, which may take another thirty years to completely finish.⁴

In Massachusetts, work is underway on "the Big Dig", the spectacular transformation of the elevated Interstate-93 'Central Artery' through downtown Boston, by relocating five miles of the freeway into underground tunnels, one hundred and twenty five feet (125) below grade. The surface right of way of twenty-seven (27) acres of prime downtown urban real estate will be converted into public parks with proposed public art works, and a new state Horticultural exhibition center / botanical garden. Seventy five percent (75%) of the acreage has been set aside for open spaces plus another one hundred and twenty three acres (123) of new river frontage will be created by dredging operations. The project will be crowned by two strikingly sculptural bridges: the world's largest steel box girder bridge (The Charles River-Leverett Circle Connector Bridge) and the world's widest cable-stayed bridge that will also be the first asymmetrical bridge (The Charles River Bridge), all at the cost of 10.8 billion dollars.⁵

The Texas Department of Transportation (TxDOT) has begun to recognize the validity of aesthetics as a requirement for planning future roadway

³ Michael Saul, Anonymous Donor, Metropolitan Section, Dallas Morning News, November 17, 1999, page 35A.

⁴ David Dillon, Stream Dreams, The Arts, Dallas Morning News, August 15, 1999, page 7C.

⁵ Boston's Bridge To The Future Supplement, The Boston Globe, November 1, 1999.

designs with the creation of an in-house committee to develop and prepare a statewide *Landscape and Aesthetics Design Manual* for its professional staff.

Aesthetic Transportation Paradigm

This new paradigm which seeks to incorporate aesthetic values into the transportation mindset has many hurdles to overcome before it is 'mainstreamed' into the technical framework of numerous US state transportation departments. At least five major problems present themselves in the effort to persuade the transportation departments to consider aesthetic values as suitable components of engineering designed highways:

1. What is meant by 'aesthetics' as it pertains to the transportation department? What are the categories that represent 'aesthetics': Landscaping, Bridges, Art works, etc.?
2. What are the actual elements or details that express the 'aesthetics' that will be utilized within the design of the transportation corridor: paint color, concrete form liners, structural pillars or what?
3. How are 'aesthetics' programmed into the transportation design process? Where does it belong within the administrative management organization of the department? Who does the aesthetic designs: Engineers, Architects, Landscape Architects, Artists?
4. How is 'aesthetics' evaluated? Who does the evaluation, selection and decides among the aesthetic choices? Is it the public, who pays for it? Is it the transportation departments, which construct and maintains it? Or some joint entity comprising the two? What is *good* aesthetic design? Who gets to make the decision?

5. How much will it cost to do aesthetics? Which agency or public entity will pay for it?

The main focus of this paper is oriented to Questions 1, 2, and 3, with an acknowledgment of Questions 4 and 5. The paper's approach is to consider these five questions in general, followed by a more detailed comparison between two state transportation departments, both located in the American southwest so that similar environmental circumstances, approached differently, can be studied for the different aesthetic treatments and evaluations of the differing outcomes and procedures. The paper then ends with a set of conclusions and observations with regard to the five primary questions raised at the outset of this study.

I have served as the District Landscape Architect for the past seven years (1993-2000) of the El Paso District of the Texas Department of Transportation, which is one of the two compared departments in this paper. Likewise in Chapter three of this paper, I will be commenting on my own design work, in El Paso. I have been asked several times by The National Transportation Research Board's Committee on Landscapes and Environmental Design, and the American Society of Landscape Architects to speak on the subject; not to mention my own Departmental presentations. My research has included several trips to evaluate the different aesthetic designs being developed in other states and I have sought to learn from the experiences of other professional practitioners in the field who continue to articulate the need for aesthetic transportation design values.

History of Aesthetic Transportation Design in America

A fundamental problem regarding the use of aesthetic in roadway designs is that most of the nation's Departments of Transportation have had an institutional memory or tradition that has excluded aesthetics values in transportation design. It has not always been this way.

The invention of the automobile and mass production of them by Henry Ford resulted, by the late 1910s and early 1920s, in a public demand for manufactured 'all weather' roadway pavements. These 'permanent' roads would enable the American public to begin to utilize a road transportation system to achieve mobility. One of the first major public roadways constructed was achieved by Robert Moses, the New York Long Island Park's Commissioner. In 1924 Moses broke construction for the Southern State parkway. Utilizing the most progressive design concepts of the times, the roadway was like none in the world. He designed

a four lane, limited access roadway, with grade separations at crossroads and railroad tracks, flanking the roadway were wide verdant parks lined with azaleas and dogwoods. The roads followed the contours of the landscape. It represented the best in public works: an organic integration of architecture, landscape design and engineering. No aesthetic detail escaped his eye. He ordered light poles and barriers posts to be hewn from massive logs and stained brown; signs to be mounted on rustic wooden standards; each of the hundred bridges and overpasses to be faced with a different pattern of granite; flowering bushes and dogwoods to be planted on the roadway; and gasoline stations... to be built of stone and topped with slate and copper roofs....Moses' parkway stood as a singular accomplishment for a man who never... learned to drive a car.⁶

Moses built other parkways that continued this holistic concept of integrated design. Throughout the 1920s and 30s, his parkways would attempt to maintain these design values, which culminated in his Taconic State Parkway. This roadway inspired Lewis Mumford, who was no champion of the implications of what these roadways were doing to urban city development, to call the Taconic Parkway "A consummate work of art".⁷ Moses' design values were drawn from Frederick Law Olmsted and Calvert Vaux's master plan and development of Central Park and Prospect Park in New York City in the 1890s.

⁶ Tom Lewis, *Divided Highways*, Penguin/Putnam Inc., New York, NY, 1997, page 28.

⁷ *Ibid.*, page 38.

During the 'Great Depression' of the 1930s, President Franklin Roosevelt attempted to undertake the development of a national highway system as a massive 'employment-public works' project. He was unable to secure funding and with the outbreak of war, his project was shelved in favor of rearmament projects.⁸ During this period, the design concepts were holistic. The National Park Service (NPS) pioneered the development of the parkway system like the Blue Ridge and Natchez Trace parkways. These parkways utilized land planning concepts of conservation easements, purchasing larger rights of way than needed, to permit the maximum preservation of scenic, cultural and physical features. Warren Manning proposed a national 'layered design' system which incorporated location of natural resources, transportation needs, and economic opportunities.⁹

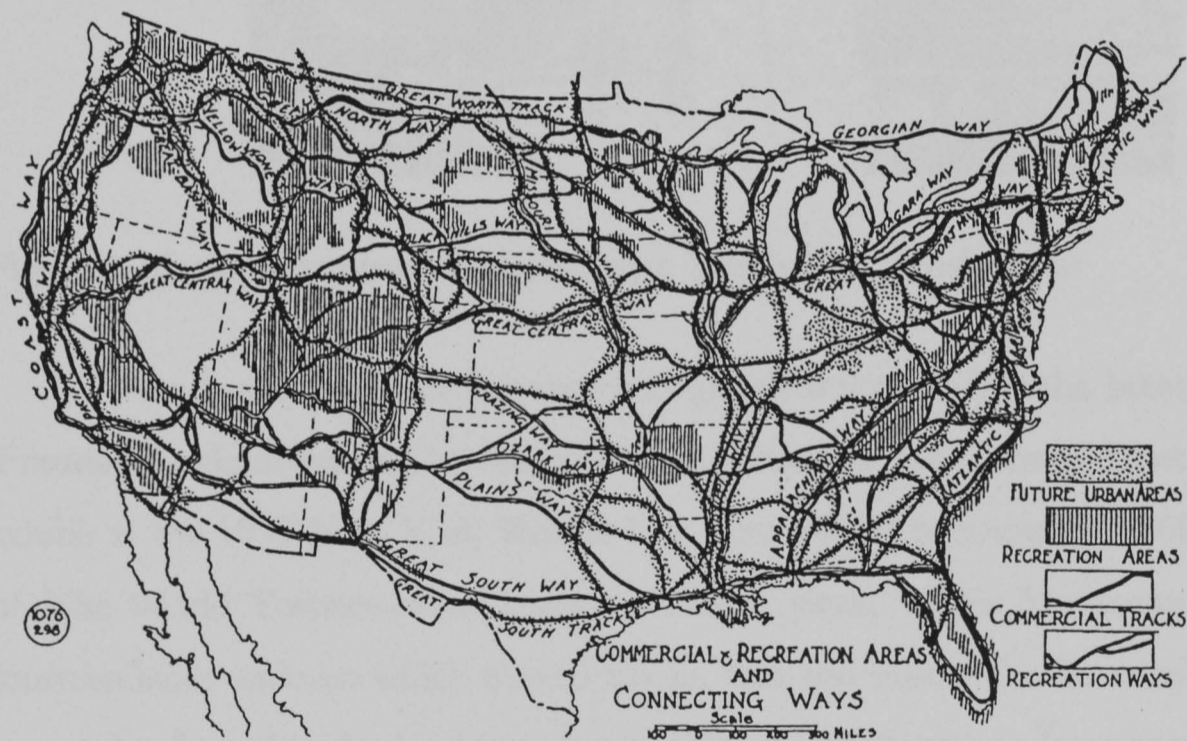


Figure 3: Warren Manning route map of national connecting roadways

⁸ James Howard Kunstler, *The Geography of Nowhere*, Simon & Schuster, New York, NY, 1993, page 106.

⁹ E. Lynn Miller, *FASLA, Ecology, Landscape Architecture*, Washington D.C., Vol. 89, No.11, page 58. Also see Lance Neckar, *Developing Landscape Architecture for The Twentieth Century: The Career of Warren Manning*, *Landscape Journal*, Vol.8, No.2, Fall 1989, pages 78-91.

A major shift in the design paradigm of transportation corridors came as a result of the ideas released by the New York's World Fair of 1939 and World War Two.

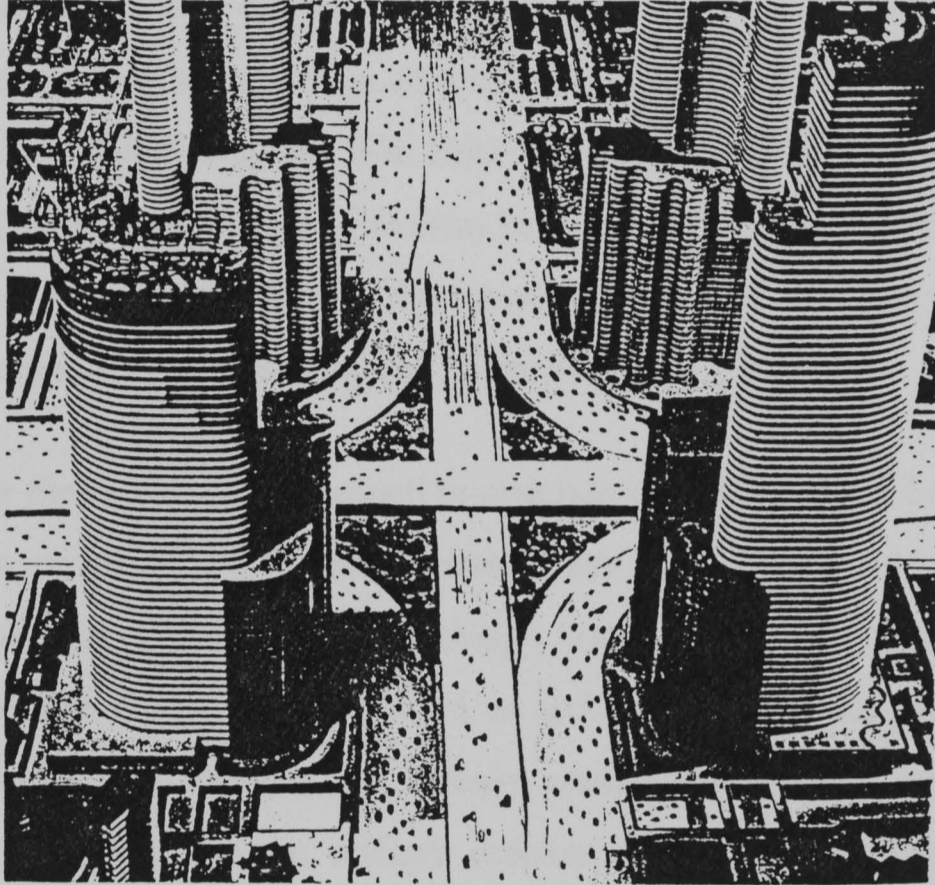


Figure 4: Magic Motorways exhibit at New York's 1939 Worlds Fair

The future design of freeways was greatly influenced by the breathtaking 'Futurama' exhibit created by Norman Bel Geddes for the General Motors auto exhibit at the 1939 New York Worlds Fair. The exhibit promoted a 1960 future of 'The World Tomorrow' of soaring elevated, sleek, 'Magic Motorways'; each fourteen lanes wide on which moved trucks, cars and buses. Traffic would move at speeds of one hundred miles an hour across the landscape to inter-connect Le Corbusier-like urban cities of glass towers and lights. As visitors toured the presentation, the exhibit would announce 'the world of tomorrow is a world of beauty'.¹⁰

¹⁰ Norman Bel Geddes, *Magic Motorways*, Random House, New York, NY, 1940, page 240.

In World War Two, Dwight D. Eisenhower was the Supreme commander of the allied forces against the fascist regimes led by Adolph Hitler, Dictator of Germany. During his tour of occupied Germany at the end of the war, he observed the layout and design of the German 'autobahn' that had been constructed by the Fuhrer's engineer, Dr. Fritz Todt in the 1930s. He took note of its capabilities of enabling military forces to be quickly transported throughout the country. It made an impression on the future President of the United States that he would remember upon entering the White House in 1953.¹¹

Together these two events helped to generate the reality of the Interstate Highway System proposed by President Eisenhower in 1956. The developing American approach of a holistic roadway design was in effect, high-jacked and replaced by a German design concept, based on technical engineering principles. Those principles provided the nation's defense establishment with a promised interstate mobility system for the military defense of the country during the height of the Cold War, and sold to the American public, as 'progress' in their belief in the magic of a better future. Lewis Mumford saw the tragedy unfolding:

When the American people ...voted...for [the Interstate Highway System] program, the most charitable thing to assume about this action is that they hadn't the faintest notion of what they were doing. Within the next fifteen years they will doubtless find out; by that time it will be too late to correct all the damage to our cities and our country side, not least to the efficient organization of industry and transportation, that this ill conceived and preposterously unbalanced program will have wrought.¹²

The Eisenhower proposal for the national Interstate Highway System was designed and constructed to create a standard national system of transportation freeways. It was not designed with consideration of social impacts or cultural issues. Much of the underlying theoretical underpinning of the engineering

¹¹ E. Lynn Miller, FASLA, *Ecology, Landscape Architecture*, Washington D.C., Vol.89, No.11, page 90.

¹² Tom Lewis, *Divided Highways*, Penguin/Putnam Inc., New York, NY, 1997, page 123.

philosophy of the time was drawn from the German Architecture school of 'form follows function'. The need for design standardization came from the requirement, by Congress, that the massive 44,000 miles of mega-highways should be constructed within fourteen years from 1956 (i.e. 1960)¹³. The federal Bureau of Public Roads (BPR) set up the design as mandated by Congress. It called for at least four twelve foot lanes, divided by a twenty-two foot median, and ten foot shoulders within rights of way as wide as three hundred feet. At least one mile of the roadway had to be straight every five miles in length so military airplanes could use the freeway in case of national emergency. The roads were built to accommodate the heaviest trucks, and were suppose to be designed to enable the military to utilize the system in case of national defense. However the initial design (for the first five years) of bridge heights was two feet *too* short to enable the military truck carriers for the Atlas missiles to go under the overpasses.¹⁴ Better consultation with the Defense Department would rectify that limitation.

The engineers who created the standards for the Interstate system were not trained in the classical liberal arts tradition. They were technocrats; engineers who spent their college years studying sub soil content, pavement durability and infrared spectroscopy, not sociology, economics, art, or history.¹⁵ Congress had mandated in the 1956 act that highway planners forecast the level of traffic in 1975 and build the Interstate accordingly. The act also mandated that BPR help the state highway officials determine the exact routes and access points.¹⁶

¹³ Stephen B. Goddard, *Getting There*, The University of Chicago Press, IL, 1994, page199.

¹⁴ *Ibid.*, page 195.

¹⁵ *Ibid.*, page198.

¹⁶ *Ibid.*, page 199.

There is a folk expression that says: "The road to hell is paved with good intentions." Never a more telling phrase could be applied to the Interstate highway system. It was conceived with all of the best intentions of its advocates who truly believed that they were promoting a concept that would provide the nation with a much needed and valuable product. The experience of world war had shown the military leadership of the value of a national system of 'super highways' which could transport the troops and hardware across the continent quickly and efficiently. The desires of the American people for the freedom of automobile travel were compelling and they wanted it. The opportunity to live in new suburban housing with your own back yard and not be cooped up in an apartment in the city was not to be missed. The engineers undertook to build a superbly constructed massive public works project without parallel in the nation's history.

But few appreciated the 'law of unintended consequences'. As a society we had never done this before, and we did not foresee the consequences of our actions. The American political leadership did not realize that in constructing these freeways into American cities that this engineering-defense design paradigm would damage and destroy the fabric of urban life. Even Eisenhower did not intend for the highway to be inserted into the middle of the great cities: "His Interstate concept, borrowed from the German model, had been to go around cities, not through them."¹⁷ The mindsets of the state transportation departments were geared toward the construction of this great enterprise. They were not required nor trained for considering the cultural and social implications of their designs and artifacts. Yet over time, as the freeways were built, a growing awareness of the impact and consequences of the freeway construction began to influence the national dialog about the role and value of transportation design.

¹⁷ Ibid., page 194.

Beginning in the late 1960s and through out the following decades of the 1970s, 1980s, and 1990s, Congress, in response to the public demand, began to address the issue of transportation alternatives to freeways, introducing requirements for environmental studies and broader reviews of how transportation projects are evaluated and numerous transportation acts, most recently, the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, the National Highway Systems Act of 1995, and the Transportation Efficiency Act for the 21st century (TEA 21) in 1998. The 1995 act is significant in that it calls for 'flexible highway design'. The Act states:

A design for new construction, reconstruction, resurfacing (except for maintenance resurfacing), restoration, or rehabilitation of a highway on the National highway system... may take into account... a) the constructed and natural environment of the area, b) the environmental, scenic, *aesthetic*, historic, community, and preservation impacts of the activity; and c) access for other modes of transportation [including walking and biking].¹⁸

Another source of the advocacy of aesthetics in design can be found within the engineering profession. A 'creative engineer' is not an oxymoron. Many engineers are bored and tired of the 'standardization' rote manner of current roadway design and would look forward to opportunities to engage in creative designs.¹⁹

The older management of the transportation department tends to oppose these efforts based on their perspective that the risk to the 'crown jewels' of their mission (traffic service and safety) is not worth it. During the 1990s, many of the state transportation departments have experienced significant turnover and a loss of experienced personnel due to the private sector hiring away the public sector

¹⁸ Flexibility In Highway Design, US Department of Transportation, Federal Highway Administration, Washington D.C., 1997, page vi.

¹⁹ Interviews with Mary M. May, Tyler DE and Eddie Sanchez, El Paso DE, TxDOT; LeRoy Brady, Director of Roadside Development, ADOT; Elisabeth Fischer, Senior Landscape Architect, Federal Highway Administration; June 1998.

staff and the 'downsizing' of government employment. The state agencies are becoming 'training' schools for young engineers who utilize the state agency as their first step out of graduate school, before leaving them upon securing their engineering license. The senior management of many transportation agencies are under heavy political pressure to keep the roadway construction projects going full speed to (1) attempt to keep up with the public pressure to stop the deterioration in traffic mobility (i.e. build more roads), (2) maintain economic expansion (i.e. contract more production work to private sector firms) (3) reduce staffing levels (i.e. shrink role of government in society), thus increase productivity of remaining staff while dealing with turnovers and burn out (i.e. don't make this job any more complicated than it already is). Many of the departments have an organizational philosophy or 'mindset'; an institutional culture which has been permitted to become 'ingrown' and resistant to change. As a result, demands for creative, innovative transportation design concepts runs into an internal organization challenge, which is solvable, but which also requires that the system's current 'delivery' of production design be reconstructed and reevaluated to cope with these concerns.²⁰

In the past decade it has become evident that progressive leadership within the nation's transportation departments have been able to insert 'aesthetics' into the existing paradigm and achieve striking results. Safety, traffic flows and aesthetics are compatible and can be integrated together without negative consequences for the reputation of the national interstate system as a suburb example of American engineering expertise.

In particular, the transportation departments of the states of Minnesota, California, Oregon and, Arizona have shown other states; that listening to the

²⁰ Ibid.

public, by promoting aesthetic designs, is a powerful inducement to achieving the construction of roadway projects.

The authors of 'Beauty as well as Bread', state the current circumstances of where we are with regard to aesthetics in transportation planning.

The point is clear: the days when road projects could be rammed down the throats of a passive public are clearly past. Yet the attempt to do so continue. For many years, the engineering standards by which roads were designed considered only the criteria called for by federal law: traffic service and safety. Now the new flexible highway design standards...may give citizens and traffic engineers alike new approaches ...Still changing the words on paper doesn't always change practices. The next step is for departments of transportation to take the new language to heart and to involve local citizens and communities in their planning process—before so much money has been spent that any changes in plans seems wasteful. And unless colleges of engineering teach their students that there is more than one way to think about highway design, the battle will continue.²¹

The future efforts to achieve aesthetics in the transportation-planning paradigm must now seek a structured place within the organizational structure of the transportation departments as well as within the integration of aesthetics in transportation design.

²¹ Meg Maguire, Ray Foote, and Frank Vespe, *Beauty as Well as Bread*, *Journal of American Planning*, Chicago, IL, Vol.63, No. 3, Summer 1997, page 320.

Chapter 2

THE AESTHETIC TRANSPORTATION PARADIGM

Transportation Aesthetics

It is not within the planned provenance of this paper to articulate an extensive treatise on the topic of what aesthetics is and how we relate to it, but a considered review of the subject is warranted in order to appreciate the dimensions of the issue.

An initial key issue is that when one raises the word, aesthetic, is that most transportation departments do not know what is meant by the word. What is it?

The meaning of the word 'aesthetics' is defined: of a sense perception, from the Greek *aisthetikosto* perceive. A: of, relating to, or dealing with aesthetics or the beautiful B: artistic [a work of value].²² It is also defined as "dealing with the nature of art, and the creation of beauty"²³. The Texas Department of Transportation proposed Landscape and Aesthetic Design Manual defines Aesthetics as:

Aesthetics is most often associated with a sense of beauty. By definition it is a "particular theory or conception of beauty or art; a pleasing appearance or of effect." With the respect to the practice of highway design aesthetics concerns related to integrating highways and other transportation modes

²² Webster's Ninth New Collegiate Dictionary, Merriam-Webster Inc., Springfield, MA, 1991, page 61.

²³ Richard C. Mason, ASLA, Freeway Aesthetic Designs, American Society of Landscape Architects, Washington D.C., 1997 Annual Proceedings, Atlanta GA.

into the fabric of a landscape in a way that blends with or complements that setting.²⁴

It goes on to state:

By statute, transportation agencies are required, where possible, to enhance the aesthetic quality of the transportation corridor. Enhancements in this context, means careful coordination of the architectural details of structures, along with the skillful manipulation of the landform, and careful planning of clearing, revegetation, reforestation and erosion control operations, in order to blend the highway with its surroundings.²⁵

This definition is the one that we hope to implement within the departmental mindset. It suffers from the legal weakness of the federal legislation which permits the authorities to avoid the implementation of the aesthetics concept on the ground that it was 'not possible' plus the enabling legislation states that aesthetics 'may' be considered, not that it 'requires' it. So those who wish to increase the practice of enhancing the transportation design must become persuaders, bringing in others to see the merits of the concepts. It also requires the collaboration with the engineering profession to incorporate the redesigning of the structural infrastructure.

The Texas manual definition is geared to the practicing Landscape Architect professional, not the Engineer. However, the manual is being developed to provide the project engineer the rationale and justification for including the LA in the overall design team as a significant participant in the transportation paradigm. The manual is intended to articulate the roles and responsibilities of the Landscape Architect as the engineer's referral and source for aesthetic design expertise. The definition also calls for the 'integration of the highway into the fabric of the landscape'. That is open to multiple interpretations,

²⁴ Draft manual on Landscape and Aesthetic Designs, Texas Department of Transportation, Austin TX, 2000, Chapter One, page 6.

²⁵ Ibid., page 5.

based on individual judgments and biases. My assessment of a 'successful integration' could be very different from another person's assessment. But we have to start somewhere, and at the beginning is a good place to start.

Origin of Aesthetics

Where does community desire for beauty or aesthetics come from? There has always been a tradition of the social leadership of society supporting the consideration of beauty: be it the Pharaohs of Egypt 2,500 years before Christ, the Greeks and Romans of the ancient classical world, 1,500 years ago, the Church and Nobility of the European continent of the medieval period ending 500 years ago, and in the modern period of the democratic republican age of government. But what under pins this drive for the appreciation of art, beauty, and aesthetics?

One school of thought articulates a biological basis for our appreciation of aesthetics, loosely called 'evolutionary aesthetics'. Richard Cross, now of the University of California at Davis, proposed that we respond to art and the visual world, not as aesthetes but as animals. He suggested that we have an innate biological response to forms and shapes as a result of our evolutionary history. In other words, "beauty is not just in the eye of the beholder, it is embedded in our genes"²⁶. Gordon Orians, at the University of Washington, Oregon has noticed (while studying how blackbirds select where to live) that human beings select their habitat according to specific criteria, like the presence of water, large trees, open spaces and distant views- criteria evoking the African savanna where human evolved. He tested this hypothesis by asking subjects to rate a collection of paintings. The subjects tended to prefer the landscape paintings that met those criteria. The assumed reasoning for those preferences is presented as those vistas

²⁶ Richard Conniff, *The Natural History of Art*, Discover, New York, NY, Nov. 1999, Vol. 20, Number 1, page 94.

which provide us with a staggered, terraced, level of visual information provides us, as the viewer, clues to finding resources and avoiding danger. Looking at the view is an unconscious exercise in habitat selection: Could I live here? Is it safe to explore? Orians argues that the celebrated English country landscape/garden was an unconscious attempt to recreate the African savanna landscape.²⁷ Richard Conniff noted however that “the means ...employed over the centuries to achieve a natural effect [of the British garden] included cutting down dense forests to create open vistas, introducing water holes, and otherwise turning the grounds into a savanna (fields of grasses).”²⁸

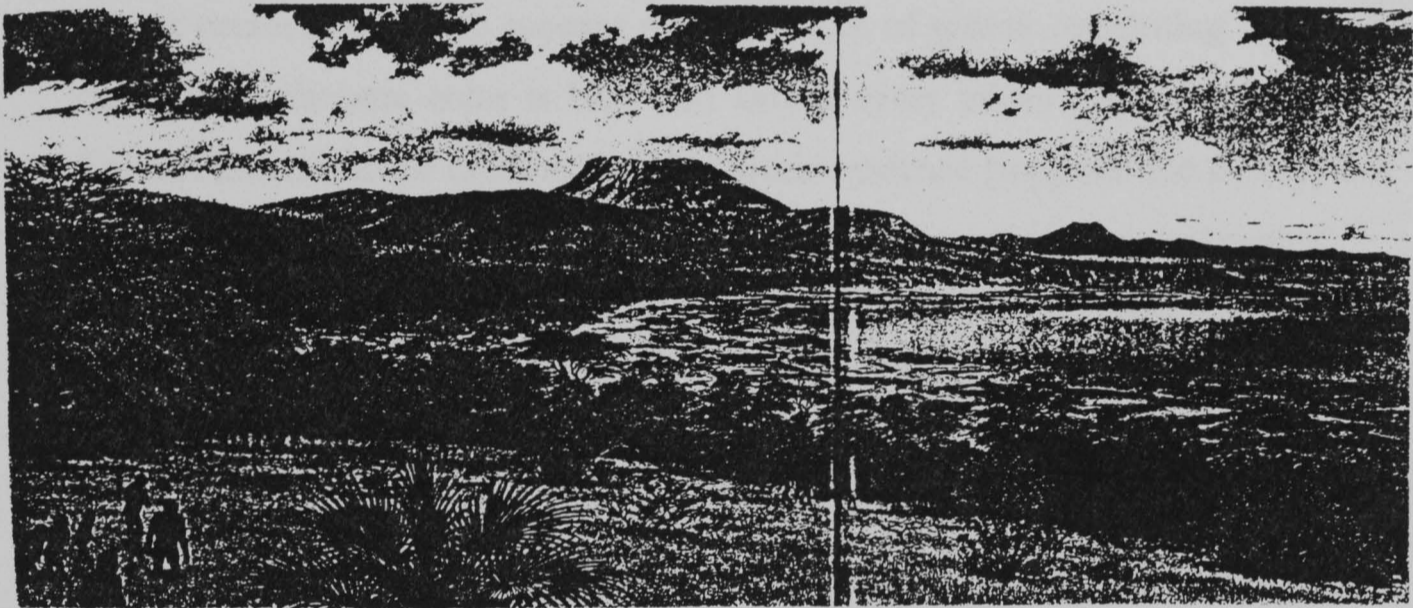


Figure 5: Proposed early human African landscape environment

Roger Ulrich, environmental psychology professor at Texas A&M University, has done research which indicates that hospital patients assigned to rooms looking out on trees needed far fewer painkillers than patients in rooms that faced a brick wall.²⁹ Other researchers have found that certain components

²⁷ Ibid., p 96.

²⁸ Ibid.

²⁹ Roger Ulrich, *Effects of Healthcare Interior Design on Wellness: Theory and Recent Scientific Research*. *Innovations in Healthcare Design*, edited by S.O. Marberry, 1995. New York, NY, Van Nostrand Reinhold. and *View Through a Window May Influence Recovery from Surgery*. *Science*, New York, NY, No. 224: pages 420-1.

of natural structures invoke emotional responses that can have design implications. For example, Orins and co-author Judith Heerwagen have discovered that humans prefer flowers to be big and asymmetrical, traits that they believe indicates greater nectar content. Thus the practice of sending flowers to the ill has an internal response of generating positive responses to the offer of 'good medicine'.³⁰ Some people have also articulated that the underlying preference by humans for color selections and pattern recognition is indicative of genetic imprinting. Vitaly Komar and Alexander Melamid make a case, based on scientific polls conducted in various countries that the uniform answers of what people prefer in paintings support the suggestion of genetic imprinting. "In every country the favorite color is blue and almost every where green is second"³¹ Conniff articulates the opinion that "Scientific evidence [supports the theory] that our visual environment profoundly influences our physical and mental health".³²

It has been noticed by the Head of Construction, for the El Paso District of the Texas Department of Transportation, that his fear of increased accidents in the downtown canyon of Interstate 10, upon the introduction of color on the bridges and murals on the adjacent retaining walls, failed to materialize. He worried that the motorist would be distracted by the sudden burst of bright colors and would 'watch' the murals on the retaining walls and not pay attention to the traffic activity around them. In fact the number of accident in the corridor sharply fell when the 'coloring' of the two-mile section of the freeway was introduced.³³ The coloring also has contributed to the perception of reduced 'Road Rage' by introducing a calmer and more relaxing experience to the roadway

³⁰ Richard Conniff, *The Natural History of Art*, Discover, New York, NY, Nov. 1999, Vol. 20, Number 1, page 98.

³¹ Vitaly Komar and Alexander Melamid, *Painting by Numbers*, Guide to Art, Farrar, Straus & Giroux, New York, NY, 1997, page 100.

³² *Ibid.*, page 101.

³³ Interview with David Head, Construction Director, El Paso District, TxDOT, March 1995.

environment. The fear of the engineers that the introduction of 13 different colors and active design elements (fiber optics) would confuse or distract the motoring public was counter intuitive; instead, the public found the aesthetic elements to be an interesting relief from the existing sterile environment.³⁴

A key, but largely ignored component of aesthetics is the economic impact of the issue. There is a link between the absence of ugly elements and the economic value of real estate properties. Look at the locations of the highest valued residential properties in any urban community in America. These communities have the highest level of aesthetic taste or design values. For example the entire community of Santa Barbara California, which has extensive aesthetic guidelines and building codes, is one of the most desirable and most expensive places to live. In Texas, the enclaves of 'the Park Cities' in Dallas insured that both the reconstructed US 75 (Central Expressway) and the toll road (Dallas North Toll road) both had extensive aesthetics and landscaping values built into the two roads that abut their communities.³⁵ Also, since the completion of North Central Expressway, property values have risen and economic activities have increased adjacent to the roadway.³⁶

Elements of Transportation Designs

In the realm of transportation 'aesthetics', the roadway designer is dealing with the physical structures that help to create and define the design of the transportation corridor. The overall composition of the corridor's impact on the motoring public is governed by how successfully the various independent elements of the transportation modes are skillfully used or manipulated toward

³⁴ Sito Negron, Colors Relieve Freeway Tensions, El Paso Times, December 8, 1996, Front Page.

³⁵ Reconstruction of The North Central Expressway, Dallas, Texas. National Quality Achievement Award Nomination, 1999, The Texas Department of Transportation, Austin, TX.

³⁶ Ibid.

and for a common design experience. Considerations of the safety and traffic service delivery must be accounted for.

Elements that make up the transportation matrix, to which aesthetics should be considered, begin with the corridor, or the route alignment. The initial decision of where to purchase the r.o.w. will proceed to govern everything else that follows. It is here at the earliest stages of planning about the need, purpose and location of the roadway route where the aesthetic impact first begins to define the ultimate experience of the future transportation corridor. The basic engineering strategy is to put the roadway right down the centerline of the right of way (r.o.w.) purchase unless forced off of it for engineering reasons. The concept of using the entire right of way to introduce curves and 'off centering' the alignment is rarely considered as a matter of course, yet this facet offers considerable design opportunities for creative driving experiences to be developed.

The placement of the roadway geo-metrics within the corridor is one of the most significant decisions that effect the driving experience of the public. Horizontal alignment is the issue of where the road is placed within the adjoining landscape. If the roadway is placed between berms, the driving experience will be contained within a channel that will separate the corridor from the surrounding environment. These tend to create slightly depressed roadway beds in relation to the existing grade. Many of the freeway routes in Phoenix are constructed with this format. A raised roadway (one in which the road is raised above its surroundings, generally by the use of soil embankments, called riprap) which elevates the roadway above the surrounding environment provides a line of sight situation that prevents the designer from maintaining a 'closed' environment for controlling the traveling public experience. The designer must articulate a more 'open or exposed' design context in developing a corridor design theme. The

freeways in El Paso and Houston tend to follow this style. The third alternative is the 'at grade' freeway geo-metric design which is the prevailing design style in Dallas. There the roadway is placed even within the existing flat level of the landscape except for overpasses, and occasionally underpasses. This format creates the most complex interaction of roadway design with the adjacent environment. Each of these three basic layouts generates a different set of behaviors and experiences that call for different design solutions and opportunities (See figures 6, 7 & 8). Vertical alignment deals with the placement of the roadway to the plane or ground base of the landscape. Typically this issue comes into play in the construction of overpasses and major freeway intersections which are elevated into the air. If an ramp is placed 'too high' and is 'tilted' on to a curve the driver can experience movements and visual orientation which are perceived as very uncomfortable and impact the motorist driving responses (See figures 9 & 10).

The structural elements of the roadway itself are next. The forms and shapes of the overpasses lend themselves to the exploration of the fundamentals of engineering design. Items which are used to construct the roadway which can provide for aesthetic considerations include concrete traffic barriers, retaining walls, roadway interior bents (structure which holds up the overhead roadway surface, much like pillars) bridge/overpass pillars, pedestrian fences, rip-rap slopes, signage, lighting structures-poles, fences, columns, medians, pavements and sidewalks.

Materials that can be used to achieve aesthetic impacts, as desired by the designer are: paint colors, colored aggregates and textures (in the concrete or independent of concrete) use of form liners to create images, icons, abstract sculpture, and materials of a wide variety (wood, steel, dryvet, concrete, stone, brick, tile, etc.



Figures: 6, 7 & 8: Horizontal Designs (Depressed/contain, Elevated & At grade.)



Figures: 9 & 10: Vertical Designs (Top / Bottom: Elevated and Low rise)

The advocate of aesthetics in design must be careful not to turn into an exterior decorator of the roadway. I do not believe that the designer can just simply 'dress up' a basically ugly design and call it a successful application of aesthetic values. This can be done and if done well, it may be a successful 'rehab' or 'remake' of the project design. This can also *be an aesthetic improvement*. But the most valid use of the concept of aesthetics is the total design concept: the entire integration of the transportation corridor experience within an over arching holistic concept of considered design values. There is nothing 'wrong' with dressing up an existing roadway to improve the aesthetic experience, provided that the designer understands what is being done and that the error of fixing it up just for the sake of doing so is avoided. A designer is on far stronger ground if the focus of the effort is concentrated on the *basic* fundamental principles of the design structure. Work with the *engineering logic* of the design requirements of the structure, make your design choices *there*, rather than deciding at the end of the design process what kind of surface coating the structure should have- then it's too late in most cases. The best designs are those which weave and combine all of these aesthetic and transportation elements together in a harmonious whole.

Programming and managing Aesthetics in Transportation Departments

Currently many transportation departments are 'at sea' regarding the handling of aesthetic designs within and outside the Department. Traditionally, in TxDOT, the development of roadway corridor designs of any length has been planned, developed and programmed for future design by the Advanced Project Development (APD) section/unit of the Transportation Planning and Development (TP&D) section of the Department (See figures 11 & 12, Typical TxDOT District Organizational Chart and Project Development Process).³⁷

³⁷ Draft manual on Landscape and Aesthetic Designs, Texas Department of Transportation, Austin TX, 2000.

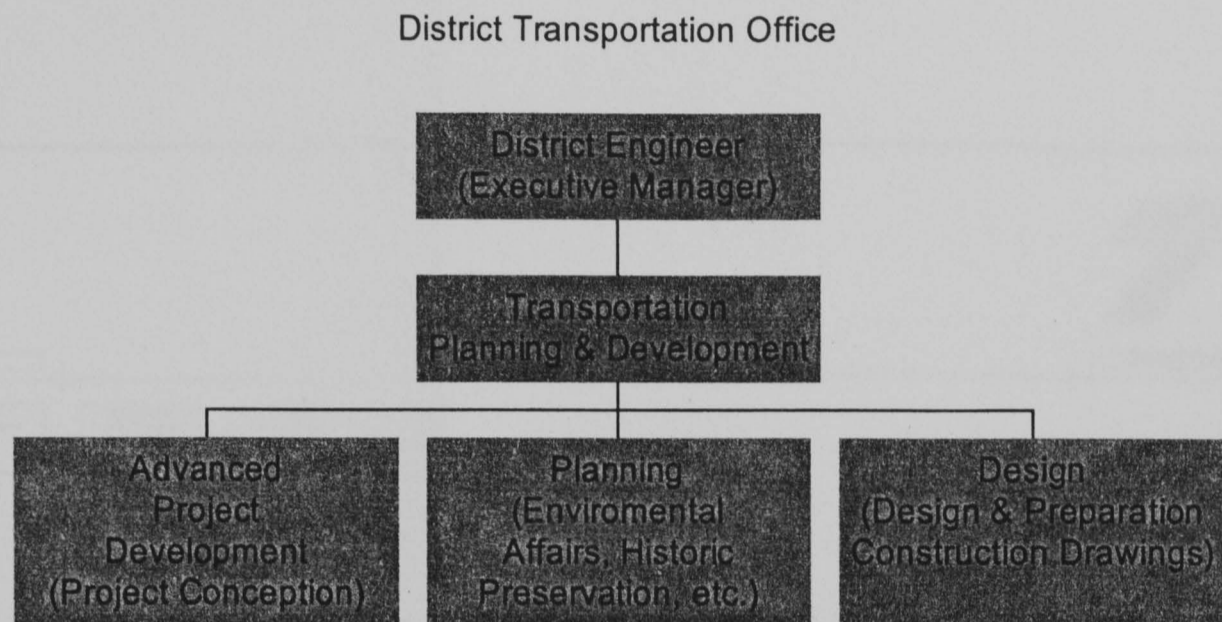


Figure 11: Typical TxDOT District Organization Chart (partial listing)

Other state transportation departments have created alternative forms of organizational formats to better manage the complexities of transportation projects. Those states have adopted a format that brings together the various components of transportation designers on to one team or grouped people together who are responsible for achieving a coordinated project design or plan. Several states have developed a case by case format of creating project design teams who are drawn from the permanent staff sections. These teams function as the governing design body for that project. When the project is completed the design team dissolves, with the team members returning back to their respect permanent units. Two states have created a permanent aesthetics review format that will be reviewed later in this section.

PROJECT DEVELOPMENT PROCESS

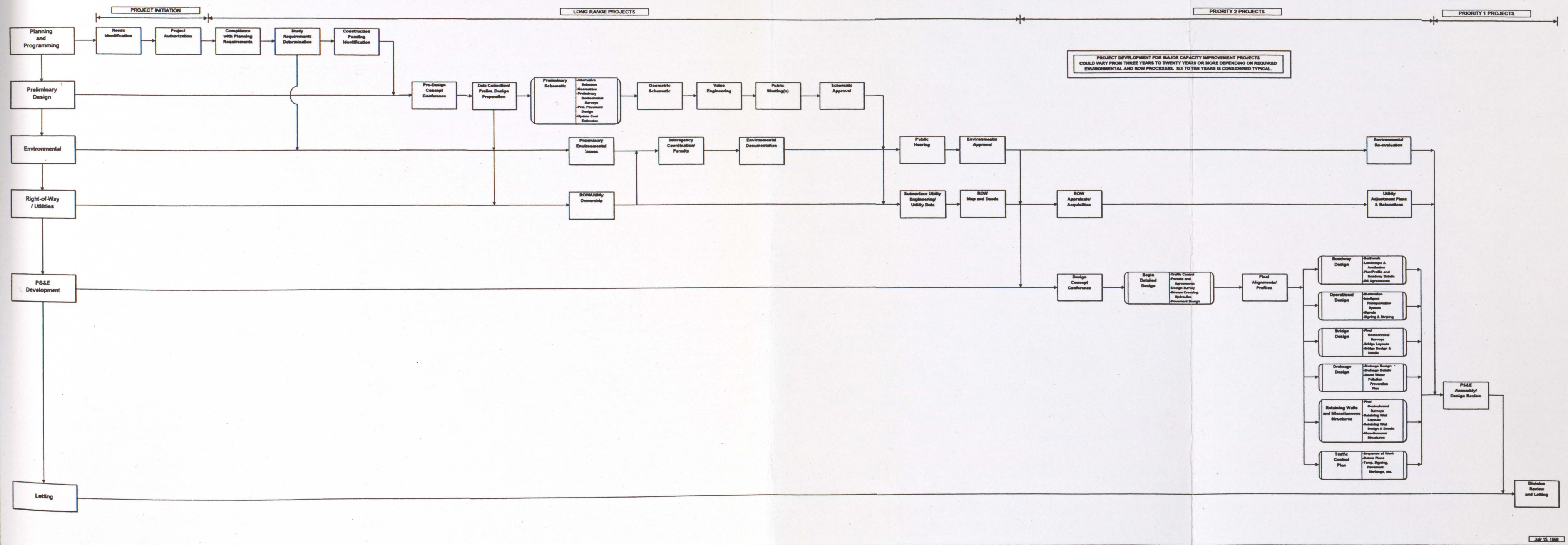
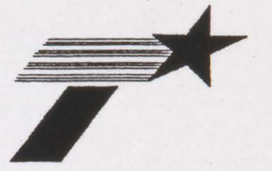


Figure 13: Project Development Process (Landscape Aesthetics Design Manual)

In TxDOT, the TP&D section is charged with the responsibilities of developing the transportation projects, from project conception [project initiation phase], the planning approval process, the funding securing and approval process [long range projects phase], to the design and preparation of construction drawings [priority 2 projects phase], then the project is prepared for letting [priority 1 project phase]. Within the TP&D section, the project conception and planning approval process is handled by the APD unit, with the design and construction drawing prepared by the separate Design unit. A sub-section of APD handles the funding approval process. The complex nature of securing planning approval from so many possible agencies (depending on the route), such as national, state, and local historical commissions, housing agencies, agricultural agencies, park and wildlife agencies, federal and state environmental agencies, water quality conservation organizations, the US Army Corps of Engineers, US Military services, and other planning organizations, etc. has caused the creation of a separate environmental affairs section within TP&D to handle this part of the job. Thus APD units can be tailored to focusing on the project scope of work, proposed routes, alternative alignments, preliminary and schematic design concepts (what the roadway design might look like) and conducting public hearings on the proposed project.

In TxDOT, the problem is that the professionals who have the expertise to deal with aesthetics are either in the Design Section or Maintenance Section (which maintains the existing roadways) and not in the APD Section. The mindsets of many transportation agencies are extremely hierarchical in their organization and they are not comfortable with 'cross weaving' of staff responsible for multiple duties. The TxDOT APD staff has been traditionally defined as being trained in the biological sciences, engineering, or the planning disciplines. The Design section permits the multiple integration of Engineering, Architecture and Landscape Architecture paradigms to co-mingle within the

section. The internal staffs do coordinate among themselves but daily interaction within large offices is extremely difficult to maintain. Transportation Departments traditionally do not have Architects on staff, but they have had LAs for many decades. However many LAs have been downgraded, since the 1930s, to secondary roles within the maintenance of the right of way as Vegetation Managers and not as the team leaders of roadway designs.

Federal law requires that urban communities must have a Metropolitan Planning Organization (MPO) which serves as clearing house/ policy making body for the prioritizing and selection of transportation projects for the community. Typically the mayors, selected elected public (city/state) representatives, and the transportation department serves as members of the MPO governing body. The MPO staff screens and develops rationales for the ranking of proposed transportation projects (highways, bike/pedestrian trails, parkways, etc.).

After a major transportation project has been approved, as a policy decision, by the local MPO and assigned to the DOT, the project development begins as the APD units creates the criteria by which the project will be designed. APD staff develops the estimated construction budget and prepares the proposed route alignment. The Design section team is typically excluded from this process and is only brought in after most of the alternative choices and financing have been resolved. Design's job is to prepare the actual construction drawings so that the project can be 'let' (released to the contractors for competitive bidding). Depending on how the APD section has configured the design parameters of the project, the Design team may or may not have the policy option of being able to develop the entire transportation corridor concept or just incremental segments of it. Likewise, depending on the APD design parameters, the Design team may or may not have design flexibility to modify,

add or subtract from the APD submitted engineering design roadway guidelines. In some cases the APD section will maintain informal relationships with the Design team in 'keeping them in the loop', but this process tends to work on selected projects, case by case, rather than exist as a standing policy.

To solve this problem of limited access by the designers to the APD process several agencies have developed alternative processes. The Minnesota DOT has created a "Office of Technical Support" which assists their APD team by reaching across the organizational boundaries by maintaining a permanent staff of designers and engineers who provide the statewide MDOT system with the expertise to prepared aesthetic design for selected roadway projects and corridor designs.

The ADOT has a similar unit that is called 'Roadside Development Section'. This ADOT section is primarily charged with planning and developing the landscape/ aesthetics for the Department's transportation corridors statewide. The engineering aesthetics of the transportation roadways, prepared by the 'Roadway Engineering Group' are developed internally with in the engineering staff and then coordinated with the 'Roadside Section' by the project director/manager. The ADOT equivalent APD section is permitted to draw in from other sections the multiple disciplines as needed to prepare the initial roadway design.

The separated, individual TxDOT Districts can call in Headquarters for design expertise, but TxDOT is only structured to provide this expertise, as a practical matter, at the bridge design level. The individual roadway designs are to be developed by each District themselves. The state Landscape Design section has not been structured to handle daily design request from Districts that have a LA on board. It is expected that each LA should be capable of providing that District's expertise. The central office is there for statewide assistance, but it

does not have the staffing level to perform detailed, technical design services statewide. If the District needs additional technical design support, TxDOT has a contractual relationship with the Texas Transportation Institute (TTI) at Texas A & M University, which is available to serve as a support unit for Department staff. Districts can contact TTI to prepare construction drawings that their staff is unable to do, for whatever reason, for projects in their area. Again, TTI is not structured to provide 'integrated' (engineering and Landscape/aesthetics) design services on a large scale as their own staff is focused primarily on research, but depending on the project criteria, design teams can be utilized.³⁸

TxDOT does not have a uniform policy on the placing of Landscape Architects within the organization. In the Dallas District the LAs are in the Maintenance Section, in Austin, in Design. Waco has a LA in Maintenance, but San Antonio has no LA. Statewide LAs are placed either in Maintenance or Design, but never in the Advanced Project Development sector.

Evaluation of Aesthetic Designs

Design is very much a subjective art when it comes to evaluation. Judging it remains very much in the eye of the beholder. There are professional disciplines that provide training in this field. Architecture, Landscape Architecture, the art realms of painting and sculpture all use certain criteria when attempting to deal with creating aesthetic designs. These criteria have been codified into a generally accepted framework of Elements and Principles of design. Good design deals with maintaining a sensibility in dealing with these elements.

TxDOT is in the process of Developing a Landscape and Aesthetics Design Manual. As a member of the committee reviewing the development of

³⁸ Interview with James L. Schutt, Landscape Architect, Texas Transportation Institute, May, 1999.

the manual, I have drawn this section from the committee's draft reviews and analysis of this issue. The committee is composed of seven of the Department's twenty-five Landscape Architects plus two consultants (also LAs) from the Texas Transportation Institute. Following a joint meeting where the committee explored the issues of transportation aesthetics and how to integrate them into the Department's programs and mindset, the consultants prepared a draft for the Committee's review. Our collective experience and training as LAs, in applying developed design theories, lead the committee to the following basic points regarding the various components that the designer deals with in applying aesthetics to transportation design.

We are dealing with 'Visual Composition' which has four basic elements.

1. Line: the outline form of objects such as the edge of the roadway or structures such as bridges, trees, etc.
2. Form: the actual or implied volume or shape of an object.
3. Color: a visual contrast that provides shades of hues between black and white values. White is the total absence of color, with black being the complete absorbence of color.
4. Texture: the perceived roughness or smoothness of a surface with graduations in between those two values.

These four elements are applied using seven principles in evaluating the quality of design. Those principles are:

1. Scale: the relative size of objects related to people and their surroundings.

2. Unity and Harmony: the integration of all of the design elements into a visual composition that presents a unified and balanced whole.
3. Repetition: a means of achieving harmony is the repeating of elements (such as materials and textures).
4. Rhythm: a sense of visual cadence. Patterns of elements repeated to achieve a visual composition.
5. Balance: the sense of visual equality among differing design elements.
6. Contrast: created by the difference in adjoining visual elements.
7. Dominance: the selection of an element to take visual precedence over all other elements.

The most aesthetically pleasing highway corridor [designs]

depends on coordinating all components so that the basic design elements of line, form, color, and texture are compatible and fit into the landscape. This does not mean that each mile of highway requires special design attention or special treatment. The broad landscape will generally take care of itself so long as the basic building blocks of color, materials, plants, bridges and other structures are visually compatible with each other within a significant landscape unit³⁹.

The designers of transportation corridors have to deal with a different 'framework' or 'canvas' in terms of the designing matrix. Most designs are created on the expectation that the viewer of the 'artwork' will be able to analyze the object at a close distance at a standstill. It is presupposed that one can walk right up to the object (be it sculpture, painting, etc.) and relate and react to it. Not so in a freeway environment. It is worthless for a muralist to design freeway murals,

³⁹ Draft manual on Landscape and Aesthetic Designs, Texas Department of Transportation, Austin TX, 2000, Chapter One, page 16.

richly detailed with complex patterns that one can only appreciate by standing still, six inches away, looking at it (as if one was in an art gallery). On the freeway one would see it, driving by, at seventy miles an hour and the closest one could expect to view it would be from the passenger side of the car at least ten to fifteen feet away. The driver would have two seconds to absorb it in the mind before the driving speed would cause the motorist to pass on by it. The driver-viewer is operating in a totally different visual environment that requires a completely different set of design matrix assumptions with regard to distance and speed. These different circumstances require a different approach.

The designer needs to approach the matter as if he/she was making a movie in creating a transportation corridor. The designer is creating a driving environment as a series of 'experiences in sequence in time'. Like watching a movie, you have a series of moving frames of film, which are attempting to create a story by using structures, sound, lighting, objects, colors and people operating within the movie. The viewer reacts and becomes involved with the emotions and activities presented as the movie moves forward to its conclusion. A similar format needs to be perceived for the transportation experience. A corridor is

a long narrow space. It is not seen as a single view. It is experienced as series of experiences over time. Studies of human behavior and visual preference related to highway corridors suggest that relative satisfaction is related to the overall experience of travel and not a single view that is particularly good or bad. Thus a corridor may contain an unattractive property, sign, or building but this does not necessarily mean that the overall experience would be rendered visually unacceptable. What is important is the total experience of the corridor over the period of the travel experience.⁴⁰

It is the whole, created by the sum of its individual parts, which the transportation designer is attempting to achieve and create for the public

⁴⁰ Ibid., page 21.

experience. It also must be seen and evaluated from two perspectives: the motoring public driving on and within the transportation environment and the relating environment in which the corridor has been placed in the landscape, typically an urban landscape.

Design Philosophies:

In the past century the prevailing concepts about design have centered on a philosophy of 'form follows function'. To the designer, what is being expressed here is the crucial point that the internal, underlying value of the design is truer to its purist (or best) design form, if its shape and detailing respects and enhances its intended purpose. Other approaches have been developed, such as 'less is more' and 'less is a bore'. While the concise expressions are close to being regarded as flippant, they do express different schools of thought about the nature of design. 'Less is more' is articulating the concept that the more paired down to its fundamentals the design can be developed, the better the value of the design will be. "Less is a bore" is the opposite, which is a reaction to the concepts that detailing is not an important part of the vocabulary of design and instead that the values promoted by texture, colors, and imagery have a place in design. The debate is never ending, for the conversations are about dealing with the varying natures of human beings, their values and preferences which socially change in time within different cultures. The designer needs to understand this issue as so many engineers have been trained in the mindset of 'form follows function' without the corresponding understanding that there is an *art* to the science of engineering, which has been misplaced during the past half century. The aesthetic point of view is to return the art to the science so as to achieve a holistic whole to the design. A standard bridge can be regarded as functionally sound but not have any soul or spirit, whereas the aesthetically designed bridge could be built which captures the imagination of the people and become a work of art.

Public Evaluations of the Designs

The public operates with a different set of design criteria, which is the area where the transportation agencies are most loath to consider and risk exposing themselves to judgment. It does not matter what the intellectual leadership thinks at all. What does matter is the question: 'Will the public like it?' A much more significant question, which, unspoken but just as telling, is Will the public object? Those two questions control and define the success and failure of the aesthetics paradigm in transportation agencies. A successful application of aesthetic design will generate the joint answers of 'Yes' and 'No' respectively to those two questions. The simple political fact of life, for a public agency that receives and spends public money, is that without public support for their actions, in time they will not be able to continue to operate. So new ideas, new approaches, and different philosophies must survive a political evaluation process before becoming 'accepted' into the mainstream. So it is and will be with regard to aesthetic design values.

The transportation designer is in many ways a high wire trapeze artist. He or she must design (generally as part of a design team which represent different professional disciplines who have different technical agendas) a transportation project which may have a multimillion and sometimes multibillion dollar budget. The project may have a gestation period from planning the proposed roadway to completion of the construction design drawings of ten years or more. The success of the project may not become clear until the entire project is finished, which may take decades, if the roadway is constructed in phases (a common practice nowadays). Feedback is critical but hard to get at the significant points in the design process, as the public reaction is best clear when the entire project is finished and they can see and drive the results.

Transportation Departments have utilized six different processes in seeking to determine how the public would react to proposed plans. They are:

'Focus Groups' have been used in politics and in the advertising industry, for attempting to evaluate how a group of people would receive a new idea or respond to a new product. If careful consideration is given to the selection of the targeted group, and the information is presented without bias, the reliability of the focus groups evaluations are quite accurate and can be considered to be representative of the larger public's response. Such an 'invited' group of citizens can assist the design team in providing them with feedback as the design is conceived and developed. These groups work best when limited to small groups (generally under 15 people). The *key to the success* of this format is in the details of the selection process for determining the members of the group.

Citizen Advisory Committee functions very much like the focus group and is to all intents identical, except for size and purpose. These committees are larger in size, with up to 50 members participating in providing the transportation department with feedback from the community on policy and project issues as opposed to design questions⁴¹. The larger size does not lend it's self to working through specific design details, but design policy issues can be raised and filtered through this process as well as in the other formats.

The Internal Design Review Team. Here one can appoint a small number of people from outside the department (generally fewer than six) who have the resources and time to sit in on the design team meetings to provide observations and suggestions for assisting the design team as they work through various issues. This approach can be very successful in dealing with a site-specific project-issue (i.e. how to fit in the proposed freeways through the local zoo grounds or a

⁴¹ Dean B. Taylor and Danise S. Hauser, Public Involvement Strategies for Alternative Transportation Planning, Environmental Planning Quarterly, Austin, TX, Vol.11, Number 2, pages 21-25.

neighborhood park). The selection of the people who actually work or live there and their input and exposure to the 'good faith' design solution efforts can go a long way to helping to achieve 'buy-in' by the differing parties. Again the method of selection of those citizens who will provide the community data response is critical. It can be by invitation, by asking for volunteers, and by seeking recommendations from local political representatives. The type and nature of the transportation project will have to govern the method selected. Variations to this tend to be in the staging of the number of meetings.

I have found that in *public meetings*, working with lay people (persons who are not trained in the allied professional fields of engineering, interior design, and architecture) that their feedback response is more constructive and more accurate in expressing the communities perceptions, if one can provide them with developed alternatives/choices; as opposed to trying to create those choices in collaboration with them. In other words you get clearer answers from the public if you can give them three developed design alternatives and ask them to either rank or select from among them as opposed to asking them the general question of "what do you want?" The public frequently is not able to articulate what they want since they cannot always mentally visualize a solution's appearance. But they can clearly react to visual alternatives if the designer provide them with the examples. Then the design review team can get data such as: " I don't like that, but maybe this one, if you did something different with this element" etc. If the design review team is fortunate to have design professionals from the community on the team, then intense design collaboration is possible, as the design language is already present among the community representatives.

Public Hearings, generally are formal meetings, required by law, to legally inform the public of route alignments and to provide final design presentations with one or two selection choices on significant issues. They are not conducive to

internal design exploration of possibilities or alternatives. They do provide for public comment and feedback. The time limits required by the format of these meetings limits the design teams ability to explore and negotiate tradeoffs with the public. The ability of the department to control the process is hampered by allowing the design team to *publicly* attempt to resolve issues, because the design team still has to go back and resolve the technical issues and develop construction cost budgets, items which could negate the proposed solution. This would put the departments in the position of appearing to back away from a tentative solution that was agreed to at the prior public meeting. The departments would prefer to be able to keep its word in public as much as possible. As a result public hearings tend to present the public with proposed completed solutions as opposed to opportunities to devise creative solutions.

Value Engineering provides an underutilized format for receiving public feedback. This format traditionally has been utilized by the department in conjunction with the engineering staff and their consultants to prepare the roadway alignments and deal with the vertical and horizontal approaches to complex interchanges and intersections. The intent of the value engineering meeting is for the first generation of preliminary geometric designs to be evaluated and the initial footprint of the roadway to be looked at with an eye on what the engineering problems would be in terms of land forms, environmental issues, and other forms of constraints, political, financial, etc. It has not been used for aesthetic consideration in the past. But this format would allow selected public participants to sit and have an opportunity to get involved in the at large consideration of what the parameters of the project will become.

Peer Review can sometimes be effective in getting an objective evaluation of proposed designs. The concept of having professional consultants in the field, review your plans has traditionally been used to get feedback on the technical

merits and philosophical approaches to the design problem. If the peers are knowledgeable about the community in terms of what has been done before and what the contextual background of the public's behavior has been to transportation issues, then the designer can rely on their advice in developing the design solutions.⁴²

The Internet is an example of new technologies that may become helpful for the design team. Here the public could log on to a project web site and voice their preferences for proposed designs presentations. 'Virtual reality' software is available to enable departments designers to construct elaborate 'tour experiences' to allow the public to log on and evaluate the proposed driving experiences. With rapid feed back the designer could maintain an on going dialog with the potential public supporters of the project.

Cultural design implications:

The designer *must* be sensitive, aware of culture and the meaning of symbols within that culture. Currently the US Census Bureau is projecting that, by the year 2050, there will be *No racial* (read cultural) majority group in the United States. In Texas, Anglos will cease to be the majority culture by 2030, for the first time in two hundred years. Hispanics will become the largest cultural group in the state by 2030. America is in the middle of a major historic shift to *truly* becoming a pluralistic and diverse society.⁴³

This shift away from the historic dominance of the 'Anglo-Saxon' culture to one which will have to embrace a 'Hispanic-Latin' component will provide the cultural interpreter with an extraordinary challenge. The designer's attempt to

⁴² Community Impact Assessments, Federal Highway Administration, Office of Environment and Planning, Washington D.C., Sept 1996, pages 1-46.

⁴³ Alfredo Corchado and Frank Trejo, Urban Renewal, The Dallas Morning News, September 20, 1999, Front Page.

express icons, imageries, color and textures will be evaluated by the public through a cultural filter which will subconsciously be 'flavored' by the culture from which the public identifies itself. The great challenge in aesthetic designs will be in this area of creating designs that either rise above cultural norms or have no particular, specific, cultural meaning, which at best exist as 'neutral'. Or the designer can create designs which will be found to express multiple or common values in a diverse world.

Public rationalizations:

The public judgment about completed aesthetic designs is, can, and will be swift and loud. The public's judgment about choosing between preliminary design choices is generally contradicting, and individualistic. It will be rare that the designer will achieve from the public, common agreement on making a selection choice, but the design chosen will almost always receive a general public reaction, thumbs up or down on the executed result.

When the public makes a design decision about an investment of its money, the underlying key question that the public appears to be deciding is: Is there a benefit, which I am getting for the amount of money spent, which is 'appropriate' for the nature of the event or item involved? And do I like what I got for the money?

Applied to transportation issues the question becomes, for example: Is the aesthetic benefit of creating an attractive highway corridor by painting the multiple bridges along a two miles section of interstate ten, for \$40,000, an appropriate cost (with the fact that the bridges have to be repainted anyway, existing paint is peeling, so we have to make repairs)? Yes/No?

Other considerations that may be part of the question framework may be present with regard to the elite political leadership of the community. They may bring to the design evaluation matrix questions of cost ratio benefits dealing with economic development, air quality, transportation mobility tradeoffs, population migration patterns, urban renewal, environmental impacts, scenic development or preservation as well as aesthetic considerations.

The successful advocate of aesthetics will be able to create designs that are basic to the engineering function of the transportation system by incorporating the public's desires for an attractive environmental setting and infrastructure that articulates the public's innate needs.

Who pays for Funding Aesthetic Designs?

The widespread perception that the introduction of aesthetics into the engineering of transportation elements will inevitably lead to increased costs is a case of misapplied reasoning. The issue must be handled on a case by case basis. A great deal of the handling of the question regarding aesthetics cost depends on how the question is formatted. If the choice is: Have a 150 million dollar proposed functionally ugly roadway which is being held up by law suits because the public does not want to have it in their neighborhood backyard vs. being willing to add to the budget two percent of the construction costs (\$300,000) and making it a more attractive roadway which could secure (perhaps grudging) community approval for the project with out a seven year court battle. The extra cost of increased aesthetic expenditures would be cheap and a steal of an investment given the alternative, given the legal fees and the un-calculated cost of delayed mobility.

Nationwide, transportation departments must accept the reality that the public will not support increased expenditures in additional freeway construction

with out negotiations regarding the design impact of those roadways upon their community.

Almost every transportation department is unable to fund the entire shopping list of their respective communities' wishes for increased transportation mobility. In Texas, the Department estimates that it can only fund one third of all of the requests for transportation projects.⁴⁴ As a result staff project engineers perceive that they are under pressure from senior Department management to design and develop roadway projects which are devoid of 'frills' and other special items which always cost more. Circumstances must be developed to enable the Department to be able to justify the investment in quality design that is constructed at a 'higher bar' than what has gone before.

Current practices fall into four areas:

1. Increased Private Funding for specific projects. In both Minnesota and in Texas, private individuals and corporations have stepped up and provided either outright grants or 'matching' funds to assist in the encouragement of improved aesthetic designs. As noted earlier the Dayton family, founder of the merchant chain, Target stores, in Minneapolis is underwriting a reconstruction of the Michael Graves Washington Monument high tech scaffolding to be placed near the Minneapolis Institute of Art⁴⁵. A family charity is underwriting a one million-dollar commission for the FDR memorial in Washington D.C..⁴⁶ If public art and memorials can secure private donations so can transportation. In the Landscape sectors or Roadway development sectors of some state agencies are programs which

⁴⁴ David Laney, Commissioner of Transportation, Texas Department of Transportation, Transportation Needs Revenue Assessment, Texas Department of Transportation, Austin, TX, 1997, page12.

⁴⁵ Francis Clines, A Washington Cover-up with Aesthetic Appeal, National Report, The New York Times, January 17, 2000, page A11.

permit entities to support the investment of funds into improving the basic design. The state agencies have never been positioned to consider these types of programs as 'money makers' for raising funds for additional enhancement values. A major problem with these types of 'adopt a highway section' programs is the bureaucratic detail paperwork that has been devised in order to secure a project. This tends to discourage private firms from maintaining the effort in achieving progress, due to the lengthy turn around time.

2. Increased public sector funds. In certain TxDOT Districts, the District Engineer (DE) (the chief management officer), have established policies in supporting aesthetic designs. In El Paso, the DE called for the maintaining on all significant new roadway construction of a standard of at one percent (1%) of the budgeted construction cost to be set aside for aesthetic enhancement elements. If a project, prior to letting (being put out for bids) was over budget, any reduction asked for had to be across the board, to avoid the practice of chopping off all of the expenses of aesthetics, in an attempt to get back under budget. Special project could warrant the investment of up to three percent (3%) for aesthetic elements based upon a review. This set aside approach of one percent is drawn from the National Endowments for The Arts program which requires a one percent (1%) of construction costs set aside for public arts being installed in public buildings⁴⁷. It is not generally known but within TxDOT, each District Engineer has an annual 'discretionary' allocation fund account of one million dollars which is available, as the DE decides for any project with out being subject to much of the appropriations detail procedures. Typically these funds are used for special, local transportation projects 'as a favor' to local political officers. An

⁴⁶ Ibid.

⁴⁷ Sally B. Woodbridge, *The Evolution of Art In Public Places, On The Ground*, Berkley, CA, Vol. 1, No.4, 1995, pages 5-6.

example would be the funding of \$50,000 to landscape the medians in front of a local high school or \$100,000 to assist a small community in adding custom 'Victorian' light posts to a historic district in the town. In other areas, Phoenix, ⁴⁸Kansas City among others, a dedication, (generally one-half of one percent (0.50%) of the local county sales tax) has been approved by the public for investment in special projects which have aesthetics identified as a designated purpose of the expenditure⁴⁹. Typically the political leadership of the community goes to the voters and articulates a need for dedicated funds to be invested in a set of construction projects that will be claimed to benefit the community. In the Phoenix case that will be reviewed later in this paper, the public voted for increasing their local community portion of providing the match for increasing federal transportation funding. The voters were promised a state of the art and more aesthetically pleasing transportation experience for being willing to tax themselves.⁵⁰ The ISTEA enhancement projects program also provides additional funds for a variety of secondary transportation needs that in the past have not been regarded as fundamental to the transportation system such as bike trails, landscaping, transit improvements, rehabilitation of historic buildings, protection of scenic views and properties, etc. The program is almost universally regarded by many state transportation agencies as a 'pain in the neck' to administrate, design and manage due to the customization nature of each project which requires considerably more time and effort to process through the system.

⁴⁸ John M. Blair, K. David Pijawka and Fredick Steiner, Public Art in Mitigation Planning, The Experience of the Squaw Peak Parkway in Phoenix, *Journal of American Planning Association*, Chicago, IL, Vol. 64, No. 2, Spring 1998, pages 221-234.

⁴⁹ Bruce Weber & Shirley Christian, Two Cities, Two Leaps of Faith: Columbus, Ohio & Kansas City, Missouri, *The Living Arts*, *The New York Times*, November 15, 1999, page B1.

⁵⁰ John M. Blair, K. David Pijawka and Fredick Steiner, Public Art in Mitigation Planning, The Experience of the Squaw Peak Parkway in Phoenix, *Journal of American Planning Association*, Chicago, IL, Vol. 64, No. 2, Spring 1998, pages 221-234.

Yet Congress has provided large sums of moneys for the implementation of aesthetic elements within this program.

3. Partnerships with both Public and Private groups. In El Paso, the TxDOT District has been in negotiations with the city's planning department on developing a cooperative citywide landscaping policy. Since the Department's policy has been not to develop the r.o.w. between the frontage road to the outside (away from the roadway) property line, this leaves a swatch of some thirty to sometimes one hundred feet of untreated land. Traditionally the adjoining private property owner has unofficially adopted the tract as their 'front yard'. The city of El Paso wished to utilize the zoning approval process to require the type and style of the landscaping of these tracts so as to create a transportation corridor style and pattern that would be aesthetically pleasing. Likewise, the Department has, by policy, a working relationship with the 'Keep America/Keep Texas Beautiful' organization that has local chapters in almost every Texas City with a population over 1,000. These organizations compete to secure annual monetary awards (as high as \$250,000) which are then used to fund aesthetic enhancements on state transportation corridors.

4. Increased project budgeting. Depending on the technical merits of each individual project which has been placed on the letting schedule (listing of projects which have been approved by the MPO for implementation) and the initial programming data which has been used to construct the preliminary project construction budget; the dollar amount which has been ear-marked for the project will set or control the level and quality of aesthetic design values on that project. The public does get what it is willing to pay for (It's like the Loreal hair coloring commercial: 'Sure it costs a little bit more, but I'm worth it.').

There is a potential fifth source of funds. The 'selling' of the public arena. In Canada, the Ontario province of the Canadian Ministry of Transportation rents out portions of the right of way along the Canadian freeways to private corporations to use for corporate sponsor advertising. Instead of billboards, which are illegal, firms can landscape sections of the freeway for an annual fee. The landscaping design must use native, live plant materials and colored aggregate to construct the advertisement pattern⁵¹. The Texas legislature passed a bill in the early 1990s to permit this sort of 'adopt a highway landscape' approach which was voided by the Federal Highway Administration on the grounds that numerous Federal legislation prohibits the 'privatization' of public property.⁵² There is a continuing attempt to commercialize everything in American life. With the private sector commercializing, it maybe but a very short step to the public realm.

Where designers can minimize the possible impact of better design values being priced out as too expensive is in the realm of standard modifications. Standards are construction drawings that show the contractor how to build an element. The Department and the Federal Highway Administration have approved them for engineering and traffic reliability. It is much easier to control cost by working with previously approved standards that are familiar to both the designer and the contractor. If the designer can modify an existing standard to achieve a more aesthetically pleasing design, then both the approval system and the contractor can bid a price which will not be higher than the average cost of construction as they both are familiar with the specific element and how to construct it. It is in the area of 'we have never built this before' that the fears of unknown parameters jack up the estimated cost of construction

⁵¹ Interview with Nicholas Close, Landscape Architect, Ontario, Canada Ministry of Transportation, July 1998.

The fundamental point is this. If you want aesthetics in transportation design, the public is going to have to demand it as a cost of doing business (constructing the road). The public is going to have to say: 'We're worth it. Include it in the design.' before the transportation departments will revise their paradigm. In the decade of the 1990's this has been happening. The Federal Highway Administration (FHWA) has made efforts to assist and encourage state transportation agencies in this effort to accommodate the public's desire for a more attractive transportation experience.⁵³ However, our federal structure means that while the federal government can attempt to lead, it is the individual state transportation departments who decide what will and will not be done within their own state.

⁵² Interview with Mark Matthew, Senior Landscape Architect and Director of the Landscape Design Section, Texas Department of Transportation, March 1999.

⁵³ Building On The Past, Traveling To The Future, Edited by I Mei Chan, Federal Highway Administration, Washington D.C., 1997, pages 1-80.

Chapter 3

TxDOT and EL PASO

The Texas Department of Transportation (TxDOT) is based in Austin with twenty-five (25) local Districts, each headed by a District Engineer (DE) whose position as DE has considerable leeway in the setting and maintaining the tone and policies of transportation issues within that district. In short, if a DE does not want to encourage aesthetic design (or anything else for that matter) within that district, it is not likely to occur. Likewise if the DE does want to advocate aesthetics then the district staff will be influenced to incorporate it into the design structure. Thus the personality and biases of that DE is highly significant as to whether or not that particular district will be engaged in the practice of aesthetic designs. The state headquarters divisions, headed by the Executive Director can influence the local DEs by indicating the level of support that the statewide system is prepared to extend for the concepts of aesthetic values and or any other transportation issue. Also, the political leadership of that community (in which the DE is posted) can exercise considerable influence upon the District through interconnecting levels of contact with the District. Those areas include units such as the local metropolitan planning organization (MPO), the County Commissions, the City Council representatives as well as state and national political representatives and senators.

El Paso (1999 population estimate: 700,000⁵⁴) is the largest American City located in the Chihuahua desert, with an average six inches of rainfall a year. The city has the state's highest majority of Hispanics living in an urban area: 75%.

⁵⁴ Texas population estimates as of July 1, 1999, US Census Bureau Estimates, Washington D.C., March 8, 2000.

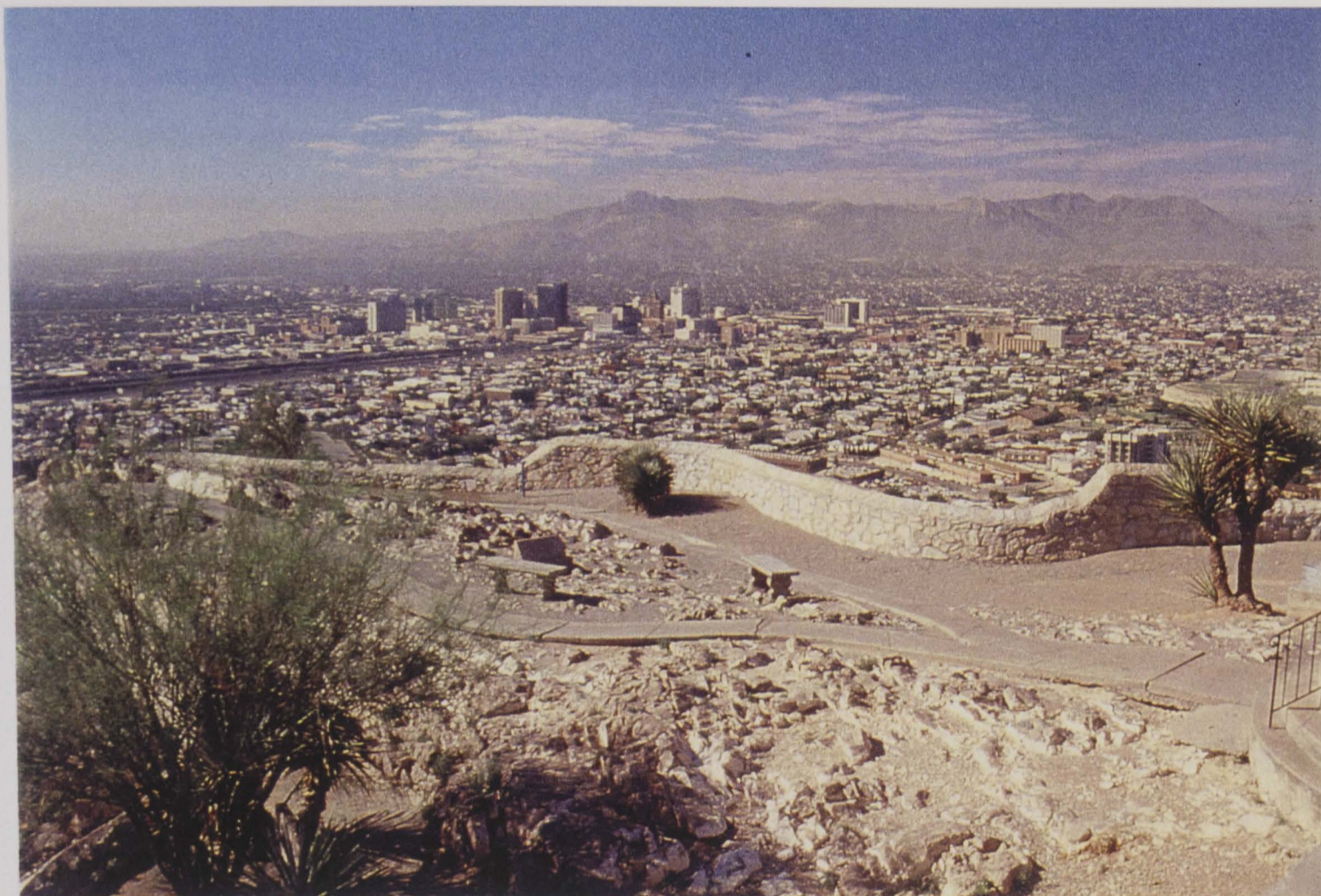


Figure 13: View of downtown El Paso, from Tom Lea Park

Background:

The same District Engineer (DE) had served the El Paso District of the Texas Department of Transportation for twenty-eight years when local political leadership secured the retirement of Mr. Joe Battle, as DE, in the middle of 1992.⁵⁵ Under Mr. Battle, the early 1990s 'letting schedule' amounts (projects awarded to be constructed by the local District) was in the range of 10 to 12 million dollars a year. Within a six-year period (1992-1998) four new District Engineers would serve as the local manager of the 375 person District staff and the annual letting schedule volume would increase ten fold to in excess of 100 million dollars a year. A major reason for the change was the 1994 "Court of Inquiry" lawsuit, which was initiated by the local political leadership. The lawsuit

⁵⁵ Interview with El Paso State Senator Peggy Rosson, March 1994

charged both the District and the Department (and three other state agencies) with criminally conspiring to discriminate against the Hispanic community in the awarding of state and federal funds, by not providing adequate funding to the District in proportion to its perceived transportation needs.⁵⁶

The lawsuit, which has since gone 'dormant' served to communicate to both sides that a considerable amount of work was needed to reestablish the relationship that both parties required in order secure the funding that the community sought for its transportation projects. (Since the lawsuit was filled back in 1994, state law has been changed to prohibit the local initiation of such an inquiry lawsuit with out the approval of the legislature, thus it is widely assumed that the local leadership is engaged in a legal strategy of keeping its legal options open, should the current rebuilt, positive relationship deteriorate. If they were to settle the lawsuit, only to find out later that their position was unsatisfactory, they would not be able to reconvene such an inquiry, since it is politically highly unlikely that the state legislature would permit state agencies to be re-sued.)

The Department's legal position has always been that the agency was not guilty of any criminal acts and if there had been any failures in responding to the needs of the community, that the lawsuit was an inappropriate forum for addressing the matter.⁵⁷ During the balance of the decade, the District and the community learned to work together to better address the transportation needs of the area. The local Hispanic political leadership felt that the 'Court of Inquiry' served its purpose as a large 2 by 4 board whacked across the face of a very distant state agency 'mule' in an attempt to get its attention.⁵⁸ The Department

⁵⁶ Gary Scharrer, Funding Inquiry Wins New Life, El Paso Times, May 6, 1994, Front Page.

⁵⁷ Ibid.

⁵⁸ Gary Scharrer, Inquiry Helped Status of City, El Paso Times, February 23, 1996, Page 1B.

felt that the community's political leadership used the District as a scapegoat for its own failures to effectively promote its own political transportation agenda. There was plenty of truth or guilt for both sides to share in.

Upon Mr. Battle's retirement, the new DE, Mr. William G. Burnett, hired me as the District's first Landscape Architect in the spring of 1993. That fall, Mr. Burnett was named the Executive Director of the entire statewide Transportation agency. His replacement in El Paso was Mary M. May (now Ms. Mary M. Owen). She had been on the job six months when the 'Inquiry' lawsuit was filed. She served as DE almost two years, before being transferred to the Tyler District as DE in the fall of 1995. Mr. Eddie Sanchez, the San Antonio Deputy DE, replaced her, serving as DE, until leaving in 1998 to take a position in the private sector. Marabel Chevez, the current DE, was transferred from the Abilene DE position to replace him.

The role of these District Engineers was to revive, revise and renovate the District's response capability to the new challenges in reestablishing good, productive and positive relationships with the community. A major tool for achieving these goals was the introduction of aesthetics in the transportation design process.

A major influence upon the opportunity to utilize 'aesthetics' was the perception that the standard seven to ten year response time for the District to begin to plan for a new highway project to the construction and completion of the project for public inspection was too long. There needed to be a quicker way to showcase to the local political leadership and the public that the District was indeed listening and responding to the community's desires for better service.⁵⁹

⁵⁹ Interview with El Paso District Engineer Mary M. May, June 1994.

The District had no structure in place for processing the concept of aesthetics transportation design and the staff did not even have an understanding of what the concept idea of it was. It became the opportunity of the Landscape Architect to fill this void.

I proposed the creation of the District Aesthetic Committee (DAC), with the mandate of developing a policy for the integration of aesthetic designs into the transportation system. The committee was also chartered to identify and develop a community consensus on what were the community goals and objectives.

Over a four year period the DAC, met weekly, then bimonthly and finally monthly:

- Authorized the development of an "*Analysis of the Visual Character of the Major Highway Corridors of El Paso, Texas*". The study, prepared by the Texas Transportation Institute, under the guidance of the DAC, was to "investigate and develop alternatives to enhance the visual character of El Paso's highways."⁶⁰ The study served as the intellectual framework for the identification of the visual problems of the existing roadways and what types of alternatives could solve those problems.
- Authorized the preparation of a video: "*The Road Ahead*" which was designed as a eight (8) minute presentation video spot for the Department's public relations office to use as a speaker presentation aid for community civic and political meetings. The \$16,000 (value of production cost) video articulated and presented computer-developed 'before and after' graphic presentations of what the proposed aesthetic improvements to the transportation corridor

⁶⁰ Jamrs R. Schutt and Terry Larsen, *Analysis Of The Visual Character Of The Major Highway Corridors Of El Paso, Texas*, Texas Transportation Institute, College Station TX, Nov. 1994, page1.

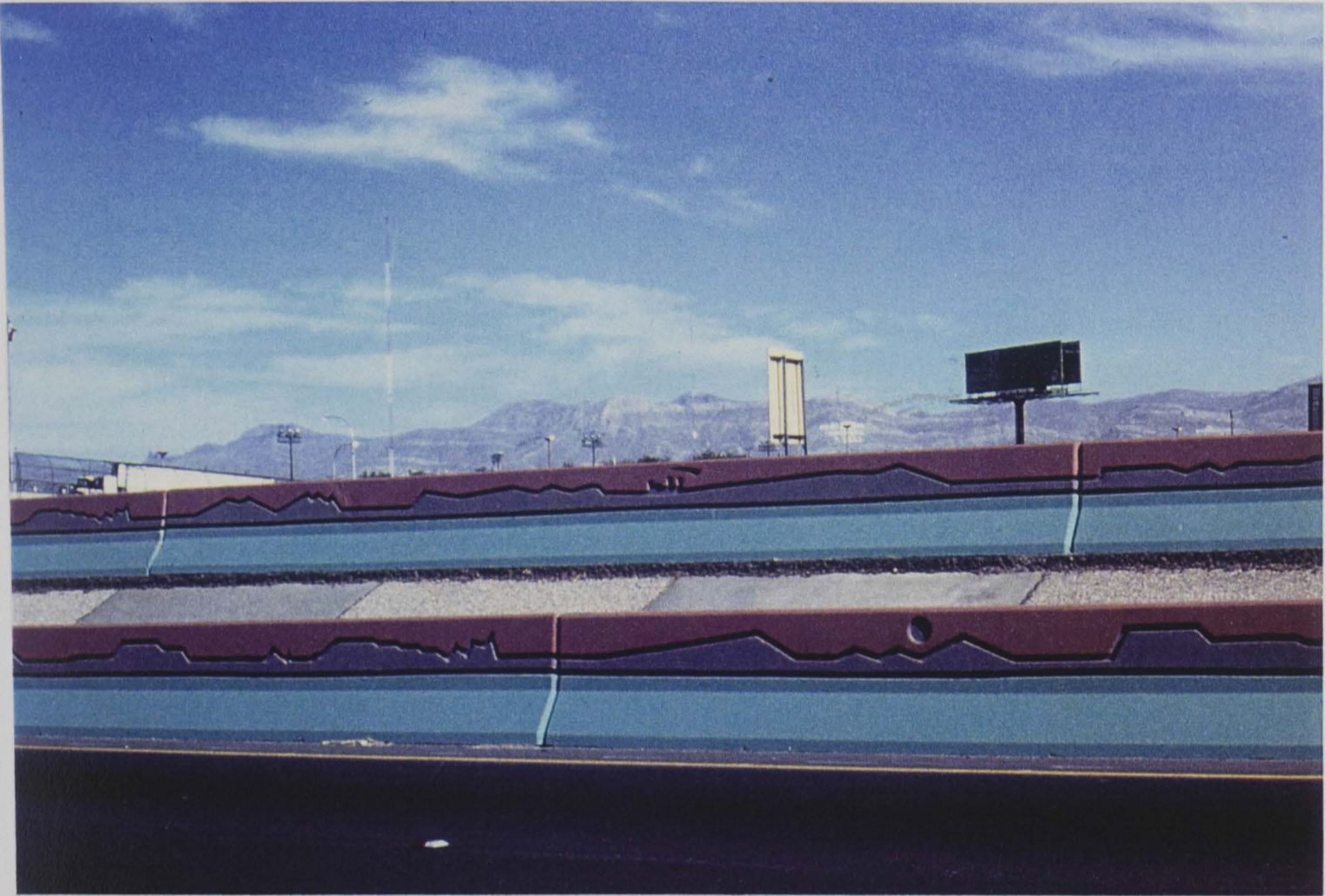
would look like. The prior visual analysis study report was in essence, visualized for presentation to the public.

The DAC and the District needed to find 'in the pipeline' projects that would have a very short construction time frame to enable the Department to quickly showcase its best intentions to the community. This forced the DAC to piggyback on to two pre-designed roadway-resurfacing projects that were not programmed nor budgeted for any special landscaping or aesthetic improvements. Two projects were selected: Loop 375 and Interstate 10. The DAC:

- Authorized a small project that would be used to experiment with the concept of integrated aesthetic design within the existing transportation-engineering paradigm. Loop 375, 'The Border Highway' which ran along the international boundary between Texas and Mexico for eleven miles was selected for the experiment. A restricted right of way limited the designer's aesthetic options to working with the standard 'jersey T-501 mold' form of the plain standard concrete traffic barrier (ctbs), which is placed in the middle of the roadway as a traffic divider to separate traffic traveling in different directions. The basic mold was modified with the installation of a one squared rebar, bent to reflect the rouged mountain landscape design. The molds were cast as normally done, hand finished and trucked to the site, where they were hand painted in three (3) parallel colors. The budget for the project's ctbs was \$750,000. The project opened to positive reviews from the public in 1995 (See figures 14, & 15).
- Authorized the implementation of the developed concepts on a two-mile section of Interstate 10, in downtown El Paso as a test application to see if the idea of aesthetic transportation corridors would be acceptable and supported by the community. If the community responded favorably then

the District hoped to achieve two things. First an easing of the hostile attitude by the political leadership (that was still conducting the 'Court of Inquiry' toward the Department) and second, the beginnings of a reassessment by the District's engineering staff mindset toward a positive consideration of aesthetic design values. The original scope of work for the project, a thin bond resurfacing of the depressed downtown canyon section of IH-10 was enlarged to include the re-coating of thirteen (13) overpasses (by repainting them in seven different colors in alternating patterns), the installation of concrete 'cinder block' planter boxes into the existing concrete coated ripraps slopes, and the replacement of a chain link security fence with a wrought iron fence with brick columns, illuminated at night with a multicolored fiber optics system. The project was two years in construction and opened to the public in 1996. The implemented project design was extremely successful. For the first time in the 75 history of the District, the agency had spent more than \$25,000 of its own allocated federal highway construction funds on aesthetics, spending 1.2 million dollars. Widespread approval of the installations, from the local media-newspapers, television, and radio, the public and subsequently the elected political leadership helped the District's internal engineering design teams and more importantly the District's senior/middle management to understand that the DE and the DAC were being responsive to the local wishes of the community; and that aesthetics was not a wasteful 'frill', but a greatly desired attribute for transportation designs (See figures 16, 17,18,19,20,21,22 & 23).

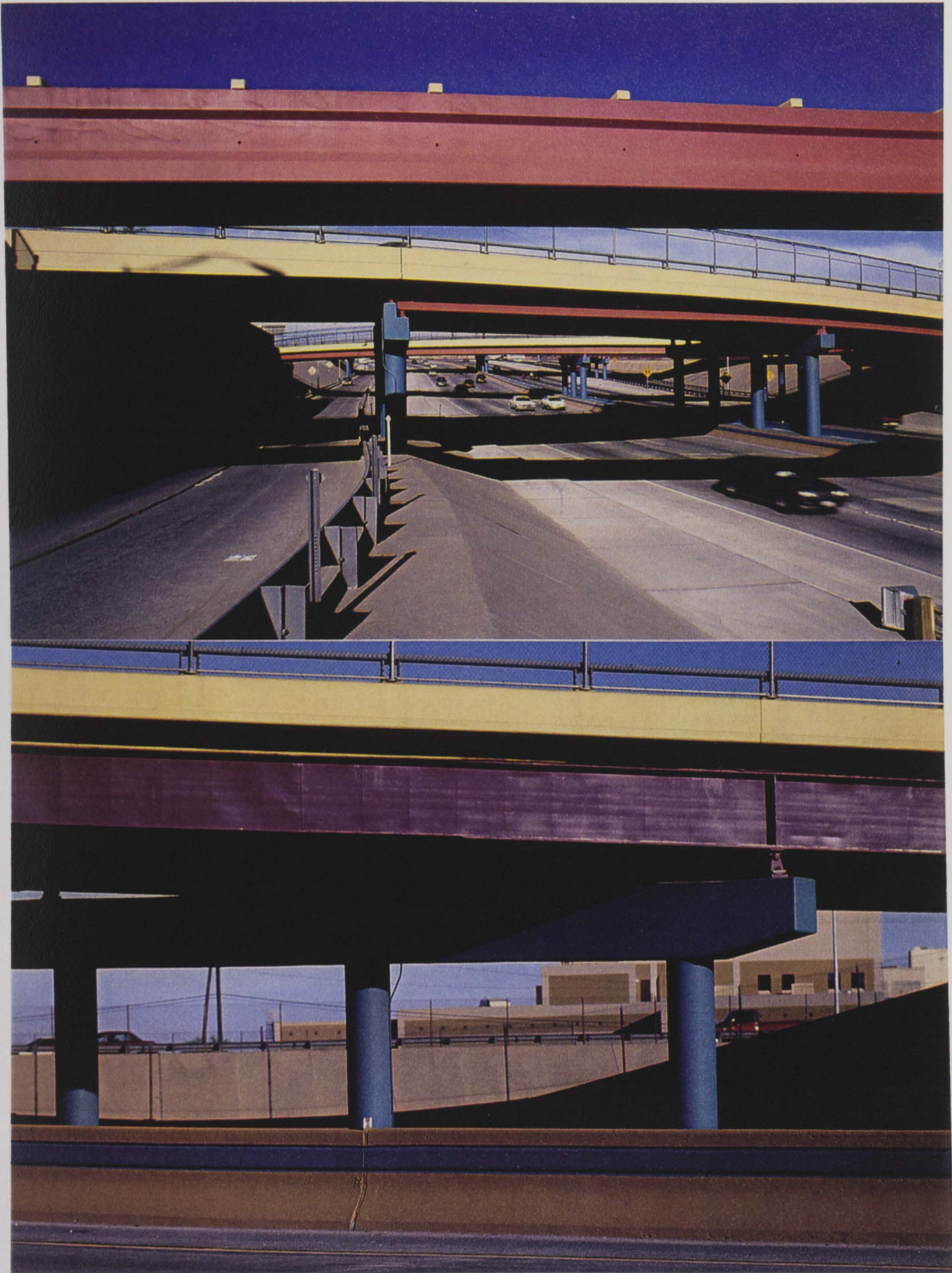
With the public approval of these first two projects the District proceeded to select additional projects already on the drawing board which would be modified to incorporate aesthetic elements into their designs and to begin to consider the concept of integrated transportation corridor designs.



Figures 14 & 15: LP375, Custom Concrete Traffic Barriers, different patterns



Figure 16 & 17: IH-10, downtown, facing west, before and after views



Figures 18 & 19: IH-10 Bridge colors patterns



Figure 20 & 21: IH-10, before and after views of riprap embankments

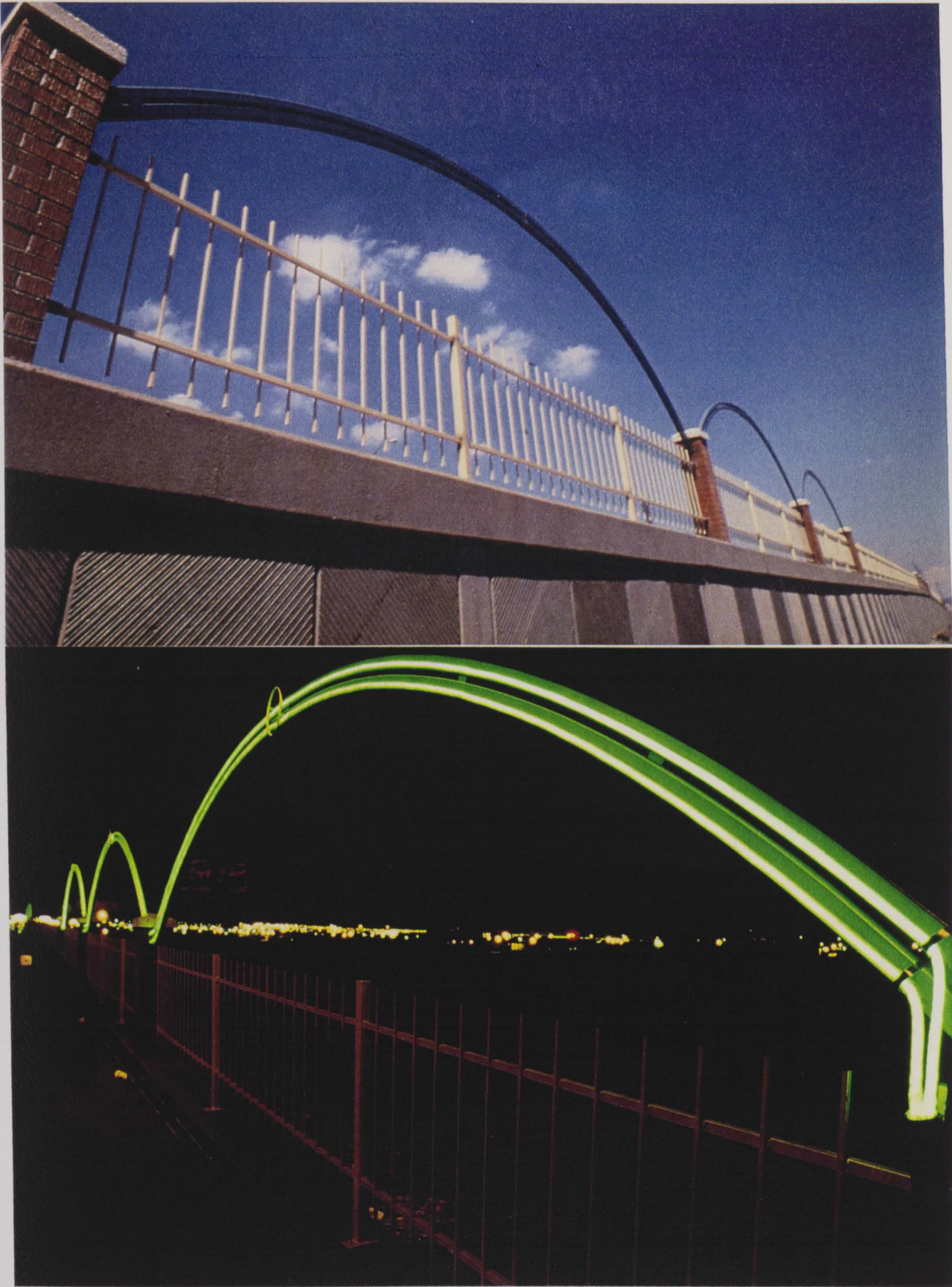


Figure 22 & 23: IH-10 Railroad yard fence and fiber-optics illumination

Fate decreed that the Interstate Highway System in El Paso would need to replace virtually every bridge overpass due to the increased population growth of the City and the increased truck travel caused by the economic development being generated from Mexico by the North American Trade Agreement (NAFTA) between the United States, Canada and Mexico. The developing West Side of the city had three overpasses that were functionally obsolete and programmed to be replaced. The three bridge overpasses were the first bridges in the District to be designed from the start with aesthetic design values incorporated within the initial design. They were 'Redd Road', 'Artcraft', and the 'Anthony Bridge' projects.

- Redd Road Bridge design was collaboration between the District and an outside consultant firm, Huitt-Zollar Consulting Engineers, Inc. (H-Z) This exercise created a project that has been widely approved by the public. A 'flared' bridge pillar column with a star motif design, as proposed by the DAC, were designed fabricated by H-Z and also utilized on the Artcraft project. Large keystone block retaining walls with a multiple pattern of abstract mountain ranges completed the structure. (See figure 24).
- Artcraft Road and Bridge design, another collaboration, was between the DAC and Henderson, Durham and Richardson, Inc. (HRD) Consulting Engineers. This project has not achieved the popularity that Redd Road has, partially due to the fact that the reconstruction of Artcraft road is still under way (Jan. 2000) and a finished roadway corridor has not yet been available for evaluation by the public. The finished bridge over IH-10 has been operational for a year now and is probably the most 'urban' design structure built by the District. It is ahead of its time; in that the surrounding area of the intersection is still native desert as the city's growth in development is just now beginning to reach it. (See figure 25).



Figure 24 & 25: IH-10, Redd Road overpass and Artcraft Road overpass

- Anthony Bridge Overpass located at the Texas – New Mexico state line. Is a ‘tongue in cheek’ bravado expression of ‘Texas; the Lone Star State’. A pair of twin 30-foot tall stone pedestals frames the 300-foot wide span across Interstate Highway Ten. On top of each pedestal is a 15-foot tall constructed five pointed cor-ten steel star, modeled after the mounted star on top of the San Jacinto Monument, a thousand miles away on the eastern side of the state. Huge terraced stair stepped retaining walls, heavily landscaped with Palo Verde trees (in time) will provide visitors and resident alike a suitable entrance into the empire that is Texas (See figures 26, 27, & 28).



Figure 26: IH-10, Anthony, 1905 Bridge, New Mexico view



Figure 27 & 28: IH-10, Anthony Bridge, Texas views northward to New Mexico

With the development of aesthetically pleasing overpasses underway, additional projects were selected for aesthetic treatments. By this time, (1997) the District had begun to incorporate the advanced project development team into the aesthetic paradigm.

- Murals on Interstate Ten. The IH-10 resurfacing project had been proposed with mural retaining wall treatment, but the new DE wanted to wait and see how the initial Bridge coloring idea would be received by the public. With the support of the public in hand, the DE authorized a change order for \$40,000 to incorporate the mural design into the project. Two miles of both sides of IH-10 downtown were painted with abstract geographical landscape designs (See figures 29, 30, 31, & 32).
- Loop 375 Northeast was an extension of the proposed Loop 375 around the northeastern part of the city. The three mile extension of the roadway was enhanced by the introduction of a four color painted custom interior bent bridge wall (used to support the interior underside of a bridge –instead of using bridge pillars) designed within a shadow box frame and recessed concrete panels (See figures 40-43). Exterior retaining walls were constructed using custom designed standard 3ft.by 6 ft. panels with split relief. One portion of the panel is colored exposed aggregate with the rest smooth finished concrete. The panels are placed to replicate an abstract version of the surrounding mountain landscape (See figures 33 & 34).
- Loop 375 Southeast (Mission trail) still under construction is intended to be the most aesthetically integrated design project undertaken by the District. A four-mile extension of Loop 375 through the southeast part of the city is designed as a entrance to the 'Royal Road' which connects three active historical Spanish Missions, established in the late 1600s and early 1700s by the Roman Catholic church. Due to the question of separation of church and

state special design consideration had to be considered so as not to trip that constitutional wire in promoting the missions. The District Bridge engineering staff in collaboration with the DAC, the LA and the APD/Design sections, working together, designed custom 'Spanish-Roman' style bridge arches. The roadway retaining walls continue the mountain landscape theme in the colored keystone block walls. Special one-inch square tiles were used to create curved murals showcasing the three missions by profiling their rooftop lines in a layered design. The four murals combined cost \$20,000, with the entire aesthetics 'upgrade' costing one percent (1%- \$200,000) of the total 20 million dollars construction budget (See figure 35).

- Interstate 10 Landscaping has long been desired by the public as an expression of community desires to have the town's primary roadway corridor look more attractive. A four mile section of IH-10, at a cost of one million dollars, is now underway, using colored crushed aggregates as the primary ground cover with short, non structural weighted stone walls, which serve as traffic guide barrier (to discourage cars from leaving the freeway across medians). Parallel plantings of Mesquite and Pine trees provide scale and visual coherence to the roadway corridor driving experience (See figures 36 & 37).

The master plan of landscaping the city's freeway is being dealt with the DAC's latest initiative: the proposed *El Paso District Landscape and Aesthetics Design Manual*⁶¹. The District and the City are developing a joint set of design standards so that when the District has installed its landscaping design, the city's own design standards will be compatible⁶².

⁶¹ Jim Schutt, proposed El Paso District Landscape and Aesthetics Design Manual, Texas Transportation Institute, Texas A&M University, College Station, TX, 1999.

⁶² Interview with Nat Campos, Director of the El Paso City Planning Department, July 1999.

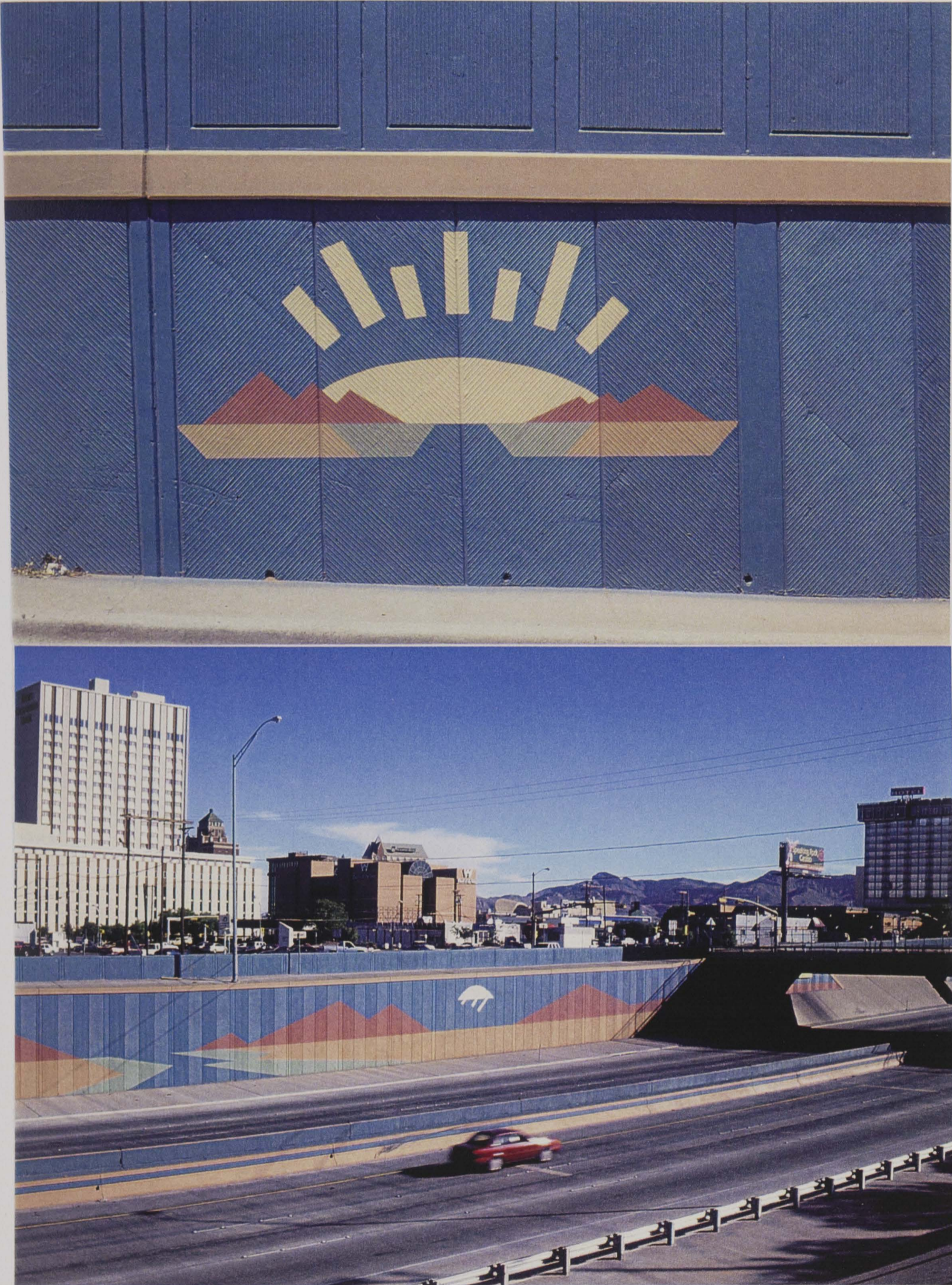


Figure 29 & 30: IH-10, Downtown, depressed canyon, murals on retaining walls



Figure 31 & 32: Murals showing abstract mountain landscape & sunset logo



Figure 33 & 34: LP 375, Northeast, exposed aggregate retaining wall panels

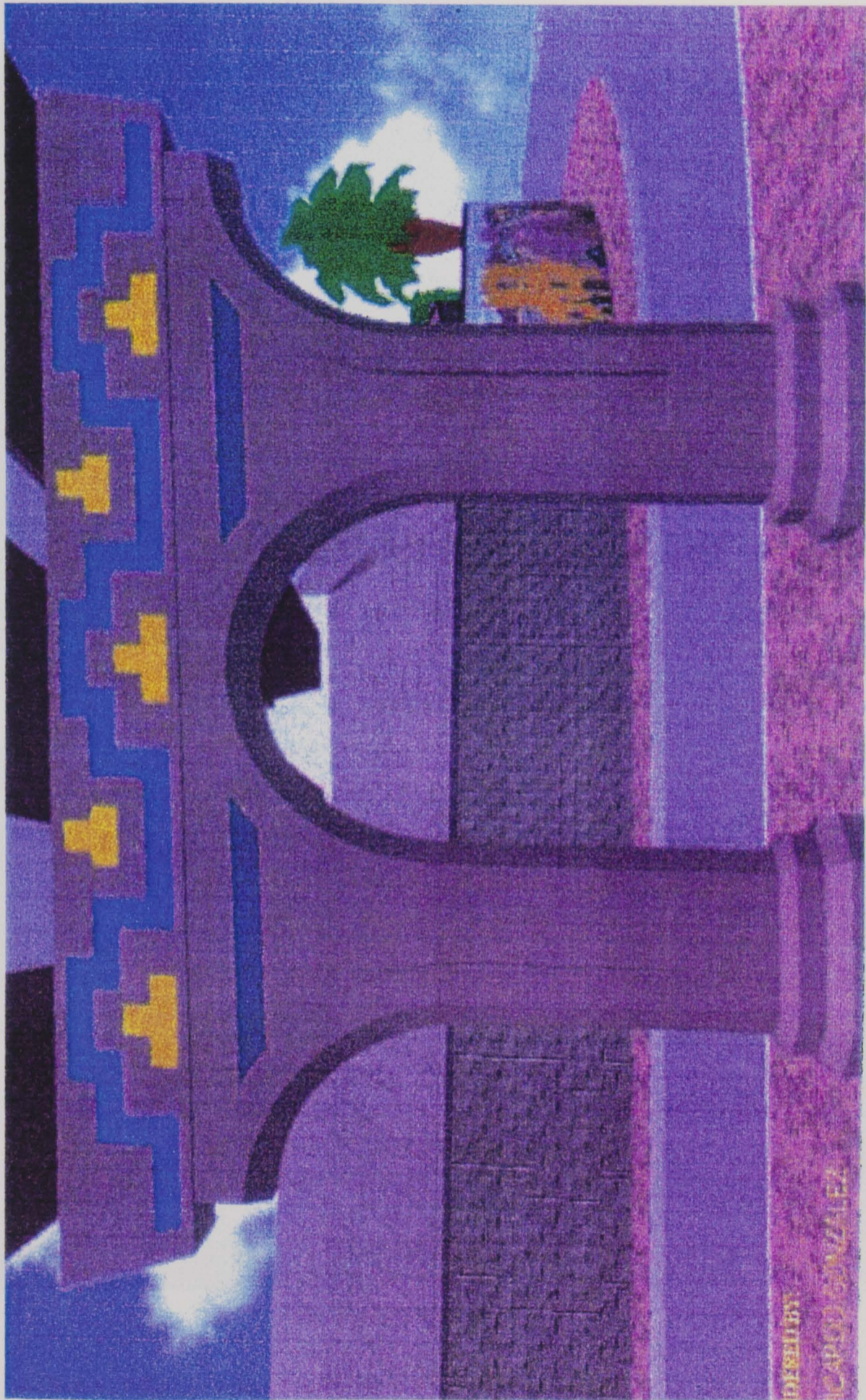


Figure 35: Concept of LP375 Southeast overpass design



Figure 36 & 37: IH-10, proposed before and after view of landscaping

These projects have utilized different transportation elements in an aesthetic manner that can be repeated elsewhere as suitable. Some of these are:

- Custom Concrete Traffic Barriers. The modifications required to customize the standard traffic barrier are relatively easy to create. The designer must refrain from weakening the inherent strength of the CTB design which means that the internal locations of the rebars defines where the surface design patterns can be modified. Thus the center portion of the vertical wall of the CTB is where the designer can best adapt designs to the mold, as the fewest rebars are located there (See figures 38 & 39).
- Custom Concrete Interior Bents are now used infrequently for roadway design due to their higher cost of construction and their typically flat surfaces make them a high target of graffiti artists. By incorporating a textured design which breaks up the surface and introduces color, the roadway designer can preempt the graffiti syndrome and provide the public with a visual image which does not appear to visibly be the barrier that it is structurally (See figures 40, 41, 42, & 43).
- Custom Pedestrian Fences (Artcraft and IH-10) provide a most attractive contrast to the standard industrial chain-link fence. This is one of the few amenities that can be presented to the public, at the street level, where the attention to detail is worth the designer's efforts (See figures 44 & 45).
- Custom Bridge Pillars (Artcraft/Redd Road & Mission Trails) are the signature construction pieces that define and present the theme or style of the proposed project design. Collaboration with the Bridge engineering staff is crucial to maintaining the structural stability of any proposed designs (See figures 46, 47, 48, & 49).

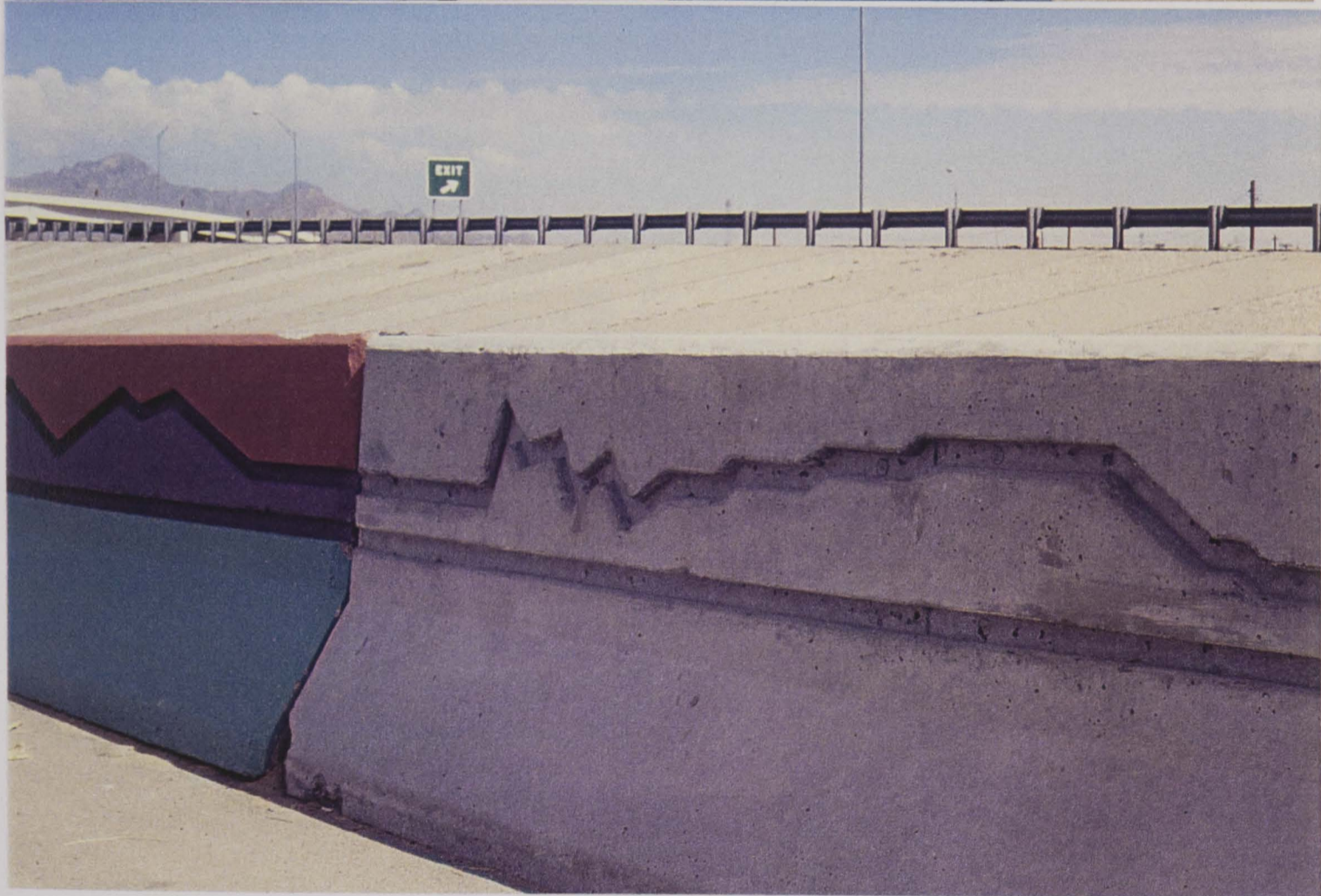
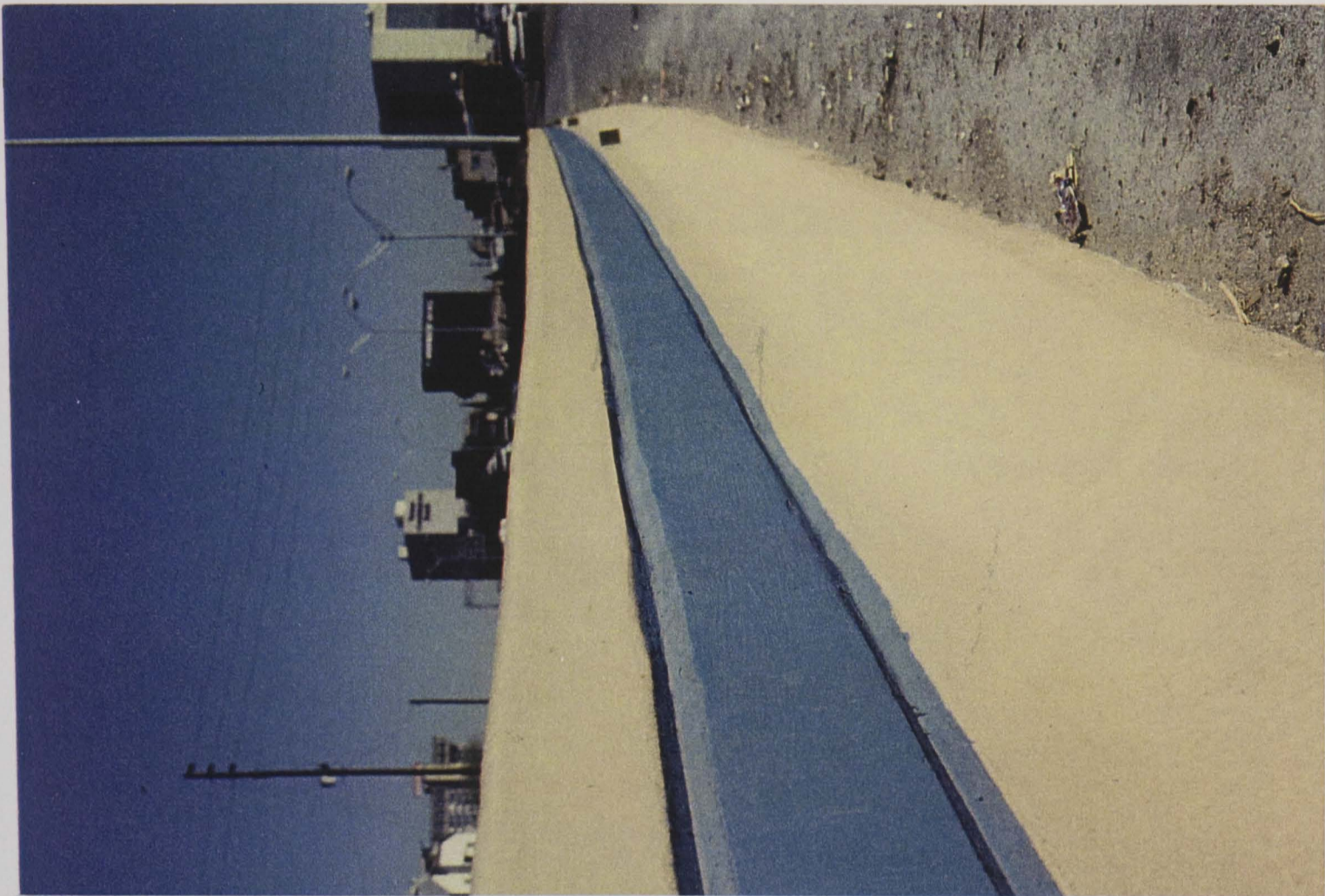


Figure 38 & 39: Examples of customized concrete traffic barrier designs

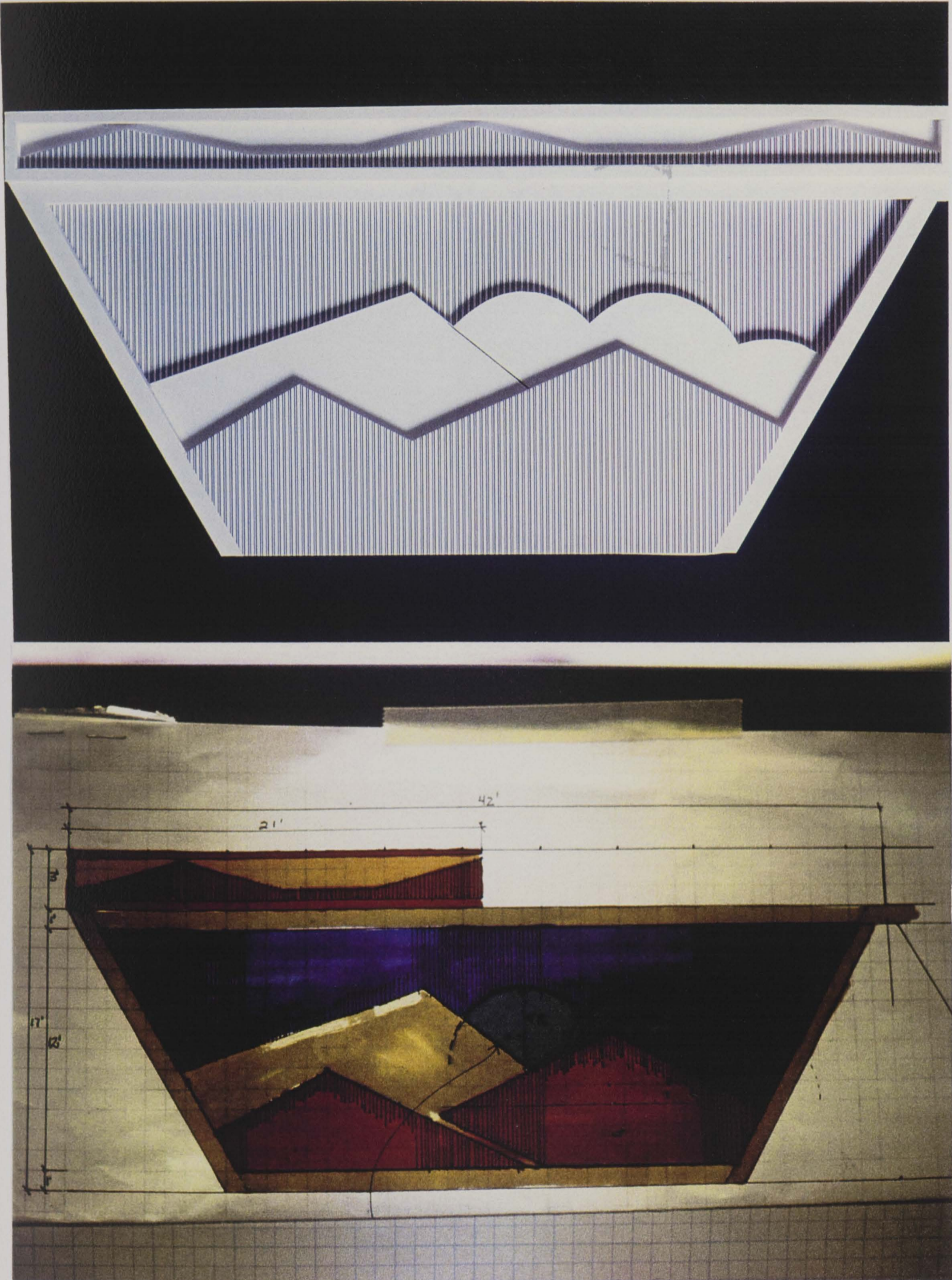


Figure 40 & 41: Interior bent 'shadow box' model and proposed color scheme



Figure 42 & 43: LP375, actual interior bent and close up detail of 'set back' design



Figure 44 & 45: Examples of fence detail designs

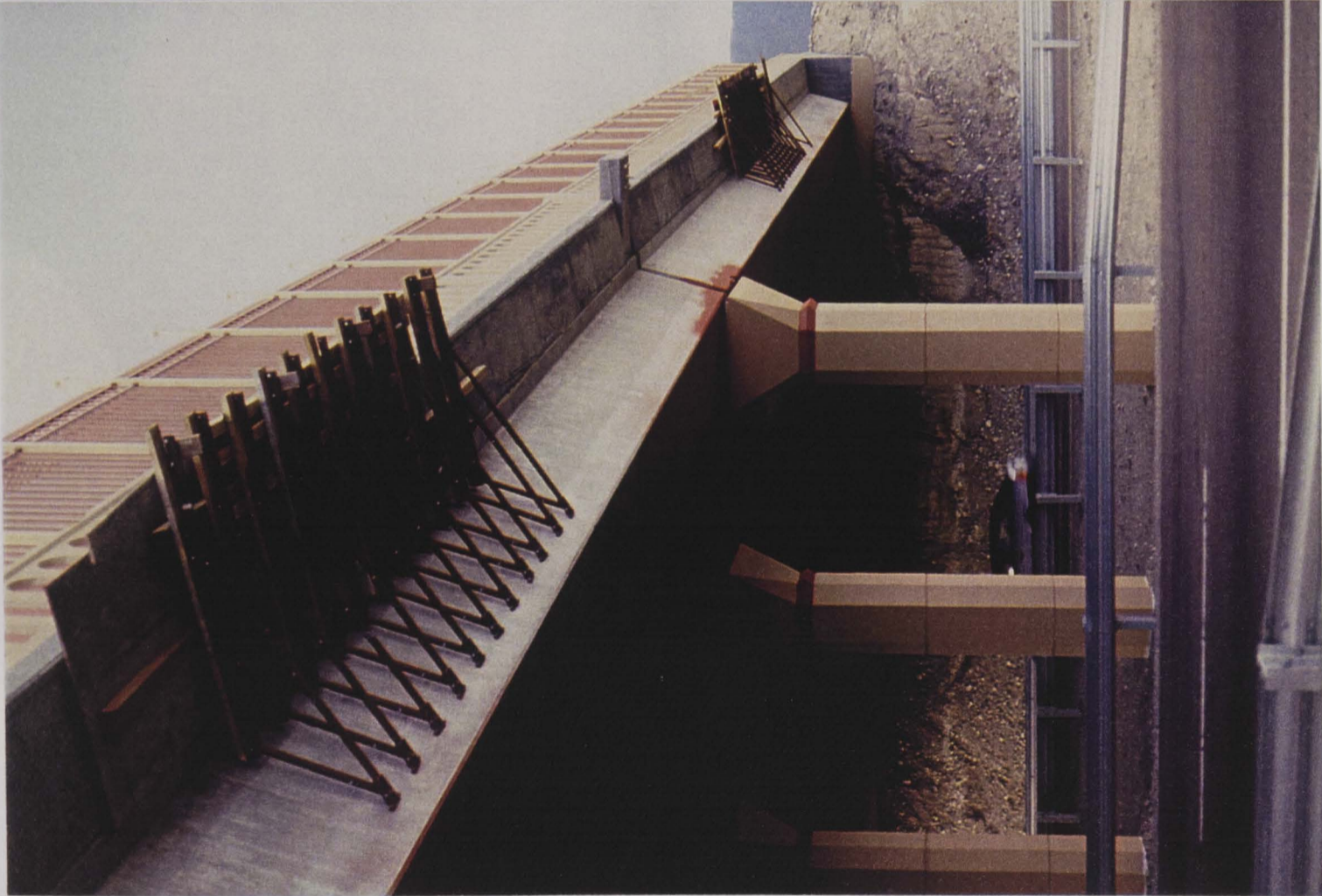


Figure 46 & 47: Examples of custom bridge pillar designs-Redd Rd & Artcraft

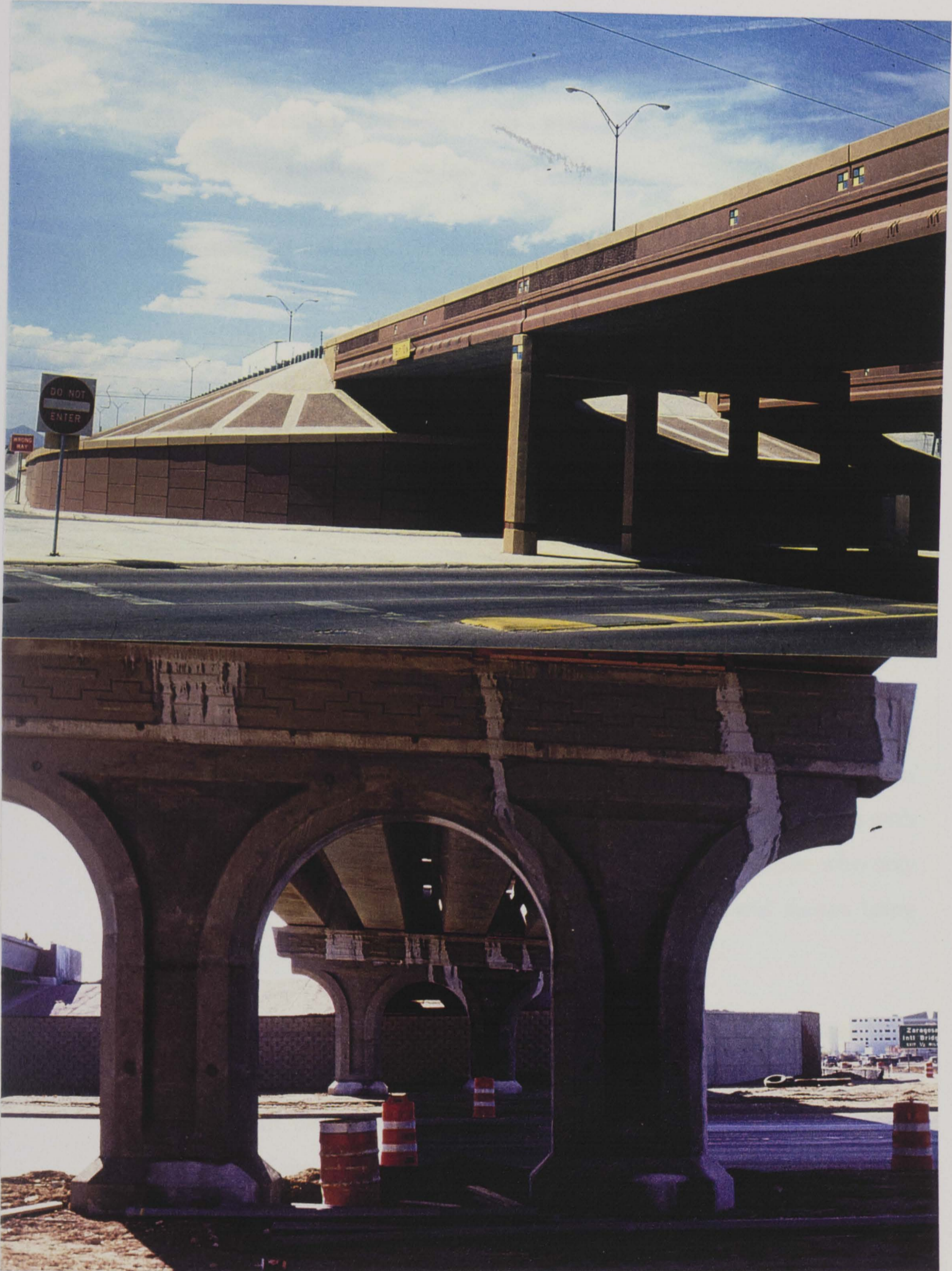


Figure 48 & 49: Examples of custom bridge pillar designs-Zaragosa & LP375

- Rehab rirrap slopes-loose aggregate and planter boxes can be used to rehabilitate existing roadways that were not conceived with visual considerations for design (See figures 50 & 51).
- Illumination art has opportunities that the freeway designer is only now just beginning to explore. The use of Fiber-optics cable lighting systems solves many of the constraints that prevented the use of neon on the freeway system. There is no electricity in the cable, just 'colored light' flowing through the fiber optics cable. The cable is placed in front of a rotating, plastic, four-color wheel, which is in turn, in front of a 100-watt light bulb. The cable transmit the 'colored light' approximating 100 feet in a closed loop. The changing of the colors is visually a soft slow roll over as opposed to sharp on/off flashing light patterns. The half a mile Fiber-optics system installed on IH-10 in 1995 cost in the range of \$150,000 (See figure 52).
- Murals-paint/tile must be designed with a consideration of the site location and freeway speed. You do not want to slow down traffic by the installation of the murals, rather you are seeking to provide visual relief or attention with the murals. Their scale must be large but recognizable to the public, who only have a few seconds to conceive and perceive the forms and shapes being presented to them at seventy-miles an hour (See figure 53).
- Custom Form Liners provide the creative designer with enormous flexibility in creating textures and custom patterns on large vertical surfaces which otherwise can become extremely visually massive and monolithic in scale. The costs of the custom form liners are in proportion to the level of the design complexity. But in terms of the per square inch cost of the standard retaining wall pattern, the designer can be looking at one cent per square foot extra (See figures 54 & 55).



Figure 50 & 51: Examples of rehabbing exposed riprap slopes

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Figure 52: Photo composite of the four colors in the fiber optics system



Figure 53: Mural design represents the Rio Grand River at the 'pass of the north'



Figure 54 & 55: Artcraft Rd., custom form liners, using stone and arch patterns

- Native materials for stonewalls/aggregate can provide the designer with a rich variety of textures and contrast. Care must be taken in specifying the range size of the crushed aggregate (typically crushed granite or other hard surface rock). The *smaller* the size ($\frac{1}{4}$ to $\frac{3}{4}$ inch) the more stable the surface of the material is on a horizontal level; but the more unstable it becomes when tilted on a slope. You will have greater friction or resistance to moving, on a slope, if you use aggregate that is *larger* than one inch in size. The larger sizes are harder to walk on, as a pedestrian, due to their rough edges which become more pronounced at range sizes of 3 to 4 inches. Also, larger sizes permit the aggregate in the desert, to serve as grass shelters for seed germination (See figure 56).
- Concrete Blocks can be produced in numerous earth tone colors and laid to create abstract patterns of almost indefinite variety. They can be designed to structurally function as retaining walls for overpasses and planting beds for landscape purposes (See figure 57).
- Paint colors have been a particularly compelling means of achieving visual composition and attention. Paint colors used on the concrete structures were water-based latex paint. Paint colors used on steel was enameled-based paint. TxDOT's specification for paint puts up barriers for the designer in considering this approach. The standard specs call for the basic paint color to be 'gray', that is what the Department has been using for over fifty years (50) as a protective membrane for all of its concrete structures. To effect a change in specifying another color *base* (i.e. white) requires such a complicated series of having the specifications rewritten by the state specification committee, testing of the proposed new standards by the materials and testing division, approval from state purchasing office, etc. that it becomes prudent for the designer to avoid attempting to deal with the beauracaey.



Figure 56 & 57: Fixed and loose stones, and concrete block retaining wall

The key point: when one selects and specifies a color such as 'Prussian blue'. The paint manufacture will always construct the color using a 'white' base with which the color dyes are injected into to achieve the selected colors. If you inject the required dyes into a 'gray' base paint you will get a different color of blue, a sort of slate gray blue. With a gray base, any *color* that the TxDOT designer selects will come out several tints and hues darker than what has been specified, because the contractor has to buy TxDOT approved paint that is required to be 'gray'. So the easiest way for the designer to work with the system is to require on the job site approval of paint colors. It would be much easier to permit contractors to use white-based paint when selecting paint colors, but that is much easier said than done.

Public Reactions:

When the various aesthetic elements began to appear, the media became a strong ally of the efforts to promote aesthetics to the public. This was achieved by networking with the media and by the preparation of public presentations to numerous civic groups in a series of luncheons and dinners on the 'rubber chicken' speaking circuit. I spoke at various Chambers of commerce meetings, the neighborhood meetings of local city council representatives, with local public access cable channels speakers, on all of the major local TV stations news programs, the local environmental organizations, etc. As a result when the public began to see the innovations, the political leadership was informed as to what we were attempting to do. We then had to wait and see what the actual public judgement would be. The reaction began curiously but as the projects developed the reaction became highly favorable. Two major concerns appeared. First were some questions about the suitability of the cost or expenditure of the aesthetic improvements versus spending the monies or additional roadway mileage, second was the willingness of the District to keep on working with the public. Once the

public and its political leadership saw the aesthetic improvements and how it expressed a positive expression of their values, they sought for the transportation paradigm to include more aesthetics as they perceived the value of the results worth the extra investment.

The sole major problem that has occurred has been caused by the long time delay between project community design meetings and the actual construction of the design. The Loop 375 'Mission Trail' project included a set of four identical tile murals whose design was drawn from a local elementary school design contest. The winning designs were morphed into a single composite design by me, then cleared through the District Aesthetic Committee, and the local Mission Trail governing body which had secured the enhancement award for the project, cleared by the local city representative and included in the bid drawings for the project. Four years later, a new group of citizens who do not live in the area around the freeway project, but near the actual missions, has raised a complaint against the design. Their objections are that the mural design does not show a historically accurate image of the missions, and that the missions are shown with historically inaccurate colors and landscapes in the background.



Figure 58: Proposed Mission Trail mural design

A mural is an artistic design, not a photograph. I have to be careful not to run afoul of the American Civil Liberties Union (ACLU) concerns that by incorporating three active Roman Catholic missions into the public transportation realm, I do not violate the constitutional separation of Church and State. The local ACLU has already sued the neighboring city of Las Cruces, New Mexico (in Spanish the words 'las cruces' means 'the crosses') over the name of the town and the use of three crosses as the town logo. This new protest group feels that the proposed mural design should be more respectful of the religious character of the missions, whereas I have attempted to secularize the character of the design as much as possible to avoid lawsuits. A designer cannot please everybody all of the time. But the issue here is the changing nature of your public agreement. We have a design that was vetted by all of the parties involved at the time, but four years later as the project reaches completion, a new group shows up. When does the window for public feedback end and how many times must the design jump through the approval process? Currently the District policy is that when the design is 'let' then the design is settled, as the contractor has invested money in the project. While 'change orders' are possible, these change orders require the state to pay additional monies (as a rule) to the contractor for changing the design. The state would have to have a most compelling reason to justify changing the mural design to avoid charges of wasting the taxpayer's money on unnecessary changes.

Design Evaluations:

It is always difficult to evaluate one's own work without bias. In my opinion, the El Paso District project designs suffer from two critical limitations. One is that they all are required to stand alone as a design element. I was forced by the circumstances of the time to prepare, develop and carry through an unstructured approval process, innovative ideas without an overall comprehensive design master plan. Thus I had to carry in my head a 'work in

progress' master plan of how all of these different, separate, parts would and could be integrated into a unified whole, without the information of when or how this future master plan would be conceived. Secondly, the design budget costs were extremely limited for the first four years (1993-1997) which forced me to be very inventive in order to stretch the limited funds available to achieve the maximum effect for the monies.

As fate would have it, it led me to the introduction of color as a major tool for inserting cultural values into the transportation paradigm. Paint is inexpensive, and can quickly be inserted into the construction process. The desert environment of El Paso limited my capability to use plant material, the relatively high cost of installing irrigation systems and supplying the water, a scarce resource in the region, precluded a major application of this for practical and environmental reasons.

Over time, with the design of new construction I could work in the aesthetics of engineering design with new bridge pillars, and bents, etc. Those projects are now being installed and I feel represent a true integration of aesthetics in to the engineering design. What I have not had the opportunity to do is to master plan a transportation corridor from start to finish. Instead I have had the opportunity to, first rehab existing freeway corridors and then design new individual components of new replacement construction on the existing corridors.

In terms of design the El Paso projects are of a uniform style, an abstract stylized imagery using the native physical landscape, and its' corresponding elements of color drawn from both the native desert and Hispanic culture. The colors chosen come in two hue values. One set, used downtown, is vivid, bright and bold. These colors were drawn, from the Mexican tradition of selecting tropical colors, which clash to the Anglo mindset. I chose to take this idea, which

has been used by Brazilian Landscape Architect Luis Barrigan to great effect in many projects throughout Latin America, but modify them to American cultural values by keeping the color hues saturated, but complementary. Most 'Latin' color selections along the border, while bright, are not complementary in color registration. Latinos can pick a blue color which will read to the visual eye as 'flat' where the adjoining lime green color picked will 'vibrate' next to the blue. Latin culture reacts positively to the activity, in which the two colors create in competition with each other. Anglo American culture regards the competition as a negative clash where as colors which balance or contrast one another is viewed constructively as pleasing. In El Paso, I selected colors to read in the same tonal range, and both colors read 'flat' and do *not* vibrate. The other set of colors which were spaced out on the highway projects located away from the downtown area were selected to reflect more natural earth tones, so as to integrate the highway system within it's natural environment. Those colors are also flat and are softer but not pastels, which would not be suitable in El Paso, because the community regards pastel shades as reflective of Native American Indian color values.

The personal favorite of the various projects I have done is the downtown IH-10 project (murals, colored bridges and fiber optics) which proved that the District could listen to the community and respond back with designs which truly enabled the citizens to buy into the concept. With the widespread approval for this project, which received two American Society of Landscape Architects (ASLA) design awards, the District became convinced that aesthetics had a place in the transportation design paradigm.

Public Support for Aesthetics:

The great irony about the El Paso District's six year efforts in attempting to respond to the community was the enormous uproar by the public, to the

media reported attempt by the state transportation commission to shut down the District's aesthetic efforts in the use of color and creative designs.

The March 6, 1998 front page of *The El Paso Times* reported that the new state commissioner disliked the use of color on the transportation corridors [and some other aesthetic concepts] and wanted to reinstate the uniformed gray color that was then in use statewide. The article stated that

transportation commissioner Robert Nichols of Jacksonville visited El Paso and viewed with distaste the...brightly painted overpasses on Interstate 10...Nichols didn't like the buildings, overpasses or the landscaping, which was done by nationally acclaimed landscape architect, Richard Mason. [TxDOT's El Paso Area Engineer] Steeds said "We're worried we're not going to be painting anything this way anymore...El Paso has its own flair for Southwest architecture that's really unique and neat looking. This [the highway colors] fits El Paso."⁶³

The public reaction was swift. The next day the local newspaper reported that the colors would stay, which was

Good news for El Pasoans, the overwhelming majority of whom seem to have accepted the creative touches as distinctive components of the city's personality⁶⁴.

A Texas State Senator, from El Paso said it well:

I had received calls from my constituents with respect [to the use of aesthetic design colors]. Each caller supported the lively bright color scheme...further, these colors complement the very attractive schemes used in our area roads and freeways.... El Paso uniformly supports the experiments in colored paint...which gives this community a unique, 'southwestern look'. Please feel free to paint Austin gray, but leave our colors alone.⁶⁵

⁶³ Alision Gregor, Colorful road offices may go gray, *The El Paso Times*, March 6, 1998, Front Page.

⁶⁴ El Paso Times Editorial: 'Bridges that Dazzle', March 7, 1998.

⁶⁵ Letter from State Senator Eliot Shapleigh, District 29, El Paso County, to Mr.. Randall Dillard, Manager Media Relations, TxDOT Austin, TX, March 6, 1998.

Days later, *The El Paso Times* editorial remarked that

El Pasoans want a colorful city. The Downtown freeway overpass colors have become a part of this city's distinctive personality...The people have colorful ideas and the region's desert always seems to treat us with hues and tones that change with every position of the sun. It's encouraging to see that this city's colorful personality can be projected in the many attractive scenes and landscaping along the highways... The stunning and tasteful painting of freeway overpasses is...one that seems to have received widespread public support. Plus the practice creates one of the most powerful and convincing messages that can be dispatched to virtually every motorist driving through El Paso: This city is so proud of its desert environment that it's willing to carry the motif into public art.⁶⁶

Aesthetic transportation designs *can* generate public support for transportation projects.



Figure 59: View of IH-10 canyon with retaining wall murals and painted bridges

⁶⁶ El Pasoans want a colorful city, Editorial, *The El Paso Times*, March 8, 1998, Page 28.

In the interest of fairness, a contrasting viewpoint needs to be noted here. With regard to Commissioner Nichols' alleged remarks concerning his hostility to the use of bright colors on the freeways, he denies ever making such a statement and in his telephone conversations with me was most complimentary about my work in El Paso. In the succeeding newspaper articles about the coloring of the freeway bridges, Mr. Nichols' office stated that "[Nichols] has encouraged experimentation in El Paso".⁶⁷ The District Engineer was quoted saying "Commissioner Nichols has seen pictures of several projects in El Paso and he's heard a lot of good things about what we're doing."⁶⁸

It is possible that Mr. Nichols' earlier inquiries seeking to understand the technical reasons for why the Department uses paint as a coating membrane for concrete was misconstrued as being a devious ploy on his part to eliminate the colors; rather than an honest attempt by him to see if construction costs could be reduced by eliminating the cost of painting the concrete. It follows that if we do not paint the concrete we do not have colored bridges.

Nevertheless, reality is still perceived by the eye of the beholder. The El Paso public perceived that Austin was attempting to impose an alien ideology upon them. They objected. They wanted their civic standards and cultural values to be reflected by *their* transportation designs. The colors stayed.

⁶⁷ Alision Gregor, Rainbow-hued transportation building will keep its colors, after all, The El Paso Times, March 10, 1998, Front Page.

⁶⁸ El Paso Times Editorial: 'Bridges that Dazzle', March 7, 1998.

Chapter 4

ADOT AND PHOENIX

Phoenix is both the state capital of Arizona as well as the largest city in the state. It is also the headquarters of the Arizona Department of Transportation (ADOT). ADOT is structurally organized differently from TxDOT. A three-person transportation commission appointed by the Governor without restrictions administrates TxDOT. ADOT has a seven-person commission, appointed by the Governor, six by geographical areas and one at large. The TxDOT Executive Director is required by law to be a registered engineer where as the ADOT Executive Director has no professional licensing requirement. The entire ADOT transportation planning and design teams are centralized in Phoenix with only the maintenance section of ADOT, divided statewide into Districts for maintaining the roadways.

It appears to me that ADOT is more closely governed by the public interest than TxDOT and that more diverse views are presented to the ADOT management by this governing system than the smaller, tighter and therefor less diverse commission system in Texas. The centralization of the planning and design team by ADOT enables an organizational and statewide integration of design disciplines to occur, which is functionally hamstrung from occurring in TxDOT.

Phoenix is the largest American City located in the Sonoran desert, which is similar to El Paso's location in the Chihuahua desert with two key differences. Phoenix is situated at a lower latitude (1,117ft above sea level) than El Paso, which is at an elevation of 3,700 ft above sea level. This lower elevation allows Phoenix to escape snow and harsh climatic winters whereas El Paso has a winter period with freezes in the teens during a typical season. While both deserts

receive the same amount of annual rainfall (six to seven inches a year), the Sonoran desert receives the rainfall in two separate seasonal cycles, Spring and Fall, where the Chihuahua desert receives the bulk of its rainfall in mid Summer. The combination of those two climactic influences results in the Sonoran desert having a much larger variety of plant species and the plant's flowers are much more colorful, being desert-semi tropical, as freezing temperatures are not present in the Sonoran desert. The climate of the Sonoran desert has contributed greatly to the development of Phoenix as a 'sun city' which has attracted thousands of people from across the country to the dry, warm climate. The Colorado River Compact, which allocates the so far abundant water among the Southwestern American states, has secured the availability of water for the citizens of Phoenix.

Both Phoenix and El Paso began to develop as American cities within a decade of each other, Phoenix incorporating in 1881 and El Paso in 1873⁶⁹. But their political and economic development has followed different paths. Phoenix was made the capital of Arizona in 1889 and the resulting political and economic growth of the past century continues unabated to this day. In the 1990s, four of the top twenty-five fastest growing cities in America are suburbs of Phoenix⁷⁰. The city itself had a 1996 estimated population of 1,159,014, making it the 7th largest city in the country. El Paso's 1996 estimated population is half of Phoenix at 599,865, which ranks it as the country's 17th largest city.⁷¹ El Paso also suffers from its own economic weakness as a border city adjacent to Mexico. The city's failure to diversify its economic base away from low wage labor industries left the city's per capita income at the 5th lowest in the county at \$15,216. Its neighboring community, Las Cruces, New Mexico, is the nation's 4th lowest per capita at

⁶⁹ The New York Times 2000 Almanac, New York, NY, The Penguin Group, NY, pages 231 & 239.

⁷⁰ Ibid., page 251.

⁷¹ Ibid., page 231 & 239.

\$14,923, where as Phoenix' per capita is \$24,137.⁷² The two cities of Phoenix and El Paso have different cultural heritages present in their populations. In 1990, Phoenix was 5% Black and 20% Hispanic. El Paso was 3% Black and 69% Hispanic.⁷³

These fundamentals contribute to the different aesthetics presented by the transportation departments of the states involved. Over the past ten years (1990-1999) the El Paso District has received just over one half billion dollars for transportation projects, where as Phoenix has received close to six billion dollars.⁷⁴ That is a multiple of 12 to 1. In casual terms, El Paso, compared with Phoenix, has half the population, half the per capita income, half the roadway miles, and received 1/12th of the transportation funding. These facts have had an impact on the outcome of the transportation design paradigm.

Phoenix came quite late to the interstate highway development cycle. A key reason for this has been the explosion of population that the area has experienced. In 1970 the Phoenix population was 584,000 with the 1980 metropolitan area population of 1,600,093, and a 2000 metro population estimation in excess of 3 million people, a 600% increase of the 1970 base, in just thirty years!

The need for a major freeway transportation system simply did not become critical, until the mid to late 1970s, which is when the first basic series of freeways began to be developed and constructed. Those early freeways had no aesthetic elements. The public, which in Phoenix is largely drawn from other areas of the country, had experienced the earlier stages of freeway construction,

⁷² Ibid., page 336.

⁷³ Ibid., pages 231 & 239.

⁷⁴ Regional Freeway System Certification, ADOT, January, 2000, page 19.

and quickly objected to the lack of attractive designs. They sought to avoid repeating these earlier design paradigm errors.

In October 1985 after several years of debate and political efforts, the Phoenix public approved Proposition 300 to establish a one-half cent sales tax for the funding of construction of a master transportation plan. The plan called for 156 miles of designed controlled access highways that would circle and weave throughout the Phoenix metropolitan areas. These roadways would benefit from the latest in aesthetic design efforts of the time. However in 1994, the Phoenix voters defeated the extension of the sales tax by rejecting Proposition 400. It appears that the frustration of construction delays and the inability of ADOT to get ahead of the exploding automobile traffic volume, which was exponentially increasing faster than the concrete/asphalt could be laid, contributed to the public's refusal to re-fund the program. The Governor of Arizona and the state legislature went back to the drawing board to restructure the financing of the freeway projects and in April 1999 passed SB1201 which created a State Infrastructure Bank to assist in the funding of the still incomplete freeway system.⁷⁵

As a result the aesthetic designs of the freeways which are being built from 1996 forward are being designed with a different and modified palate which will be explored further in this chapter.

1980s Freeway Designs Paradigm

The designs of the freeway transportation corridors prior to the 1996 rejection of the local funding formula were focused on the construction of major sections of IH-10, running east-west through the central of the city and the development of the north-south 'Squaw Peak' parkway, that separates Phoenix

⁷⁵ Ibid., page 2.

from Scottsdale, on the east side of town. A major catalyst for the inclusion of aesthetics in the transportation paradigm has been the efforts of two people working independently toward mutual goals: Deborah Whitehurst, Director of the Phoenix Arts Commission and LeRoy Brady, senior Landscape Architect for the Roadside Development section of ADOT.

Ms. Whitehurst (with Gretchen Freeman, Director of the city's public arts program) has conceived of public art as a tool of urban planning. In the late 1980s she commissioned a master public arts plan, produced by the University of Minnesota Design Center, which proposed that the city's percent for the arts program be focused on the infrastructure of the community such as highways as well as airports, bus stops and neighborhoods⁷⁶

LeRoy Brady, the senior Landscape Architect, for ADOT has long had a vision of integrating cultural values and landscape design into the urban matrix. From his position within the transportation organization, he worked for years to articulate and develop the concepts of holistic integrated design to both the engineering staff as well as his own roadway development staff.

The efforts of many other people were involved in the success of achieving the aesthetically interesting designs, which the public experiences on the freeway corridors of Phoenix. These efforts first came to the attention of the national press in 1992 with the opening of the first phase of the Squaw Peak parkway, but the ground work had been first laid several years earlier on the initial phases of Interstate 10. It was the Phoenix Arts Council, among others, which articulated that the historic heritage of the town's location as an ancient Native American Indian settlement and for which the town's name, Phoenix (the bird rising from the ashes of its ancestors) symbolizes, be used as the artistic focus of the

⁷⁶ Herbert Muschamp, When Art Becomes A Public Spectacle, The New York Times, August 29, 1993, Art and Leisure section, page 1.

community. This decision served to provide ADOT with the theme, which it has used to unite the various elements of the transportation system design.

- Interstate 10 illustrates the first generation of aesthetic transportation corridor designs that ADOT undertook to develop (See figures 60, 61, 62, & 63). Most of the first section of IH-10 was either contained in wide right of ways or depressed with vertical retaining walls to enable the motoring public to have a controlled view. Extensive landscaping of native and introduced plants was used with installed drip emitter irrigation systems. A heavy reliance on shrubbery, trees and crushed aggregate as the dominant groundcover was the prevailing style. The concrete vertical retaining walls were form lined with a non-repeating pattern suggesting a series of vertical wood two by four panels. The key to the success of this design is that it visually works against eye glazing by providing visual variety as no two sets of panel designs are identical. The native culture was gently worked into the freeway design with the basket weave design of geometric patterns drawn from Indian culture. The use of a uniform cream paint color served to highlight the integration of the desert within the city. The deliberate use of Palm trees as the signature form of plant material on the downtown freeway route serves to communicate the city's geographical point as an oasis in the desert (See figures 62, & 63). An unintended by product of the landscaping installed on IH-10, was that an artificial urban wildlife preserve (for rats and rabbits) had been created, on the freeway, by the mature plants providing habitat with the drip emitter irrigation system providing water. Future treatments of landscaping would be rethought to minimize this by-product.⁷⁷

⁷⁷ Interview with LeRoy Brady, Senior Landscape Architect, ADOT Roadway Development Section, March, 2000.



Figures 60 & 61: Typical design and landscaping on IH- 10 in Phoenix



Figure 62 & 63: Native Indian patterns on IH-10 retaining walls, Phoenix

- Squaw Peak Parkway, east of downtown, opened in 1992, as the major north-south artery for the central section of the city. It also was the first major example of the spirit of collaboration of ADOT with the local Phoenix art community. At the time it was highly controversial, and underwent severe media attention.⁷⁸ The major focus of the attention was the playful use of ‘Alice in wonderland’ motif of kitchen cook ware and tea cups sculptures in all shapes and sizes, modified to incorporate native artistic icons within the shapes (see figure 64). The tea cup motif served as local bus stop shelters along the roadway, and bits and pieces of other cups could be seen along the roadway. The cup motif designs were extrapolated from the mindset that female native Indians would have worked with the local pottery in both creating and using them as artifacts of every day living. In addition to the pottery, abstract forms which suggest the local natural environment were incorporated into the structural designs of the freeway overpasses and retaining walls (See figures 65 & 66).

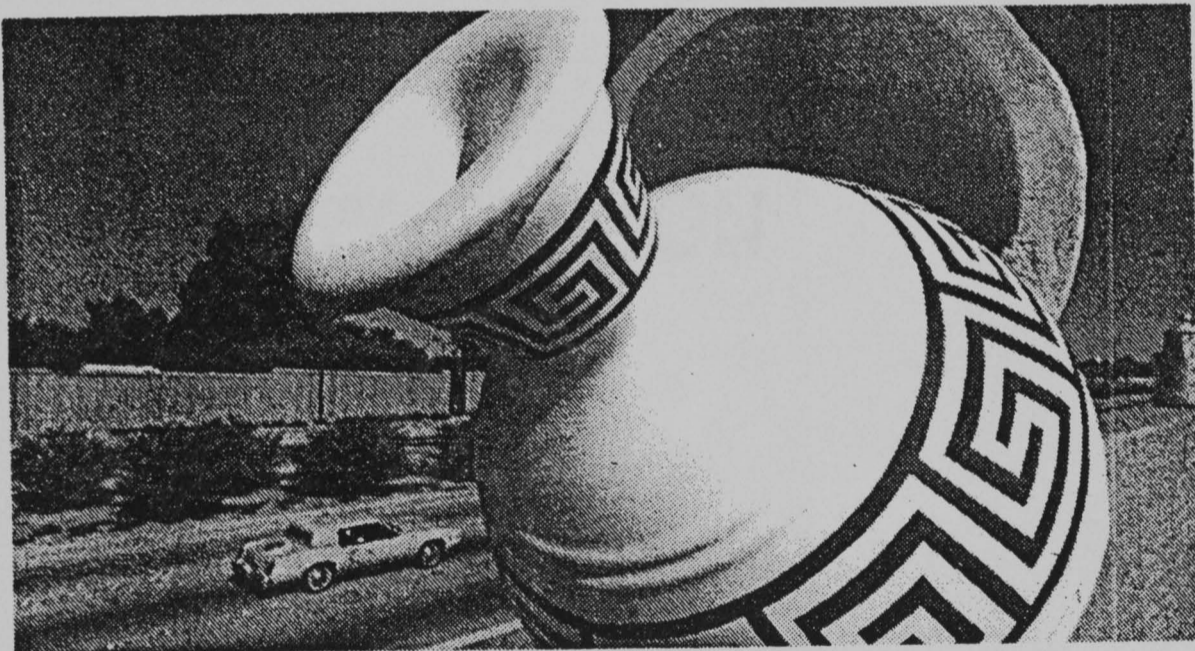


Figure 64: View of Tea cups on Squaw Peak parkway, Phoenix

⁷⁸ JM Blair, KD Pijawka & F Steiner, Public Art in Mitigation Planning: The Experience of the Squaw Peak Parkway in Phoenix, *The Journal of the American Planning Association*, Vol. 64, No. 2, Spring 1998, pages 221-234.



Figures 65 & 66: Typical Squaw Peak parkway overpass and retaining wall

1996-2000 Freeway Design Paradigm

After the 1996 rejection of the local funding formula, the freeway designs were modified to strike a new balance between the cost of the aesthetics/landscaping elements versus the total construction costs of the freeways. The major design changes were that ADOT would only provide a 'basic' aesthetic design and if the community wanted to have a more substantial investment of artistic or aesthetic consideration in the transportation corridor then the local community would have to pick up the economic/ financial cost of paying for the upgrade. This meant from the ADOT side, that landscaping would be reduced to conserve the cost of purchasing the plant materials, the maintaining of the plant material, both in terms of irrigation and labor intensive litter trimming and pickup. The new aesthetic landscape paradigm would be refocused to dealing with design elements onto the ground surface.

- Hohokam Expressway illustrates this new format by the integration within the standard box girder that expands across the roadway, of repeating geometric forms and the abstract, stylized form of the desert lizard on the bridge abutment panel. The adjacent riprap slope is nicely camouflaged by the overlay of the loose aggregate rocks into a formed lizard design (See figures 67 & 68). The use of a contrasting color to highlight the form liner infill of the painted bridge abutment lizard is attractive. Some native landscaping is continued but the main form of the ground cover landscaping is now exposed colored aggregate rock, which can be used to create stunning aesthetic designs. The Hohokam interchange, design by Joseph Salazar, landscape designer for ADOT, is a masterpiece of contemporary Native American design. It is best seen from the air as you fly into the Barry Goldwater terminal at Sky Harbor airport in Phoenix (See figure 69).



Figures 67 & 68: Hohokam Expressway aesthetic designs

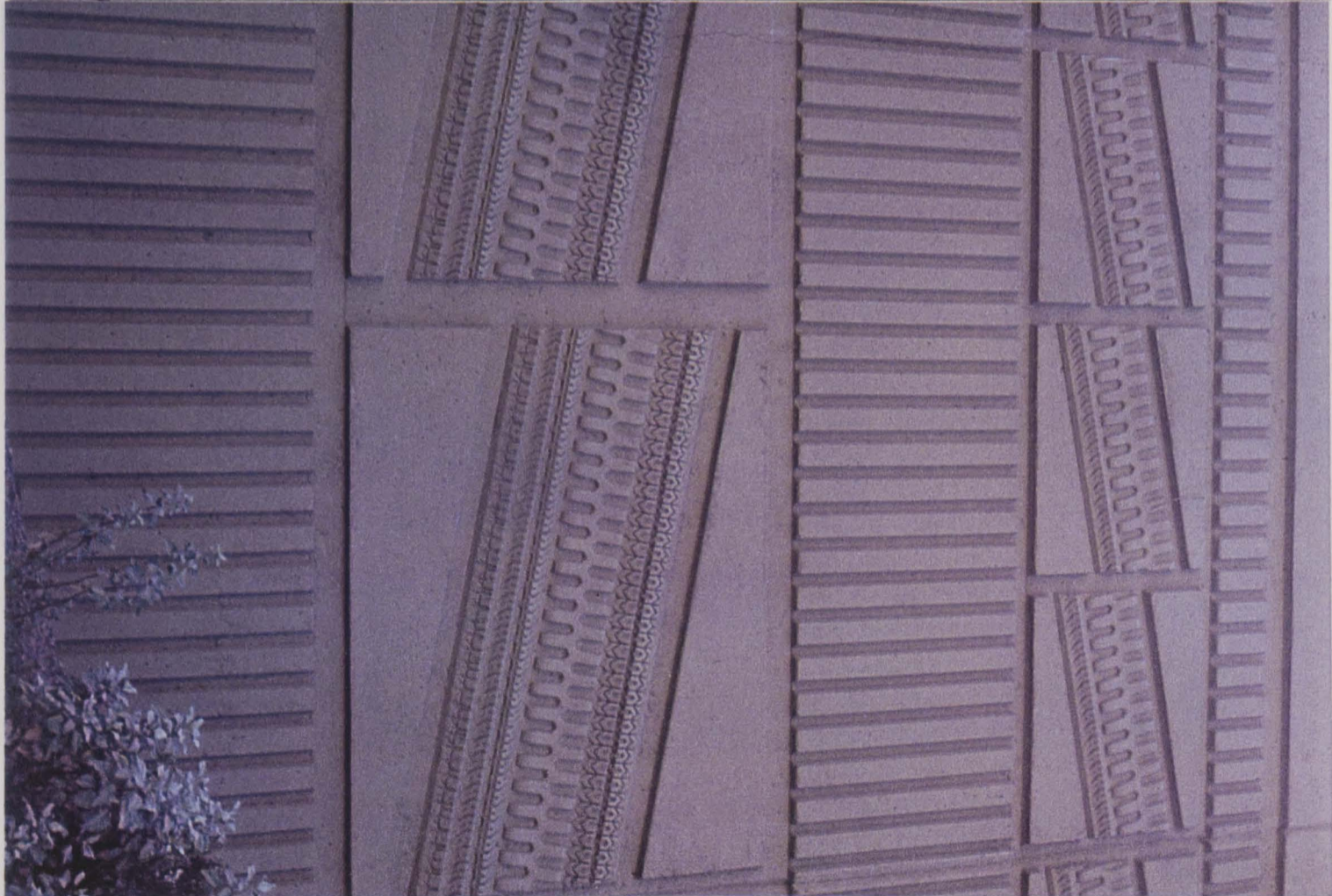


Figure 69: Side view of Hohokam bowl interchange, Phoenix, Arizona

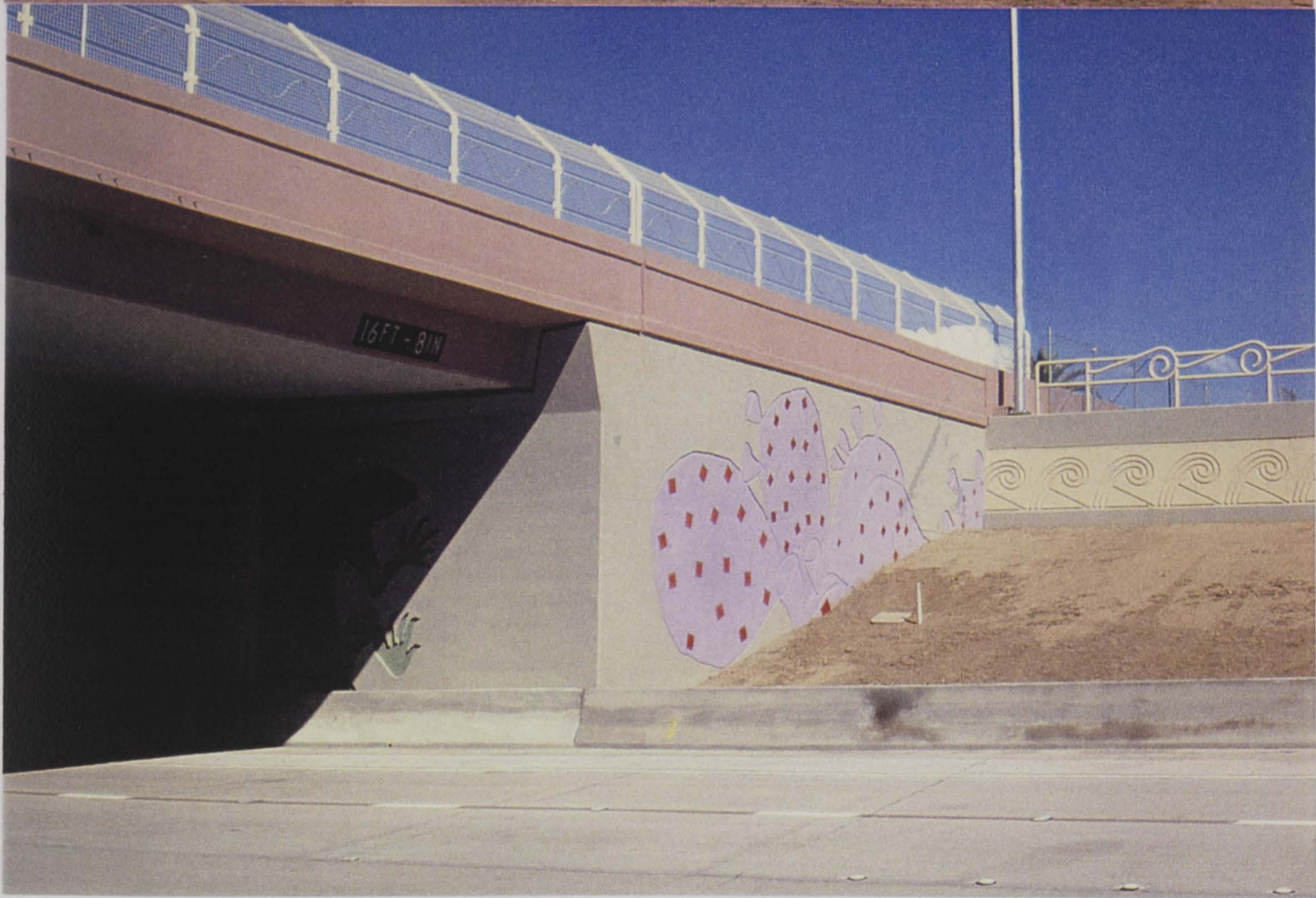
- Squaw Peak Parkway northern extension under construction is an example of the changing opportunities for the development of aesthetics. The phased extension of the parkway, beginning just south of Shea Drive has incorporated vertical retaining walls through a depressed cut through mountain foothills. The walls, again using custom form liners, are designed with a repeating pattern that I can only describe as 'road tire tracks'. The walls faced with native landscaping, painted in the transportation system color of desert cream create a tongue in cheek homage to the vehicles of the roadway (see figures 70 & 71).
- Pima Freeway extension northward into Scottsdale has a much more elaborate and different design flavor. Here the City of Scottsdale has paid ADOT 4 million dollars for an upgraded aesthetic treatment of the eight-mile roadway through its boundaries. The Landscape Architect has designed a striking and in my opinion almost 'over the top' montage of cactus, lizards and an amoebic free form pattern for the parkway sound walls, retaining walls and bridge abutments and overpasses. He is using unorthodox colors in comparison to what ADOT has used before. Now we are seeing pastels of pale purple, soft lime green, a soft sandy tan/iron shade (see figures 72, 73, 74, 75, 76 and 77). The soft colors work among themselves for the most part, but the innovative three dimensional form linear details of the stones used to create the lizards bodies (See figure 76) is a costly investment for such a drive by effect. The human eye can take in this level of detail, and while I greatly admire and lust for the funds to duplicate such an effect, the sensible expenditure of such funds is subject to public debate as being suitable or not. However Scottsdale has the resources to afford this and I feel that they are getting their money's worth for it. Near the freeway are two additional examples of the public art concept being worked into the transportation paradigm. Phoenix was the original watering hole for the ancient Indian tribes

that settled here in pre-Columbian times. The existing residents continue to enjoy the ancient skill of fishing and this long standing pleasure is expressed in this three dimensional wall representation of a trout fish (See figure78). Also the use of creative design for the standard pedestrian bridge crossovers on the Squaw Peak parkway should provide pedestrians with the interplay of the mountain landscape into the bridge walkway design (See figure 79). The southern extension of the Pima freeway which is being extended through the Salt River-Maricopa Indian Reservation is typical of the new more austere, but still highly attractive and aesthetically pleasing landscape designs. The landscaping of the road embankments is totally devoid of plant materials with crushed colored aggregate rock being used as the sole ground plane material. Again abstract Indian design motifs have been incorporated as overpass/intersection treatments to provide cultural context for the motorists (See figures 80 & 81).

- 2000 Design tradeoffs are apparent in scores of little details. If one compares the box girder design shown on page 102, figure 65 with the box girder design shown on page 109, figure72, one can see that the facing detail of the mountain outline has been eliminated in the interest of cost conservation. But the integration of the illumination traffic signal system has still been retained within the box girder form so as to maintain aesthetic integrity with the prior construction forms built. Through out the revisions of the aesthetic design, attempts have been made to retain the essence and charter of the pre-1996 design values where ever possible so as the maintain an over all coherent design appearance when this generation's master plan for the transportation system is completed.



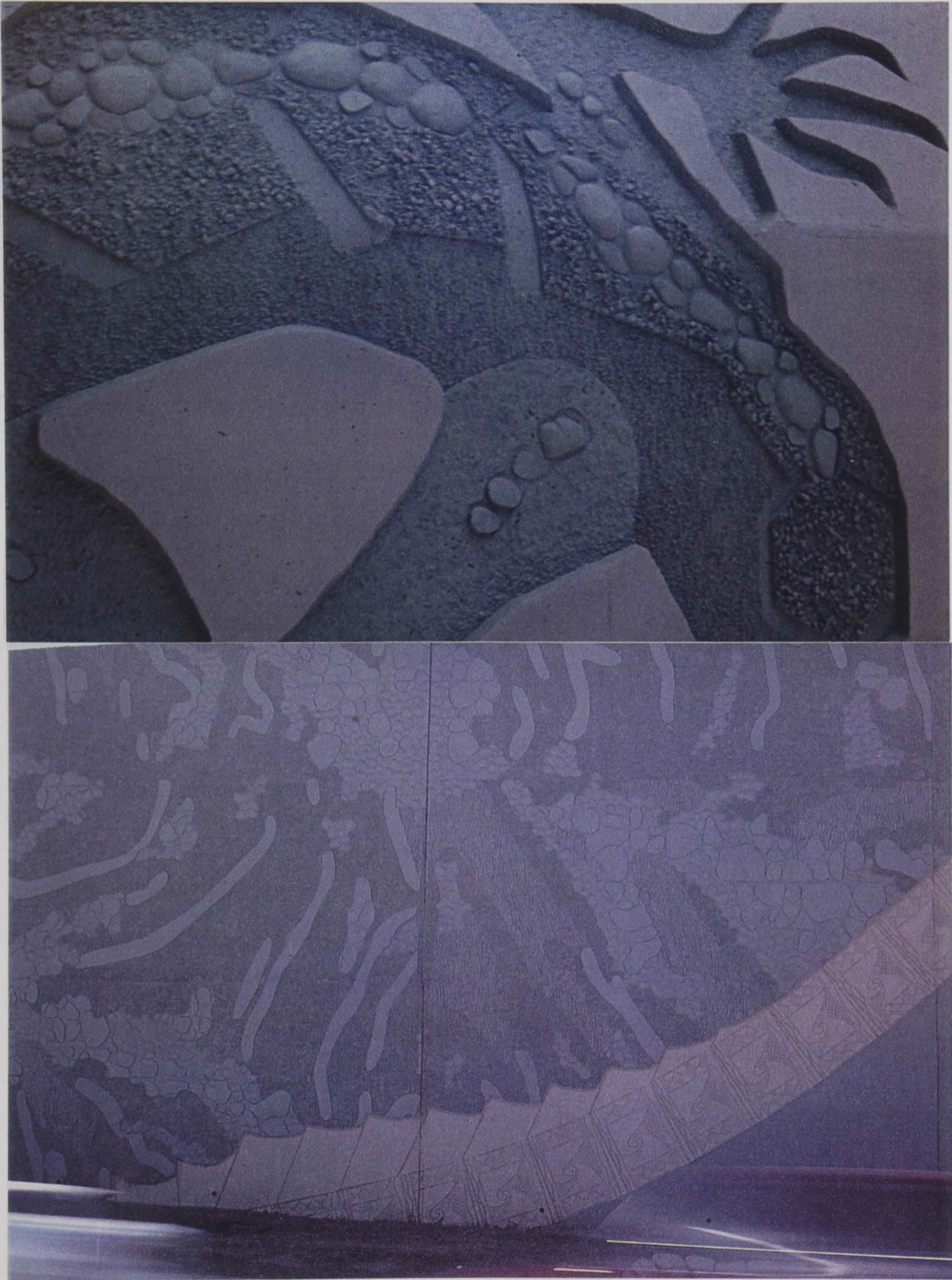
Figures 70 & 71: Squaw Creek Parkway retaining wall designs



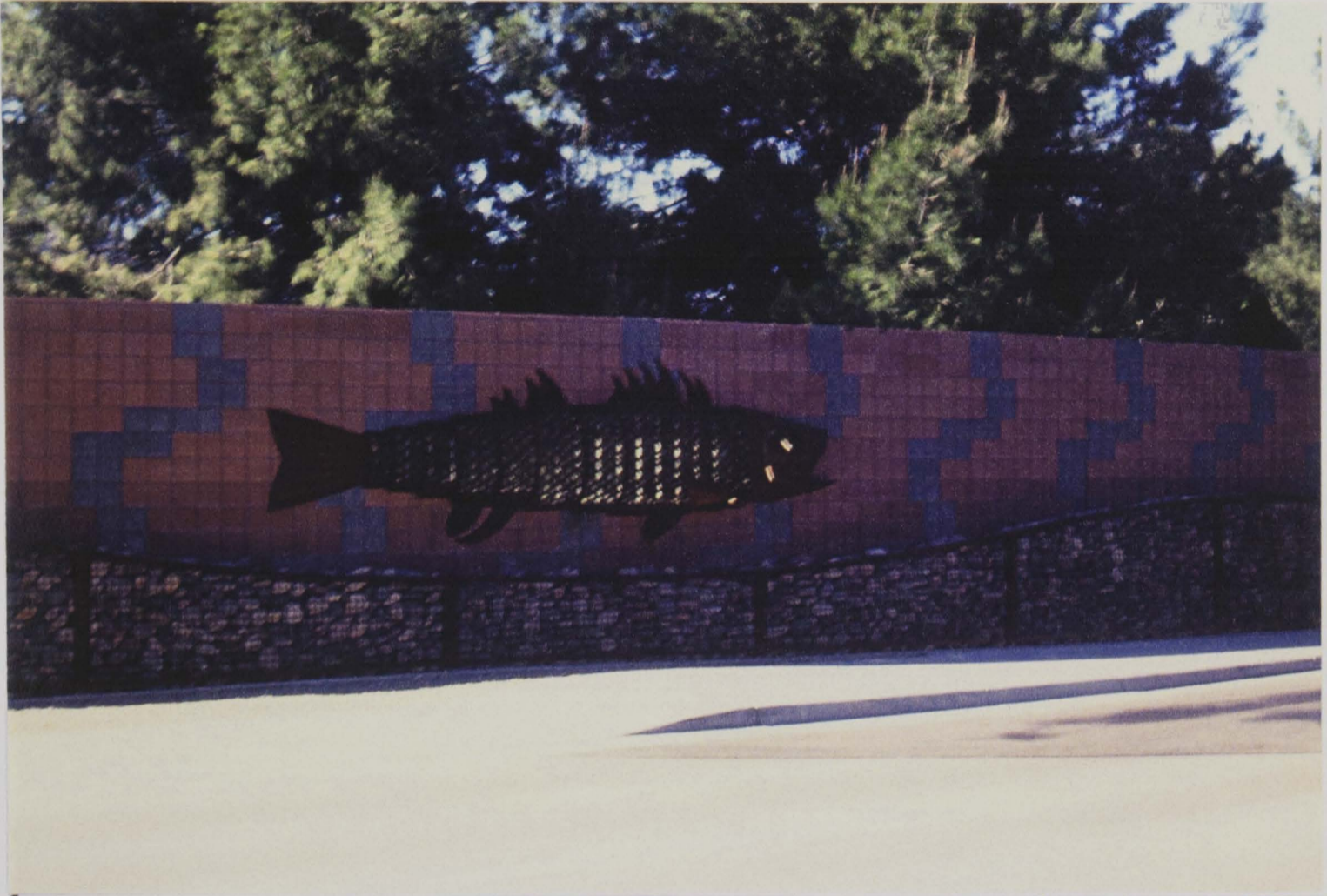
Figures 72 & 73: Pima freeway in Phoenix and Scottsdale



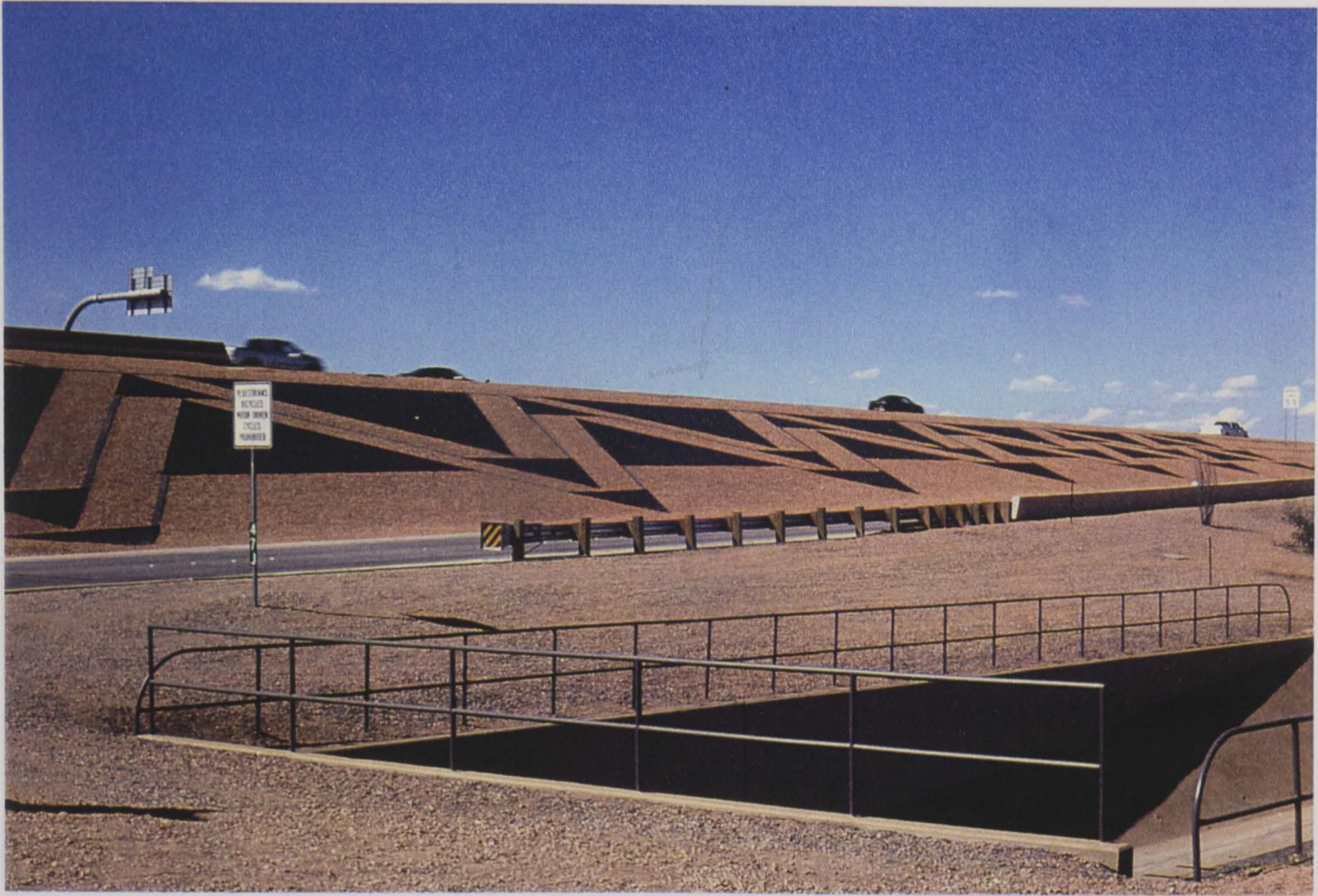
Figures 74 & 75: Pima freeway retaining walls in Scottsdale



Figures 76 & 77:Close up detail of Scottsdale Pima freeway form liner design



Figures 78 & 79: Scottsdale 'fish' wall & Squaw Peak Pedestrian fence



Figures 80 & 81: Pima freeway crushed aggregate embankment design treatments

Planning Design Implications

ADOT's organization has been configured to recognize the unique position that Phoenix has within the state transportation system hierarchy. Unlike the TxDOT Districts approach to providing local services, ADOT chose to separate the Phoenix transportation system from the rest of the state design format. The Valley Transportation Program section provides all roadway planning and designs services for the Phoenix area. The Regional Freeway System unit (which designs the freeways) along with the Valley Project Management unit and any consultants hired are part of this Valley Transportation Program. The Regional Freeway system unit is in turn, sub-divided into the Roadway Development and Roadway Engineering unit. This separation of the Valley Program was designed to permit and encourage the integration of a comprehensive design package by having all of the participants focused on the larger overall transportation needs of the region. A parallel, identical, mirror of this structure exists in the Development Program, which deals with the rest of the state. But what is not so clearly appreciated is that the *same* personnel operate within these two groups. In other words, a staff landscape architect may receive two different assignments. One is for a freeway project in Flagstaff Arizona, the other assignment is to work on an extension of one of the freeways around Phoenix. The Phoenix assignment will be governed and managed by the 'Valley Transportation Program' and the Flagstaff project will be governed and managed by the state 'Development Program', but the LA will be dealing with the same people wearing different hats, depending on where the project location is. The risk of intellectual gear stripping between two different organizational structures is present but since the two programs are run by the same personnel, two different philosophies have not developed thus the potential risk has not emerged. The value of this mirror program appears to lie in ADOT's belief that the separation permits ADOT to focus its available resources on selected issues.

Public Reaction Issues:

The Phoenix public has a contradicted mindset toward the current presentations of ADOT transportation designs. They have become used to a high quality of installed landscaping and sensitive designs and cultural imagery, which is a suitable reflection of the culture and environment of the region. However the valley is struggling with the trade off of increased costs for maintaining and continuing the aesthetic concepts in face of increased pressure to complete the master plan of transportation freeway corridors which is about 70% complete. ADOT has attempted to contain its cost by modifying their designs in an attempt to maintain the integrity of the overall corridor design effort.

- Funding for the finishing of the freeway corridors has been partially secured based on the ADOT plan to minimize landscaping to the exposed crushed rock pattern approaches being tried out on the Pima freeway project. Enhanced aesthetics efforts can be provided for by communities who provide the extra funds required to fund them.
- Public art can be integrated into the transportation design paradigm, by the use of the percent for arts program. But a willingness to withstand the rigors of public dialog (i.e. criticisms and controversy) tends to defer transportation agencies from wanting to support this approach unless 'protected' somehow by law.
- Native American Indian design motifs in Phoenix have proven to be an eloquent theme to utilize in securing and promoting a common focus for the community. As the region becomes majority Hispanic in the next thirty years it will be interesting to follow the community dialog about maintaining consensus about whose cultural values are expressed in the public realm.

- Landscaping materials: plants vs. aggregate are an economic tradeoff that ADOT has skillfully handled with care. Currently there has been some unhappiness with the citizens adjoining the post 1996 design roadways with their landscape look in comparisons with the earlier freeway designs.⁷⁹
- Transportation Corridor Design Approaches continue to be developed with an integrated design team. The current revisions caused by the 1996 election results have not disturbed the integrated structure of the ADOT design philosophy.

The Arizona Department of Transportation has continued to be a leader in the development of quality aesthetic designs. Given a generous level of financial resources, their freeways, constructed from the mid 1980s to the mid 1990s, were heavily landscaped and embellished with icons and designed infrastructure in exploring how the nature of public arts could be presented within a freeway transportation paradigm. The mid 1990 to the present 2000 designs have become more dependent on ground treatment designs (less plant landscaping) and more simple, less elaborately detailed engineering structures, but where the funds are available, the most elaborately designed retaining wall treatments are being undertaken with aplomb. The Department continues to win design awards, several from the Federal Highway Administration for its outstanding corridor designs. Phoenix still believes that their self-perception of who they are is worth being represented in the aesthetic transportation paradigm and they continue to require it as a condition of freeway development.

⁷⁹ Interview with LeRoy Brady, Senior Landscape Architect, ADOT Roadway Development Section, March, 2000.

Chapter 5

OBSERVATIONS AND CONCLUSIONS

In comparing the two different state transportation departments and their respective approaches to aesthetic transportation designs one sees how the organizational structures generate significantly different outcomes. A centralized structure enables professional disciplines to be able to work together, a divided structure works against collaborative efforts. If the organization of a transportation department could be restructured to facilitate cooperation and integrated design teams, better aesthetic designs should develop. Much of the organizational difference is a response to the inherent physical scale that defines both states. Texas, the largest of the lower forty eight continental states has a widely spread out population base, which has developed six major urban centers scattered through the state (Austin, Dallas, El Paso, Fort Worth, Houston, and San Antonio). Arizona, a more compact state, has developed two major population/urban centers, Phoenix and Tucson, both located in the southern part of the state. As a result, the Texas transportation department has been separated into twenty-five districts, to enable the state organization to respond to local demands for service. Where as Arizona's more compact size has led to a centralized state transportation department that, operates state wide from a central office in the State capital: Phoenix.

TxDOT (El Paso):

Organization: A central statewide policy making headquarters' section with a decentralized policy implementation structure of twenty-five districts statewide. Each district has some latitude in how the state polices are to be applied and the state's wide diversity of physical and cultural environments can be

considered by the districts in their handling of transportation needs and approaches. Each district is responsible for the planning, design and construction of the transportation projects located within their area. The result is that the local DE has the power to promote or ignore the aesthetic paradigm potential. In TxDOT, the aesthetic paradigm is sheltered, developed and promoted by the Landscape Design Section. There are five Landscape Architects at the central headquarters and fifteen District Landscape Architects statewide. Ten other Districts have no Landscape Architect on their staff. Those Districts rely on the five 'central' staff LAs to assist them as warranted.

The El Paso District has received strong support for the concept of aesthetic designs from four consecutive DEs (from 1992 to the present). Each DE has had their own priorities and 'outlooks' toward the application of the paradigm; but each of them have continued the development of the aesthetics philosophy during their tenure.

Aesthetic Design Issues: The Local District will deal with aesthetic designs. Typically the Advanced Project Development Section has the responsibility of developing the criteria, and construction budget for the proposed transportation projects before it is sent to the Design section for the actual preparation of construction drawings. Within these two sections is where the aesthetic paradigm policies can be implemented. This arrangement permits the development of local, individual approaches to responding to site specific desires and needs. This also means that the state will not have a coordinated statewide transportation system design, in terms of a uniform "Texas" look or style. Texas, large and diversified in so many ways, did not see the need for a uniform expression of itself by a codified set of standardized, generic aesthetic elements. The Department may not see that aesthetics issues could be important enough to take advantage of the design opportunity to create a "Texas Style"

statewide. Instead an equally important opportunity is being permitted to naturally evolve. Each District has the potential to create its own aesthetic-environment style that is reflective of the heritage and cultural values of those communities within that District. I personally feel that the local evolution of aesthetic design will insure a more lasting and more satisfying result than an imposed generic 'state' look.

The El Paso District has responded to the community's makeup in developing a design style that attempts to allow both the Hispanic and Anglo population to join one another in supporting aesthetic design. By creating icons and cultivating a blended approach, using color which has a Hispanic flavor but one which is not officially Mexican the District has been able to avoid messy disputes over the question of: 'Are we American or are we Mexican?' Helping to avoid the cultural wars has been the articulation of the physical background of the mountains as a signature framework for articulating the regional sense of place that both cultures share in common.

Staff positions: The local DE, based on personal preferences, makes the organizational chart decisions. Thus the Dallas District DE has placed the District Landscape Architect, and the Vegetation Manager (also a Landscape Architect) in the Maintenance (of roadways) Section. For the first time, later this year, the Dallas District will place a Landscape Architect (with a planning degree) in the Advanced Project Development Section (me).

The implications of those decisions are significant for the Landscape Architect's ability to influence and develop aesthetic designs. For it is in either Advanced Project Development and/or Design where the most optimal placement of the designer's ability to influence the process can best be achieved. Those two sections are where decisions are made on where and how the transportation corridors will be created and designed. It is much more difficult to

advocate aesthetic issues from the Maintenance section than from within the Design section.

The El Paso District's Landscape Architect (LA) used the position as Head of the Aesthetic Committee to cross numerous organizational boundaries to achieve significant influence in developing the aesthetic paradigm within the District. With the active support of the DEs, over the ingrained objections of several senior level management supervisors, the LA was able to secure support for the consideration of the aesthetic concept from a staff, untrained in the idea, but willing to explore. The massive public approval of the installed projects overcame the generational objections of the senior management.

Environment: El Paso's scarce water supply and limited native plant palette has forced the landscape planting designs to be pragmatic and isolated to clearly significant locations for the maximum effectiveness of the design. The concentrated use of native drought tolerant plant material does achieve a punch effect which is partially absent in Phoenix, due to the widespread use of extensive landscape plantings. In El Paso, the community desires are more focussed on making the transportation corridor attractive rather than requesting plant landscaping in and of itself.

Funding: Neither the Department nor the Districts have access to a dedicated source of funds for aesthetic roadway improvements. The El Paso District in conjunction with the local civic political leadership, through the MPO is continuing to seek and maintain the increased flow of transportation funding from the national level. The El Paso District continues to maintain its internal one-percent aesthetic budget allocation where suitable. But the local community, one of the poorest per capita in the state, does not have the financial resources to tax itself to the level of effort that the Phoenix, Arizona community can provide.

Design results: To those in Phoenix the results cannot be equally compared yet. The El Paso District's efforts are limited by both a lack of funds and a time lag of some ten years in terms of accepting the concepts of aesthetic designs by the engineering staff. If one wants to know where El Paso hopes to be in twenty years, Phoenix has always been their 'role model'.

The El Paso designs are still piece meal; that is for all of the work that has been achieved and constructed, not one single corridor has yet to be finished. Projects that have been constructed are scattered through out the City and have been forced to 'stand alone' on their aesthetic merits. Circumstances have determined that the scheduling of roadway building in El Paso shall be in the reconstruction of the existing 1960's generation of built freeway as opposed to the designing of brand new 2000 generation designed transportation roadways. Yet there will be opportunities to achieve some of the Phoenix results. A major feasibility of the entire IH-10 corridor through the city is underway and this study may articulate future design considerations to push the aesthetic paradigm forward. Of the projects reviewed in Chapter Three, the projects which have had the most impact with in the city have been the Downtown 'Colored Bridges/Murals' and the 'Redd Road Overpass'. In both cases, the public response has been favorable in terms of letters to the editor, phone calls and general word of mouth conversations.⁸⁰ The public has critically opposed none of the reviewed projects.

In 1990, the El Paso district letting volume was in the range of 10 million dollars a year. By 1995, it had reached the 60-80 million-dollar range. By 1999-2000, it was in the 100-120 million-dollar range. Only now is the El Paso District beginning to receive the financial funds necessary to begin to attempt to reach the

⁸⁰ Interview with Blanca Del Valle, El Paso District Public Information Officer, Texas Department of Transportation, January 2000.

level of comprehensive transportation construction efforts which Phoenix has been experiencing for over twenty years. In short the El Paso designs fall into the category of necessity is the mother of creativity. Short on money, the designer was forced to be creative in achieving the biggest bang for the buck.

Another implication of the state organizational structure is that by having only one LA in a District; the District's ability to provide aesthetics input is limited by the capability and interest of that individual. Not all or even a majority of LAs are predisposed to provide this highly skilled and specialized design service. The Landscape Architecture profession is a broad discipline with multiple perspectives and there is no education or training of 'transportation aesthetic design' within the Professional Landscape Architectural schools. Also the individual postings of the state LAs makes collaboration next to impossible between the other state LAs as each District regards its own staff as theirs. There is no sharing or borrowing from one District to another of staff. Each District is a world unto itself. As a result the El Paso District designs are unusually dependent on the drive and creativity of one individual- the District Landscape Architect. The replacement of that person by another one could sharply change the style of the designs coming from that District.

I feel, given the limitations, that the El Paso design results are quite good. As evidence to support that judgment; two of the finished individual projects received awards from the Texas Chapter of the American Society of Landscape Architects and several awards from local organization, as well as two planning awards from the State Transportation Department. Only now is the community really beginning to demand and require that future roadway constructions continue to express creative and stylistically aesthetic designs. The current designs are the first generation of aesthetic improvements. They have raised the design bar and the public does not appear to be willing to have it lowered again.

ADOT (Phoenix):

Organization: ADOT benefits greatly by the placement of both of the two primary design teams (roadway development, i.e. landscaping and engineering) within a single major unit in the development planning section. All of the major freeways being constructed in Phoenix are planned, designed and constructed by a 'Valley Transportation Program' division of ADOT, which has placed the city's entire transportation program separate from the other state transportation projects. All of the ADOT LAs are located within the Roadside Development unit, similar to the TxDOT Landscape Design Section. All of the aesthetic design done by LAs are done in Roadside Development, thus collaboration is possible and leads to a more integrated design and more accomplished design values.

Aesthetic Design Issues: The community has been highly supportive and has articulated a desire for public art works in a variety of formats. Preliminary designs are developed within the Valley Transportation Program and then presented in public hearings for feedback, which is then taken into consideration. The public has expressed some concerns about the value of selected examples. The first phase of the Squaw Peak parkway project took the most criticism because it was the most blatant example of non-functional design elements (tea cups motifs) being incorporated into the transportation corridor design. Future design elements that have stayed within the functional framework of the engineering structure have been much more readily acceptable to the public. It will be interesting to see if this new extension of the Pima freeway in Scottsdale generates reactions about the design going too far in terms of both costs as well as visual impacts. That particular design package may or may not be the limit for public support. It certainly is on the edge, and while I like it, it may be a tad ahead of its time.

Staff positions: LAs are under the central guidance of the senior LAs in the Roadway Development unit and work together as a team on major projects. Depending on the experience of the LA and the scale of a project, an LA can be assigned separately to develop designs on their own. Due to construction costs constraints since the 1996 election a considerable amount of design work is being sent outside the Department to private consultants with ADOT retaining supervisory oversight of the design and policy control.

Environment: Phoenix enjoys a much greater selection of colorful and multiple sized plant material than El Paso, due to the nature of the Sonoran desert. But a much more significant feature is the abundant supply of water that is available for irrigation and the maintenance of a lush quality of life styles, golf courses, the Tempe Town Lake, water fountains, etc abound across the Phoenix area. There may come a time of reckoning with this almost carefree use of a limited resource. El Paso by far has been much more prudent and careful with its scarce water supply. ADOT while being environmentally aware by the use of native plant material and drip emitter irrigation systems still would be forced to totally revamp its lush plant palette if a serious drought were to limit the valley water supply. As it is, the cost conservation of the failure of Proposition 400 is driving the reduction of the landscape plantings.

Funding: ADOT's past reliance upon the Proposition 300's one half per cent dedicated sales tax for adequate funding for aesthetics has been altered by the failure of the Proposition 400 renewal. The current mixed funding package relying on the federal/state/local consortium is inadequate to completely fund the existing regional master plan. The March 14, 2000 election to authorize a dedicated .4 percent sales tax to fund a twenty year transit development package that will include the starter development of a 24 mile light rail system passed by a 55-45 percent margin. But freeway transportation funding was not included in

this transit tax proposal. Future extensions of the transportation system will be competing with these other sources for additional funding.

Design Results: The Phoenix freeways as constructed, provide the motorist with an integrated format that presents the driver a planned, designed experience which communicates a regional sense of place. You are in Arizona, *not* anywhere USA. It has coherence to it despite some very strong and different design placements. But it is those bold designs, which create variety and avoid monotony. The availability of funding for the massive projects has been a major benefit for the effort to achieve a completed total experience in planning the transportation corridors and the results are superb. The long-term issue appears to be developing about the question of how to continue to afford the investment and continue to achieve traffic mobility. For it is quite true that as attractive the driving experience maybe made on the roadway, if you are unable to go anywhere due to inadequate traffic carrying capacity, the driving trip will not be experienced as a pleasant one.

Final Points:

TxDOT is attempting to be faithful to the wishes of its customers, the people of Texas. The state DOT has been widely regarded as one of the best DOTs nationwide in the technical sense of providing its citizens with the best-constructed and maintained highway systems in the nation. The technical delivery of service (traffic carrying capacity and mobility) has long been the pride of the Department's service to the state. The agency is now attempting to deal with the sharply rising public expectation that alternative forms of transportation such as light rail (which is providing attractive and aesthetically pleasing delivery systems) should be made available in the urban centers of the state. Other forms of civic desires that are being articulated are those from the tourism industry and the

native population that wants to be able to have a local sense of place identified and maintained.

I do not as yet see that the statewide political leadership feels that the existing freeway system should be improved to be more aesthetically attractive for the driving experience and where those roadway are being constructed, in urban centers, that aesthetic design must be a part of the transportation paradigm. But in selected cities, local leadership is beginning to see the value of it.

In Dallas, as the proposed massive Trinity River freeways project begins to be defined, the local newspaper is articulating those concerns:

“The Trinity River Project is large enough and important enough to attract the best designers and urban economists...the tough issues are transportation and economics ...Now is the time to hire the best architects and urban designers to create urban spaces along the trinity that will excite the city---before the alignment is locked in and opportunities are lost. Now is the time to do it right or not at all.”⁸¹

The Texas public, in the past, has not been as politically articulate in its desires for aesthetics as the Arizona public. This is beginning to change but the Department does not quite, as yet, clearly understand that the Texas public is ahead of the curve awaiting TxDOT to catch up with them. The public will have to elect more articulate political leaders to communicate to the Department that aesthetics is a requirement for them, not a potential consideration. There is leadership within the Department that has been and is continuing to be responsive to the aesthetic transportation paradigm, but they are not as yet numerous enough nor in enough positions of authority to clearly articulate this philosophy statewide.

⁸¹ David Dillion, As Clear As Trinity' Waters, The Arts, Dallas Morning News, February 27,2000, page C1.

Arizona's delayed development of its Interstate Highway System (in the 1980s and 1990s) has enabled them to learn from the mistakes made by other DOTs who began constructing their Interstate Highway System in the 1950s and 1960s. The ADOT designs are well thought out, holistic and responsive to the communities' expressions for native cultural values. Texas' designs are just now beginning to reflect these design approaches. The Dallas North Central Expressway (1998) is the state's first unified urban freeway corridor constructed within the aesthetic paradigm. The El Paso District, which pioneered the present revival of aesthetics now, finds its efforts being copied around the state.

In the realm of civic enterprise the American public has not as yet fully understood the value of true artistic input into the public infrastructure. There remains a deep-rooted fear of any sort of artwork generating ideas and controversy. Patricia Phillips' remarks on *why* it is important to have public art and aesthetics in the public realm. Her excerpts show that the meaning and reason that we need to have public art is that *this* is not about making the road attractive or pretty. No. It is about *connecting people with themselves*, about making people think, observe and respond to the meanings of life itself. She writes:

Regardless of the specific intent of the artist, no artwork is ever about singular meanings. Art ...performs; it does something, albeit in different ways to different people. Any consideration of public art must first acknowledge that art is an active agent rather than an amenity or diversion...and that viewers experiences of it are always influenced by both personal and socially constructed preconceptions....Public art seeks to do something to people...It can shape public imagination and provide a sense of the consequence of individual desires and actions within a shared culture. But there is a startling surfeit of works and policies that appear to be designed to avoid the responsibilities, issues, risks, and periodic controversies of art....Public art does not need to be user-friendly to succeed....Public art's most fruitful strategy is to connect with viewers and participants through compelling, challenging, and palpable images...art

distinguishes its objectives through the power of its aesthetic presence-the potential of its images to evoke response and ignite ideas.⁸²

Transportation aesthetics are now being reintroduced into the engineering paradigm after an absence of seventy years. The efforts of concerned citizens, environmentalists, law makers, engineers, urban planners, artists, architects and landscape architects working together have sought to articulate the concept that the transportation network of the American people should have a holistic and aesthetic relationship among its interdependent components. In time as we learn not to fear public art, but to understand that public art is the expression of ourselves, who we are and about the exploration of who we are seeking to become. As we become comfortable with the idea that aesthetics in design is a positive construct for improving the quality of life, then we may be able to more freely seek to apply the language of design to all components of the civic realm. With additional improvements in the engineering and landscape architecture education program by the introduction of courses in transportation design issues, maybe one-day the dream of Frank Lloyd Wright will come true:

“As new and greater road systems are added year by year they are more splendidly built. I foresee that road will soon be architecture, great architecture.”⁸³

⁸² Patricia C. Phillips, *Dynamic Exchange*, Public Art Review, Vol. 11, Num. 1, Issue 21, St. Paul, MN, pages 5-9.

⁸³ Tom Lewis, *Divided Highways*, Penguin/Putnam Inc., New York, NY, 1997, page 230.

APPENDEX

Press articles about the aesthetic design efforts in the El Paso District:

October 1995, El Paso Metropolitan Planning Organization, Vol.1, Issue 3 article, front page, Border Transportation.

November 7, 1995 El Paso Herald-Post article, front page, Psychedelic fence by Juan A. Lozano.

November 8, 1995 El Paso Herald-Post, Editorial, IH-10 Upgrade.

November 14, 1995, El Paso Times article, Bureaucrats lead the evacuation of Downtown El Paso by John Laird.

November 28, 1995, El Paso Times article, front page, Arches light up night by Betsy McArthur.

December 10, 1995 El Paso Times Editorial, State transportation chief should be held to promise.

May 15, 1996 El Paso Times article, front page, Small type shrinks new directory by Sito Negrón.

May 1996, Southwestern Bell Phone Directory, cover page, El Paso.

September 7, 1996, El Paso Times Letter to the Editor, by Jennifer Barr

September 24, 1996 El Paso Times Letter to the Editor by Pete Araujo.

October 22, 1996 Press Release from the El Paso Water Utilities Public Service Board.

December 8, 1996 El Paso Times article, front page, Colors relieve freeway tensions by Sito Negrón.

December 15, 1996, El Paso Times Letter to the Editor, by James Webb Jr.

December 16, 1996, El Paso Times Letter to the Editor, by Pete Flores.

December 17, 1996 El Paso Times Editorial, Patience and care still needed until freeway work is finished.

Winter 1996, Greener Roadsides, FHWA newsletter article, Local color reflected In Highway Solutions.

February 1997, Press Release from the El Paso, District of the Texas Department of Transportation.

February 24, 1997, El Paso Times article, Murals project begins by Besty McArthur.

February 23, 1997, El Paso Herald-Post article, Desert murals to accent stretch of freeway by Laurie Gallardo.

March 1997, AAA Journey Magazine, cover page, Houston.

April 1997, Transportation News article, ELP renovation puts icing on the cake by Blanca Del Valle.

May 8-14, 1997, The Bulletin article, front page, Welcome to Las Cruces by Doug DesGeorges.

November 1997. Transportation News article, Awards highlight Transportation Conference by Linda Levitt.

March 6, 1998, El Paso Times article, front page, Colorful road offices may go gray, by Alison Gregor.

March 7, 1998, El Paso Times Editorial, Bridges that dazzle.

March 10, 1998, El Paso Times article, front page, Rainbow-hued transportation building will keep its colors, after all by Alison Gregor.

March 14, 1998, El Paso Times Letters to the Editor, El Pasos want a colorful city.

June 9, 1998, El Paso Times Editorial, Beautifying highways.

July 16, 1998, El Paso Times article Students' designs to decorate roadway by Cindy Ramirez.

July 1998, El Paso Times article, Projects on Artcraft, Redd begin to show their colors by Kim Baca.

January 5, 1999, El Paso Times Letter to the Editor by Ed Gurley.

October 1999, Transportation News article Mentors by Blanca Del Valle.



EL PASO MPO NEWSLETTER

VOLUME 1, ISSUE 3 1995

BORDER TRANSPORTATION

Landscape architecture is defined as an art of modifying the natural scenery of a place so as to produce the most attractive or desirable effect. The relationship of landscape architecture to a transportation network is a vital component of a community's aesthetic image. Freeways, major arterials and major boulevards which have strong landscape elements set the foundation for a community's image to the traveling public - whether the public resides in the community or is simply passing through.

El Paso is blessed with the natural beauty of the Franklin mountains as they serve as the backdrop for the metropolitan area. The night view of El Paso/Juarez from Scenic Drive is undoubtedly unique in the State of Texas. A portion of the business sector as well as many residents in El Paso have done a good job in creating aesthetic elements in the designs of facilities and surroundings.

However, when it comes to public landscaping along the transportation network, El Paso lacks a visual or aesthetic theme. Unfortunately, many users of the transportation network are bombarded with unattractive corridors. A recent survey regarding the visual character of the El Paso corridors revealed that a visitor's first impression of this area is best defined as "hot, dry, weedy and lots of concrete." Will this ever change you ask? The answer is a resounding yes - as far as Mary May, TxDOT - El Paso District Engineer, is concerned. This quarter's newsletter gives the reader an inside view into the landscape initiatives of TxDOT via an interview with TxDOT- El Paso's landscape architect. (see page 4)

During the first quarter of 1995 the recent peso devaluation began to take its toll on the region's retail sector which affected the number of shoppers coming north over the international bridges. Now that the peso is beginning to stabilize, international crossings are on the rise.

Undoubtedly, international issues represent an integral part of the transportation dynamics of the El Paso / Juarez region. As a result of a treaty which ended an international border territorial dispute - the Bridge of the Americas (BOTA) serves as the only toll free U.S./Mexico international crossing and consequently is the busiest international bridge for the El Paso /Juarez area. Approximately 700,000 vehicles per month cross this facility (northbound).

The BOTA is scheduled for reconstruction in late 1995. Project cost is estimated at \$ 8 million. The new design will feature separate spans for northbound and southbound traffic and will also include dedicated lanes to better separate passenger vehicles from commercial vehicles.

The Fabens Port of Entry will be the subject of a feasibility study to determine if the bridge facility should be expanded to a state-of-the-art facility.

Congress has asked the Federal Highway Administration (FHWA) to review its distribution of funds to border regions, including reexamination of a dedicated border infrastructure investment program; to develop and report recommendations to improve the distribution of such funds; to give high priority to the transportation needs of border regions and to work with State and local governments in border regions.

The FHWA has proposed criteria for defining roadway segments that provide access to or egress from international ports of entry. The proposed criteria are intended to provide uniformity in the data used in analysis and in developing highway investment strategies. This recommendation is an excellent start in the direction of targeting funds to roadways which may not currently be a part of a state or federal system but serve as key travel routes to and from international ports of entry.

Funding formulas which will result in making additional funds available to border regions should include in the formula mix traffic volumes at the ports of entry.

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Designing Landscapes for El Paso's Transportation Routes

The district landscape architect for TxDOT El Paso serves as a member of the Project Design Team and is responsible for reviewing TxDOT projects which range from roadway widening to construction of four-way interchanges. During the project concept phase, a determination is made if landscaping is appropriate and, if so, a determination is then made as to the level of landscaping which will be incorporated into the TxDOT project.

Richard Mason, who joined TxDOT-El Paso in 1993 and is responsible for the landscape design work, was kind enough to take time from his busy schedule to talk about landscaping issues in the El Paso area.

From a landscaping perspective what are the weaknesses of the El Paso region? The El Paso/Juarez region, as the only major urban area within the Chihuahua Desert, has never developed a strategic plan which would identify what a Chihuahua Desert urban landscape is. Phoenix, on the other hand, has identified what a Sonora Desert urban landscape is and has successfully incorporated desert aesthetics into its urban design initiatives (minus the palm trees). For the El Paso area, the result of not having an identifiable urban landscape for the Chihuahua Desert and consequently the lack of large scale public landscape projects has created a situation where today there is a scarcity of commercially available native plants.

From a landscaping perspective what are the strengths of the El Paso region? The strengths of this region include: a long growing season, fabulous mountain settings, cooler climate than many parts of the southwest (i.e. Tucson or Phoenix), an international boundary (Rio Grande) which provides a unique challenge for creating an aesthetic statement, and a multi-cultural setting which can be played upon. One of the weaknesses pointed out earlier, the lack of an identifiable Chihuahua Desert urban landscape, creates a situation where we can start now to create the palette which we, in turn would use to design our own urban landscape on a canvas which has not yet been touched.



Lacebark Elm
Ulmus parviflora
Medium shade tree with spreading crown and attractive peeling bark.



Desert Willow
Chilopsis linearis
Medium native deciduous tree that flowers spring through summer. Provides filtered shade.

Tell us about the "Analysis of the Visual Character of the Major Highway Corridors of El Paso" being conducted by the Texas Transportation Institute. TxDOT - El Paso recently authorized this study with the purpose of developing an aesthetic master plan for the major highway corridors of El Paso. In the past, TxDOT landscaping was done on a piecemeal basis, by different architects (from out of town) with no regard to a theme or integration of sub-elements of the transportation network (present and future highway projects). The aesthetic master plan will determine how the highway corridors will look in the future. This plan will identify the visual aesthetics which will become the main focus of TxDOT - El Paso's initiatives to develop a thematic visual character for the highway network of El Paso. This report or analysis will be available for public review in June.

Do you think such an analysis would be worth pursuing for the City of El Paso? I do not see how it could hurt. It is also part of the process of identifying a Chihuahua Desert urban landscape for El Paso. My former training as an accountant tells me that it is far cheaper to build something right the first time than to find out that it didn't work and be faced with doing it over. It is cheaper to the taxpayer and cheaper from a construction standpoint. The City of El Paso should encourage more public landscaping.

Tell us about the TxDOT philosophies concerning landscape architecture? TxDOT is exploring new philosophies in terms of landscape architecture. Some of the new philosophies include experimental usage of fiber optics for nighttime illuminations as colored art designs, usage of more diversified plant materials, increased usage of regionalized native plant materials, those that are appropriate to the region - for El Paso that means drought tolerant, climate hardy and water efficient plants. The TxDOT-El Paso Aesthetic Committee, which I presently chair, is very interested in the usage of color. We have recommended the use of color (colored / stained concrete and colored crush stone) as a landscape dynamic.

continue from page 4

From your perspective, why is landscaping important? Public landscaping should be seen from an economic development perspective. Attractiveness sells by encouraging the business community to increase the value of their property by creating an identifiable landscape thereby enabling owners and patrons to appreciate their community while promoting a higher quality of life. For example, compare urban landscaping in the cities of Phoenix or Tucson to El Paso. El Paso has limitless opportunities for urban landscaping.

What can El Pasoans expect to see in the near future in terms of TxDOT El Paso landscaping initiatives? New color concrete traffic barriers on Border Highway are already in place. TxDOT will begin adding color to concrete bridges and overpasses throughout El Paso. The public probably doesn't realize that we paint concrete the drab gray color one sees now. The Zaragoza Loop 375 interchange bridge structure will be color treated this year. Next year, it will undergo major landscape treatments. A one-mile segment of North Loop will serve as an experiment for field-testing color stained concrete over painted concrete (the colors which will be used include brick red and tan). El Pasoans will also begin to see more frequent use of colored crushed stone with TxDOT projects.



El Paso International Airport has begun a \$ 54 million dollar renovation and expansion project, which is expected to take approximately three years to complete. The project consists of four major components: 1) An FAA Access Control System; 2) Site and Roadway Improvements; 3) Passenger Terminal Building expansion and renovation; 4) Furniture, Furnishings and Equipment.

The FAA Access Control System was completed in January 1995. This system was installed to meet current requirements of the FAA's applicable regulations. Further security enhancements will be incorporated into the terminal building renovations; trash handling; landscaping and irrigation; and directional signage.

New raised pedestrian walkways will clearly identify pedestrian and vehicular areas. Additionally, a covered crosswalk from short-term parking to the main terminal lobby will provide shelter from the elements. Both short-term and long-term parking will be completely renovated. Short-term parking will be extended to the West to match the building extension at baggage claim. More efficient layouts of both areas will provide approximately 300 new parking spaces. A new trash handling area has been developed to

In 1990, TxDOT programmed \$ 0 for landscaping. In 1995, TxDOT has programmed \$ 5,000,000 for landscape projects. Approximate figures for 1996 reveal that there will be less than \$.1million earmarked for landscaping initiatives - there is a vital need to keep the landscaping initiatives moving forward.

How can the general public get involved with TxDOT's landscape initiatives? Work with your local city representatives to determine if there are any joint City of El Paso and TxDOT projects planned (which include a landscape element for your council district. TxDOT has recently formed a Citizen's Advisory Team (CAT), which provides opportunities for public involvement with local TxDOT projects. For more information please call TxDOT at 774-4200.

Richard Mason earned a BBA from Southern Methodist University; he worked 15 years as an accountant, including stints with architectural/engineering firms. He elected to change profession and in 1989 received a Masters degree, in Landscape Architecture from Texas A & M University. During his studies he received the faculty award in landscape architecture, elected to honorary academic society in landscape architecture and was awarded an EDAW internship in Seattle, Washington. Richard Mason is the proud owner of 23 sweaters but only has days (of El Paso winter) to wear them.

The El Paso International Airport Renovation and Expansion Project ... Takes Off

handle aircraft waste and building refuse. The area will be removed and screened from public view. The existing landscaping will be enhanced with low-water, native vegetation to further convey the unique high mountain desert environment of El Paso. Roadway directional signage and graphics will be replaced with Airport standard signs and graphics.

The Passenger Terminal Building expansion and Renovation will begin in July 1995. More on this phase in the next newsletter.

When the Airport was built, it met the functional needs of the City but things have changed dramatically since then. This renovation and expansion project will meet the needs of the traveling public and Airport operations for many years to come. It is also the intent of this redesign to meet all Federal Americans with Disabilities Act requirements.

The airport renovation will incorporate part of the original airport architecture dating back to 1928 which will combine the charm of the old west with modern technology.

This article was provided by Joyce Cragin, EPIA Marketing Coordinator. Thank you Joyce!

Second Front Page A-2

Conspiracy Theory

Israeli police say they will round up and question Jewish extremists who publicly praised Rabin's assassin



Lifestyle D-1

Toxic Words

Rabin's murder proves that toxic words lead to violent actions, that poison words lead to poison gas

Sports C-1

Cowboy Out?

Dallas defensive back Clayton Holmes reportedly will be suspended for a year for violation of the NFL drug policy

The Newspaper That Cares About El Paso



SCRIPPS HOWARD

El Paso Herald-Post

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★★35 cents

BACK OF SECTION

Psychedelic fence brightens I-10

New color-changing arches give once-drab railyard a face lift

By Juan A. Lozano
El Paso Herald-Post

The neon glow of electric rainbows greets drivers traveling on I-10 near the downtown exit.

Sets of metal arches with lights that emit a series of ever-changing colors have been put up along the side of I-10 East just east of downtown.

South-Central city Rep. Raymond Telles, whose district includes downtown, turned the lights on during a brief ceremony Monday.

"It's really going to beautify the area and take away from the drab, open railyard," Telles said.

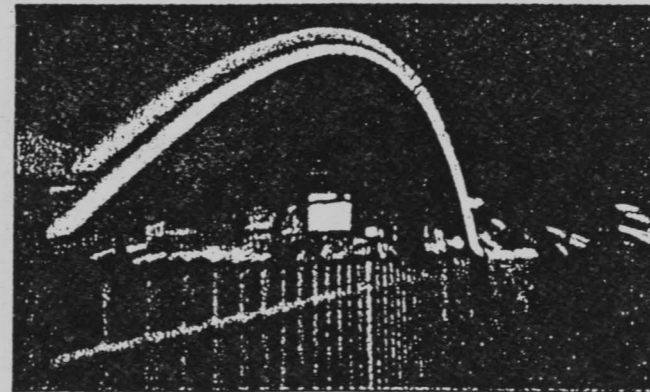
The lights are part of a \$1 million highway

beautification project by the Texas Department of Transportation that stretches along I-10 from Campbell Street to the Copia Street exit.

In addition to the lights, work crews constructed retaining walls surrounded by different types indigenous Southwest plants, and put in an irrigation system.

"We tried to come up with something unique to El Paso, something to beautify El Paso," said Carlos Ahumada, area engineer in charge of the project. "Hopefully people will recognize it when they come through El Paso and associate it with

■ SEE LIGHTS / BACK OF SECTION



NOHEMY A. GONZALEZ / STAFF PHOTOGRAPHER

South-Central city Rep. Raymond Telles flipped the switch Monday night on a set of neon arches decorating I-10 near the downtown railyards.

Weather



Tonight's Low
42



Tomorrow's High
76

More weather on Page A-2

Classified.....C4 Lifestyle.....D1
Comics.....D5 Movies.....A5

Lights / FROM PAGE A-1

the city."

The beautification project took seven months.

"Every city that tries to attract tourism is concerned with first impressions," Telles said. "In this case, the state has done a great job of changing the gateway to downtown. I like the change. It's a beautiful change."

Ahumada said the lights will be turned on each evening from 6 p.m. to midnight, but that amount of time could be increased in the future.

"I think it turned out better than expected," Ahumada said. "It'll be very unique to El Paso. Nobody else in the state has this."

I-10 upgrades give impression someone cares

Simple arches of bright light along I-10 East downtown have turned the bland, unattractive view toward the Southern Pacific rail yard into a surprise. For months motorists have seen brick pillars rise and then being filled in with a wrought-iron fence. In recent weeks, arches were set in place tying all the elements together.

But on Monday night a switch was flipped and the arches became neon rainbows in the night sky, delighting all who pass by.

It's all part a \$1 million highway beautification project by the Texas Department of Transportation — a project that stretches along I-10 from Campbell Street to the Copia Street exit.

And it's not just rainbows of color in one area, but retaining walls in patterns of colored rock with indigenous Southwest plants that now have turned bland concrete embankments into pleasant vistas.

The result is a change in ambience for those who pass through the downtown area on and around the interstate. Now instead of a just a concrete jungle, the simple design and pleasing colors bring a touch of humanity to the surroundings. And it creates the appearance that people care about this city's image.

And downtown isn't alone in the upgrade. The Border Highway also has been jazzed up with a Southwest motif painted along the concrete barricades that separate traffic. The shadows that interplay with the terra cotta and turquoise bands of color seem to create an effect of a heartbeat as it would appear on an EKG. But that heartbeat along the border is made up of shapes from the Indian culture and petroglyphs that are part of our area.

The beautification does much for both areas and the whole city, and while the Texas Department of Transportation is to be commended for the sprucing up, we also urge that the improvements not stop here.

On the other hand

Bureaucrats lead the evacuation of Downtown El Paso

City officials are slingin' a lot of *lo siento mucho* about Downtown El Paso these days. Sadly, though, revitalizing Downtown El Paso continues to show more promises than *pronto*.

Last week Mayor Larry Francis tried to officially launch the rescue operation, but so far not much has happened. Maybe I'm in too big a hurry.

Imagine how different it would be some day when El Pasoans say to visitors, "Oh, and first thing, I've just got to take you Downtown." Think also what our city would be like if El Pasoans some day said, "Take the Downtown exit" when giving instructions for getting to their homes. What would happen if the Downtown area became THE place to live? A couple of guesses: It might also become THE place to shop and HE place to visit.

Until then, everyone has an opinion on what's wrong with the best part of the city. Bottom line, however: What Downtown



John Laird

really lacks these days is votes. Hardly anyone lives in the most strictly defined Downtown area. Votes, though, are where the politicians' attention is focused. That's why it's important to make residential living a big part of any Downtown revitalization.

The big irony in this issue is city officials complaining about all those businesses fleeing Downtown and heading toward big bucks in the 'burbs, when city government itself actually is leading the evacuation.

City Hall remains the headquarters of city government, but look what happened a year ago to the health department's administrative offices: They were moved out of Downtown, to new offices on Airway. Before that, the Public Service Board and water utility offices relocated on Hawkins. The sanitation department's main offices were moved to the Lower Valley.

Even those in charge of safety have essentially fled Downtown. Police headquarters moved to the Five Points area. The Fire Department's main offices moved to a former car dealership on Montana on the East Side. There were convincing reasons for moving to these new sites, but still, it only added to the stampede.

I realize some of these people want to move as far from the newspaper building as possible, but if the pooh-bahs are serious about revitalizing Downtown, shouldn't they try to stop their own bureaucratic flight?

You can't blame El Pasoans for their believe-it-when-we-see-it attitude on saving Downtown.

City officials and economic developers ought to expedite plans for the art museum, the Arts Festival Plaza, expanding the civic center and developing Union Plaza in the warehouse district (perhaps relocating the El Paso Museum of History there). Also, private-sector renovation of the Plaza Theater and development of residential housing (low-income and luxury apartments) should be encouraged.

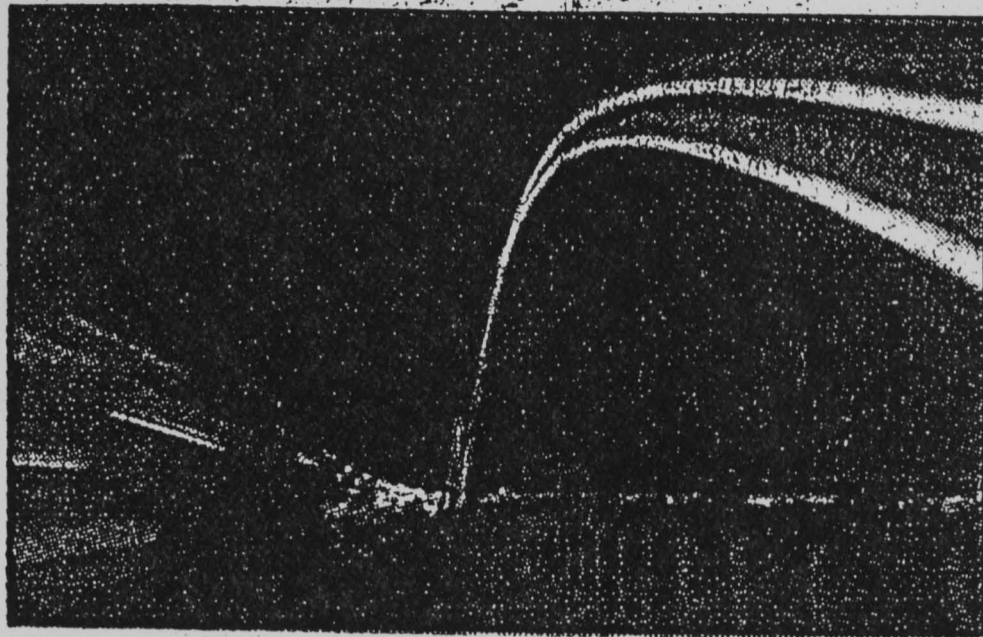
There's one positive lesson to learn from Downtown's current problems: Diversified appeal is the key to saving the area. We've learned painful lessons about the perils of the peso. Shoppers from Juárez are great, but they should be only one of many groups to be lured Downtown. The politicians will keep moaning, "We're trying. We're trying," but so far the people are responding, "Not hard enough."

Here's what happens when the bureaucrats produce results instead of hot air: Have you seen the new brick and wrought-iron fence Downtown between the freeway and the rail yard? In the evening, those chameleonic lights are stunning. What a spectacular passage through Downtown, neon rainbows on one side, the mountain star on the other.

Those new lights were built without a press conference and without politicians turning backflips trying to take credit for the state project.

When the politicians focus on solutions instead of problems, when they stop trying to take credit for saving Downtown, the rescue finally will begin. Until then, stay out of my way *comé quitin' time*. One mad dash to the freeway and I'm outta here.

Call John Laird: (915) 546-8160. Or write: El Paso Times, Box 20, El Paso, Texas 79999. Fax: (915) 546-6415.



Rudy Gutierrez / El Paso Times

Neon-colored arches light up a portion of Interstate 10 East each night from 6 p.m. to midnight.

Arches light up night

Fiber optics help I-10 glow with color

By Betsy McArthur

El Paso Times

Bright lights, big city, high tech.

The three come together when the bright neon-colored arches that grace the shoulder of Interstate 10 between Campbell and Cotton streets are illuminated each night from 6 p.m. to midnight.

The lighted arches, which magically alternate between green, blue, violet and yellow, have mesmerized, even bothered, those traveling along the downtown nightscape.

"I think they give to the freeway a bit of well-needed color," said Dolores Ruiz, who commutes along the stretch of interstate. "It's something new and quite an improvement. The city is long overdue for things like this."

Mike Higgins agreed: "It's charming. I like the way they change colors. I think they add class to the freeway."

Others are a bit annoyed by the display.

"I'm not sure it's a good idea to be looking at them as you

drive down the freeway," motorist Ed Hernandez said.

The multi-colored arches that adorn the area of interstate that fronts the adjacent railroad yard are not neon lights, as many might believe. Rather, fiber optic cables are used to create the neon effect, said Carlos Ahumada, the director of urban areas for the Department of Transportation, which installed the arches.

"We're unique," Ahumada said. "We are the only city in Texas to use fiber optics."

Fiber optic cables carry light — even colored light — from one end of the cable to the other. To achieve the colorful waves that follow the length of the arches, a color wheel is placed in front of a light bulb.

Even the state-of-the-art arches are subject to mishaps.

Drivers who were expecting a brilliant show Sunday evening were left, well, color blind. Someone turned off the arches sometime Sunday afternoon, Ahumada said. A padlock has been added to the control panel to prevent future disturbances.

State transportation chief should be held to promise

Making a promise is easy; making the resources available to keep that promise isn't.

David Laney, Texas Transportation Commission chairman, promised Thursday that El Paso's economic growth will not be ignored. One of the main ingredients for that growth is providing the county with the required transportation infrastructure to meet the demands projected by the North American Free Trade Agreement.

Some road projects are under way, including improvements and expansion of Loop 375 and the improvements and beautification of Interstate 10. But many more are still only dreams. Among these are expanding the approaches to all three international bridges and completion of Loop 375.

El Paso has been shortchanged by the Texas Department of Transportation for decades. In 1995, El Paso received \$59 million, while Fort Worth got \$123 million. These are not perceived inequities, as Laney said during his trip. Criticism of state agencies is well-deserved. District Judge Edward Marquez did not establish court-of-inquiry investigations without good reason.

Even now, El Paso's transportation demands are outstripping the state's capacity — or willingness — to meet them. When Mexican trucks begin to travel through Texas and other border states Dec. 18, those needs and problems will double. The Department of Transportation traditionally has failed to take into account El Paso's location on the border. As NAFTA's trade grows, so will the use of El Paso's streets and highways.

Laney said to direct all transportation requests to the city's Metropolitan Planning Organization. He's right about that. El Paso can't complain about the lack of funding if it doesn't do more long-range planning that anticipates future needs. The MPO — and the leaders who sit on its board — have to invest in strategic planning. El Paso should have a multitude of road projects in the works.

MPO Director Ricardo Dominguez and his staff, however, can only work with what they have and with what they get from the Texas Department of Transportation. In the past, that has not been much. In some instances, El Paso has not been able to apply for special funding because the MPO lacked the funds and the staff to prepare applications.

For now, El Paso will give Laney the benefit of the doubt. He closed the year with a visit to El Paso and is attempting to quantify its needs. But Laney promised to help El Paso and the border region, and he expect to be held accountable.

Look yourself up in leaner phone book



Rudy Gutierrez / El Paso Times

Alan Pope unloaded 500 new phone directories Tuesday in Sunset Heights with his son, Alex. This year's book is thinner and lighter because the type is smaller.

Small type shrinks new directory

By Sito Negron
El Paso Times

El Paso's growing, but its phone book isn't.

This year's Southwestern Bell telephone book — distribution gets under way today — is about a half-inch thinner than last year's, which was 2 1/4 inches thick. It's also lighter, going down from 5 pounds to 4.5 pounds.

To achieve this masterpiece of minimalism, the printers bumped down the type size on all personal and business listings, although the Yellow Pages print remained the same.

"I have no problem with it," said Dora Benavides, 22, when shown the new phone book. Then she took a second look and added: "It (type size) is small, though."

Although she hadn't received her copy of the book, she appreciated the effort to save paper by keeping the book smaller, she said.

The book's leaner look does not translate to fewer listings, said Southwestern Bell representative Rudy Bustillo. "There usually is about a 5 percent increase each year," he said. "I can't say how much of an increase but there was one."

The front cover is by noted

El Paso photographer Bruce Berman, who did last year's phone book cover. This year's picture shows the multi-colored fiber-optic arches that line the railyards along Interstate 10 east of Downtown.

The new telephone books — about 320,000 of them — should be distributed within two and a half weeks, Bustillo said. He's overseeing the distribution in El Paso.

There is no specific neighborhood slated to get the books first or last, he said.

As in years past, old telephone books can be dropped off at any Peter Piper Pizza location for recycling.

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El Paso

Please Recycle in May '97

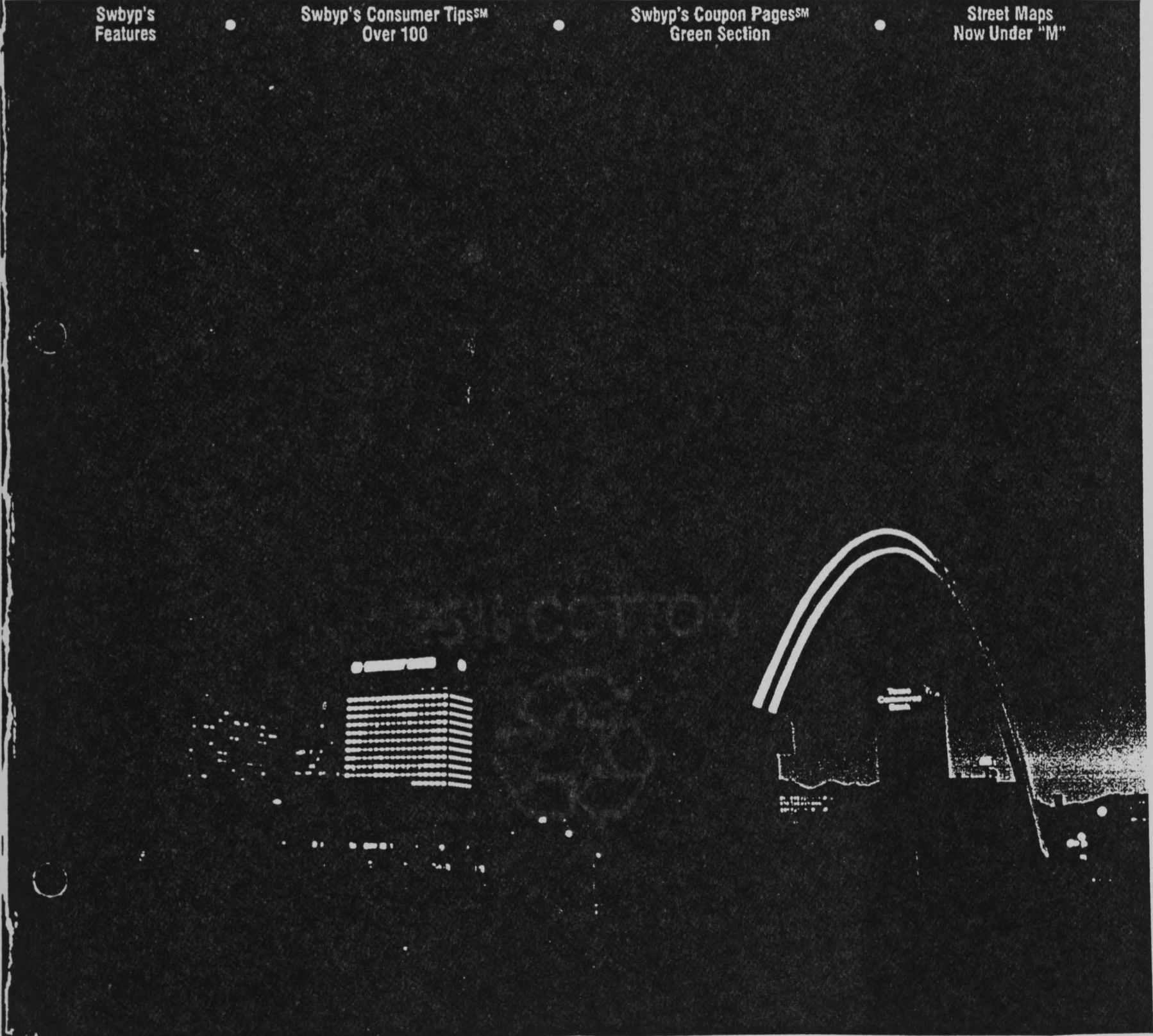
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Having to share the road

For someone who believes in mankind's inherent good, the bitter pill of recent freeway behavior has been hard to swallow.

I refer in particular to the right hand lane that shouldn't be — just before the westbound Downtown off-ramp and the obnoxious drivers who use it and who speed by drivers in the stalled left lanes only to cut in on them once their lane ends near the off-ramp.

Why these drivers feel their time is more important than mine, I have no clue. Why they cannot wait in traffic with the rest of us confounds me.

And what keeps them from simply plowing through the oleanders onto the gateway in their mad rush to their jobs? Perhaps only that the idea hasn't yet occurred to them.

On a more appreciative note, thanks to the Texas Department of Transportation landscape architect for the innovative designs — the xeriscape medians and the extra color in the lives of El Paso commuters. We hope this is just the beginning.

Jennifer Barr
El Paso

Letters

Investing in our bridges

The Times' Sept. 19 editorial, "Sister cities' dress-up plans could lead to tourism boom," is a positive point of view for our city, but the importance of enhancing the international bridges was left out. Such action — including installing canopies, trash cans, paintings, lights, beautification and security — is necessary as a magnet to attract tourism. It is no different from what our airports offer.

Merchants of this community could promote tourism by mailing fliers to their clients inviting them to come visit our biggest attraction — Juárez, Mexico, a good tourist attraction — to bring in more tourism to benefit restaurants, theaters, gasoline stations, and increase our potential as a tourist city. Bottom line: More revenue for bridges and city. In my view this would be one of the most productive investments this city could make.

Pete Araujo
Rark North El Paso



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October 18, 1996

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Call Anai Padilla, Water Conservation Manager
594-5508

DYNAMIC URBAN LANDSCAPES

Two dynamic landscape designs will be presented with awards by The Public Service Board at their October 23, 1996 meeting. The Texas Department of Transportation-El Paso District, will be the recipient of both awards. The landscape projects feature water conserving plants and efficient irrigation systems to maximize the use of water while beautifying the areas. The two projects are the winners of the Accent-Sun Country "Willie" awards which encourage bringing beauty to the urban landscapes through combinations of plant material, inert material and hard landscape elements that go beyond rock and cactus, a widespread misconception of what efficient desert landscape should be. For the first time in twenty-two years, the Accent-Sun Country contest was open to non-residential entries.

The Interstate-10 Landscaping Project, designed by Richard Mason, TxDot Landscape Architect, installed by Tri-State Electric and Accent Landscaping & Sprinklers, Inc., includes the area on I-10 from Copia to Campbell at Missouri and transverses 2.5 miles. The three component project includes over 1,400 native plants, 14,300 square feet of stone block for planter containers and the colorful fiber-optic arches that salute drivers with a rainbow of colors.

The Border Highway Landscaping Project, designed by Richard Mason, TxDot Landscape Architect, installed by Dan Williams Co., and Accent Landscaping & Sprinklers, Inc., includes Border Highway from the Santa Fe Bridge to the Zaragosa International Bridge. The downtown section is composed of native plant groupings irrigated by a solar-powered drip irrigation system plus a splendid boulevard-style median lined with palm trees.

By acknowledging these sites which bring beauty to El Paso's urban roadways, yet with responsible use of water, El Paso Water Utilities hopes to provide the community with good examples of quality and water efficient landscape designs.

Approval:

Edmund G. Archuleta, P.E.
General Manager

Colors

Continued from 1A

aggressive drivers, but so far has been spared much of the violent or deadly behavior experienced elsewhere. Mason and other experts hope to keep it that way as they try to keep up with El Paso's growing traffic volume. The ongoing \$6.6 million I-10 renovation project and improvements to the Border Highway are expected to help, but engineers say by 2015, all of El Paso's major highways will be near capacity volume.

"We have no expectation of being able to remove stress from this world ... we haven't had enough studies to know if it softens the attitude of the driver, but common sense says if you don't have to go through a hostile environment you should arrive in a calmer manner," Mason said.

A hostile environment can be two things: the bland concrete and billboard-ridden landscape you see when driving I-10, and the attitudes of the drivers in the thousands of other vehicles weaving in and out of traffic.

"We can provide an environment that is comfortable, pleasing ... you're less likely to want to kick the dog when you get home, more likely to smile when you get to work," Mason said.

El Paso psychologist Marie McIntosh said it's unlikely colors or landscaping will alter people's behavior outright.

But, she said, "It's very possible what could happen is the unconscious effect could help them slow down a bit and appreciate it. That's the effect it had on me. I slowed down and smiled and thought, how nice. It could be soothing for people in the midst of the hectic part of the freeway, and especially since there's so much construction."

East-Valley city Rep. Barbara Perez, who was a force behind a city ordinance requiring businesses to landscape, agreed.

"It helps when people are driving after work they've been stressed out, drive down a nice street with landscape and lighting," she said. "I know when I drive the Border Highway, see the colors and lighting, I take my time and enjoy. I'm certainly not a psychologist, but I think it would help."

The projects in El Paso, which cost about \$2 million, include:

- I-10 Downtown, colored

ANGER ON THE ROAD

A national study released in November by the AAA Foundation for Traffic Safety showed a 51 percent increase in traffic incidents related to aggressive driving behavior that involved death or injury since 1990. Some other findings:

- **Men, most volatile:** 96 percent of the drivers in 10,037 aggressive driving incidents since 1990 were men.
- **Deaths, injuries:** About 12,600 people were injured and 218 killed in those incidents, including 94 children under age 15.
- **Weapons:** A gun, knife, club or tire iron was used in 44 percent of violent altercations; unusual cases included pepper spray, eggs, golf clubs and once, a crossbow.

fiber-optic arches, bridges and median barriers.

- Landscaping and colored and sculpted planters at various places along I-10.

- Border Highway, colored median barriers, palm trees near the Paso del Norte Bridge.

Law enforcement agencies keep no figures on anger-related accidents, but a study of newspaper articles and police reports released in November by the AAA Foundation for Traffic Safety indicated a 7 percent rise in traffic altercations nationwide since 1990.

During the six years studied, 218 people were killed and 12,610 injured in 10,037 incidents linked to aggressive driving. A Gallup survey for the American Automobile Association suggested 40 percent of U.S. residents consider aggressive driving more dangerous than drunken driving.

In El Paso, three people died in two incidents related to aggressive driving in 1993. In one, a Fort Bliss soldier was killed when he stopped his truck on the highway to fight with a man who had flashed his high beams. In the other incident, two people were killed when the car they were riding in crashed into a Central El Paso wall after what police called a roadway chase.

In 1995, three teen-agers were injured when their vehicle was run off an Upper Valley road by another vehicle.

Those were among the most violent examples, but El Paso police and experts nationwide cite many more, and say many incidents are never reported.

"We feel there are many, many other less violent examples of this behavior that go unreported because they don't end in tragedy," said Stephanie Faul, communications director for the AAA Safety Foundation. "People do

things with their cars that they wouldn't dream of doing with a supermarket cart."

"You and I are nice guys, easy to get along with, and all of a sudden we get in the car and we're Mad Max," says El Paso Police Department spokesman Sgt. Bill Pfeil. "I don't know what it is, but we've all experienced it ... my son has heard me call a person a jerk."

When someone cuts you off in traffic, he says: "Most of the time it's expletive deleted and you go on your way, but sometimes it escalates to tragedy."

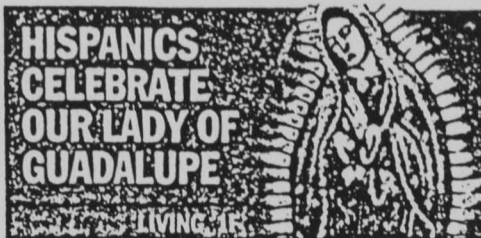
Motorist Diaz says she's seen both sides of aggressive driving behavior on her way to work as a nurse.

"One time a guy on Dyer ... cut me off. I flipped him off, honked at him, because he almost caused me to crash. He followed me. I was like, OK, let's go. Then he saw I was a woman and he turned around," she said.

Wendell Watkins, who says he has lived in such cities as Atlanta, Detroit and New Orleans, said the driving in El Paso is "not quite as bad as big cities." He says there's a general culture of lawlessness among all drivers that stems from such simple transgressions as driving five or 10 miles over the speed limit or rolling through stop signs.

"It's one of those things where if people get away with a little bit they try more," Watkins said. "In general, people don't feel like they have to obey the law."

He says thematic and colorful landscaping may have a soothing effect on drivers, although he says he isn't sure how much. One thing is sure, he said: "If you landscape, you have to take care of it, or it'll be worse than no landscaping."



BASKETBALL
UTEP
PLAYS
SEATTLE
TODAY
SPORTS 1C

SUN BOWL
Dec. 31

- Who: Stanford vs. a team to be named today.
- When: Noon in the Sun Bowl (capacity 51,118).
- Information: 533-4416.

Upset by Texas scrambles bowl picture

By Don Henry
 El Paso Times

Stanford University is in the third annual Northwest Sun Bowl, but the question remains: Who else will play?

That question will be answered today. Finally.

Michigan State still is the front-runner for the Dec. 31 game in El Paso, but Texas' 37-27 upset of third-ranked Nebraska Saturday muddled an already cloudy bowl picture. Everything will

Analysis: Bowl breakdown in turmoil / 1C

come into focus today, when the Bowl Alliance announces its selections. Until then, the Sun Bowl will continue to play a waiting game.

Michigan and Iowa are other possibilities as Stanford's opponent, depending on whether Penn State becomes part of Bowl Alliance, a group that decides which teams will play in the Sugar, Or-

ange and Fiesta bowls.

The Sun Bowl does not have freedom of choice. It must take the third-place finisher from the Pac 10 (Stanford) and the fifth-place team from the Big Ten (Michigan or Iowa). But Penn State, third in the Big Ten, would change the final standings if it becomes part of the Bowl Alliance.

The alliance is contracted to take the conference champions from the Big 12 (Texas), Atlantic Coast (Florida State), Southeastern (Florida), and Big East (Vir-

ginia Tech), plus two at-large teams, to be selected according to their national rankings.

"I don't think we're through yet," Northwest Sun Bowl President Rick Black said Saturday. "It (the bowl picture) is more wide open now than it was this (Saturday) morning."

Before Saturday's upset, the Sun Bowl appeared settled on Michigan State and its 6-5 season record.

Stanford, which also finished with a 6-5 season record, received its Sun Bowl invitation Nov. 23.

Penn State, with a 10-2 record, is ranked eighth nationally and the key to what team the Northwest Sun Bowl selects.

If Penn State is selected as an at-large team in the Bowl Alliance, the Outback Steakhouse Bowl is expected to take Michigan — which has an 8-3 record and 16th national ranking — with the Alamo Bowl expected to choose No. 21 Iowa (8-3).

That would elevate Michigan State to the Sun Bowl.

TRAFFIC: SOOTHING MOTORISTS' NERVES

Colors relieve freeway tensions

By Sito Negrón
 El Paso Times

You're five minutes late for work, steaming down Interstate 10 trying to make up time when some wise guy zooms past and cuts into your lane.

"S@%\$&," you think. You raise your arm, ball your fist. Suddenly, the commute to work has become the most stressful part of your day.

But wait, as you reach Downtown, warm and vibrant colors — soothing hues of gold, tan, blue and purple — embrace you, radiating off the highways' support beams and girders.

Aaaaahhhhhh. Your pulse slows. A smile spreads across your face. The freeway has become your friend.

□□□

Some say highway harmony isn't beyond our reach. In El Paso, artists and engineers hope a project taking shape along portions of Interstate 10 and the Border Highway will create a more pleasing driving atmosphere, with colorful scenery that not only will reflect the city's character, but also soothe nerves.

"It's not the department's goal, obviously, to be Dr. Love, psychologist to the public," says Richard Mason, the landscape architect for the El Paso office of the Texas Department of Transportation. He designed the roadside neon arches, landscaping and picked the friendly colors for medians and bridges on I-10.

"We're a transportation agency, but we're finding out as we develop our program that transportation is about people," Mason said. "So, there's a developing interest as to how people relate on the freeway."

Mason is working on highway landscaping projects meant to bring a sense of place to El



Rudy Gutierrez / El Paso Times

Richard Mason, the landscape architect for the El Paso office of the Texas Department of Transportation, designed the roadside neon arches and landscaping, and picked the friendly colors for medians and bridges on Interstate 10.

Paso, much like the distinctive roadside plants, colored rocks, sculptures and use of color that identify such cities as Tucson and Phoenix.

Experts say the roadway environment's effect on drivers hasn't been extensively studied, but psychologists have long known of the connection between colors and mood.

Mason and others say giving roadways character can help limit the dehumanizing aspect of a mechanized society, where thousands of people whiz by each other in metal machines every day.

"I always notice the landscape, so maybe subconsciously it would have a calming effect," said Monica Diaz, who takes the freeway to work every day. She said she's been on both sides of the equation, both as an angry driver and as an abused motorist.

Driver aggression has become a concern nationwide as traffic increases, especially in large

KEEP COOL

The AAA Foundation for Traffic Safety offers these motoring safety tips:

- Never underestimate the other driver's capacity for mayhem.
- Do not make eye contact with an aggressive driver.
- Do not make obscene gestures.
- Use the horn sparingly.
- Don't drive slowly in the left-hand lanes. They're for passing.
- Don't change lanes without signaling.
- Don't use high beams unless

necessary.

- Do not tailgate.
- Don't block the right-hand turn lane.
- Don't take other driver's mistakes personally.
- Be polite, even if others aren't.
- Avoid conflict. If challenged, take a deep breath and get out of the way.
- Allow plenty of time for your trip, and understand you can't control the traffic, only your response to it.

urban areas. High-profile incidents such as a three-fatality crash in April caused by two commuters jockeying for road position near Washington, D.C., make national news. Others

regularly are reported in such cities as Los Angeles and Miami.

El Paso also has its share of

Please see Colors / 2A

BORDERS

Immigrants turn to jobs, not welfare

By Gordon Dickson
 El Paso Times

Most of the 44,350 legal immigrants who have bolstered El Paso's population in the past 10 years are working and paying taxes, and are less likely than U.S.-born residents to be on welfare, immigration officials said.

But El Pasoans who follow the local economy believe the presence of immigrants who have arrived since 1986 keeps wages low in the community, in part because they compete for jobs with an undereducated population of older immigrants and U.S.-born residents.

Three major overhauls of immigration law have been approved by Congress in the past 10 years — starting with the 1986 Immigration Reform and Control Act that granted legal status to 3 million undocumented immigrants living in the country since 1982, and made hiring of undocumented immigrants a crime from that point on.

Since then, El Paso has seen the arrival of 44,350 immigrants — most of them from Mexico — the Immigration and Naturalization Service said. And despite the high numbers, the amount of welfare aid received by those immigrants falls far short of that received by U.S.-born families.

According to the Texas Department of Human Services:

- About 33,000 non-U.S. citizens receive food stamps each year in El Paso — at an estimated cost of \$28 million. Overall, 167,500 El Pasoans received food stamps at a cost of about \$140 million last year.

El Paso's immigrants

In the past 10 years more than 44,000 immigrants have moved into El Paso. Here's where they came from:



Source: Computer analysis of INS data by Gannett News Service

El Paso Times

Policy: Reforms fail to stem flow of immigrants / 9A

- About 3,900 El Pasoans who receive Aid to Families with Dependent Children are not U.S. citizens, and the cost of their aid is \$2.7 million a year. Overall, 40,000 El Pasoans (usually single mothers) receive about \$28 million a year.

"It seems to be the impression here that we're a burden on society, but we're not," said Ricardo Trevizo, who works for the

Please see Immigrants / 2A

I-10 colors are wasted

I disagree with the El Paso Times' recent story: "Colors relieve freeway tensions and traffic: soothing motorists' nerves."

My "tensions" are greater each time I travel through the Downtown area on Interstate 10 and see what architect Richard Mason calls the friendly colors and his roadside neon arches. I think all his work is a waste of taxpayers' money that will soon be covered with graffiti or in need of repair.

Bureaucrats like Mason should plan for better uses of the money they take from taxpayers. This money could better be used for roadway improvement or for new construction. Or it could be used as an additional investment in Texas' school system.

Enough waste is enough. It has done nothing for me except increase my tensions and jangle my nerves.

James A. Webb Jr.
West El Paso

Decor fits Southwest

In the area of graphic design certain elements are taken into consideration. In the case of the Downtown landscaping, I commend Richard Mason for a fine job beautifying El Paso's stretch of Interstate 10. His use of color and rock fit nicely with the cultural tone of our Southwest.

However, I must take issue with the picket-fence design he used to border the railroad yards and the interstate. While Mason might be a qualified landscape architect, the picket fence does nothing to beautify our city.

The color arches might be unique, but they distract the driving public. The picket fence does not cover the railroad yards, which in my opinion, should have been the fence's purpose in the first place.

And the pagoda gates at each end of the fence are about as far away from Southwestern architecture as it is from here to China.

Pete G. Flores
East El Paso

Patience and care still needed until freeway work is finished

Downtown drivers now cruise eastbound at 60 mph (and never 1 mph faster, of course) on Interstate 10, relieved that eight months of construction are nearly over. Gone from the eastbound flow are Downtown detours and concrete barriers and two-lane bottlenecks. And, in another month or so the westbound lanes and Mesa Street exit will be reopened, too.

While many drivers may not notice a smoother Downtown freeway surface, it's there, and destined to get even smoother as the new surface becomes worn. The new concrete seal will provide a smooth ride for the next 30 years. And the new landscaping and decor in the Southwest colors could soothe the nerves and lift the spirit. The paint is not graffiti resistant but the Texas Department of Transportation promises to paint over it as soon as taggers get to it.

Most drivers don't notice the quality of their ride unless it's overly bumpy. Fortunately, the transportation department does not wait for hazardous conditions to appear before repairing such an important national route as I-10. What drivers do note, though, is the time it takes

to get to work or to an appointment.

Vicki Cherry, who drives 15 miles from Redd Road to Downtown to work regularly, said the construction added about 15 minutes to her morning drive. She now looks forward to three-lanes of unobstructed traffic and a newly reopened Downtown exit, which had been closed for months. "I'll also be able to get an extra 10 minutes of sleep," she said.

But an open road should not mean that El Pasoans can forego the caution needed to prevent accidents. Actually, the motorists' caution and driving performances have been admirable during the construction period. There were few accidents, considering the barriers in their way, said Blanca del Valle, transportation spokeswoman in El Paso. "We're not aware of any injuries or fatalities during the construction," she said.

Some westbound lanes, however, are still under construction. Until that work is finished, motorists should continue to exercise the patience and caution that kept the eastbound repairs relatively hassle-free.

LOCAL COLOR REFLECTED IN HIGHWAY SOLUTIONS

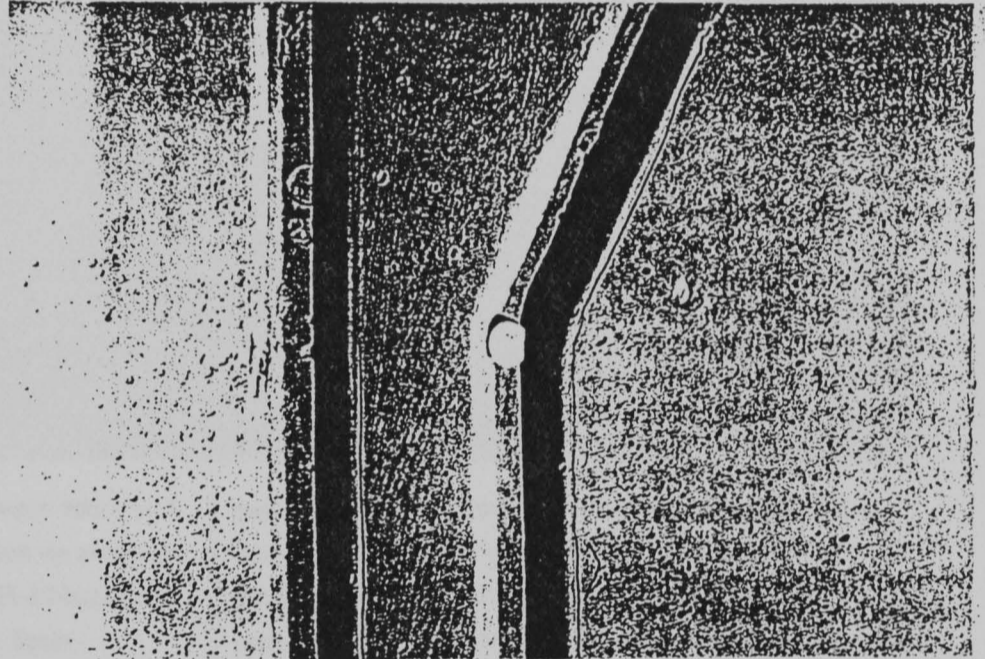
Richard Mason, El Paso District Landscape Architect, (915) 774-4258

A District Aesthetic Committee was set up by the Landscape Architect to assist design staff in the incorporation of public feedback in the development of schematic landscape plans. The Committee includes local architects, artists, city council, interior designers, nursery representatives and interested civic-minded individuals. The Texas Department of Transportation (TXDOT) members included personnel from maintenance, right-of-way, engineering, and design.

Color - One of the products of the committee has been a palette of colors to use on local freeways. Nine complimentary colors were selected to reflect the dual ethnic (Tex-Mex), cultural environment of the border. Consideration was given to the high ultra-violet light exposure of the locale. Sherwin-Williams exterior latex meets the conditions. Color is now being

border since 1995. Seven patterns, drawn from the surrounding natural landscape were abstracted into recessed designs using a modified CTB Railing 501, type 2 standard. Patterns were formed 'cast in place' at a local foundry, into place, and

irrigation. Downtown, 13 overpasses utility bridges were spray-painted in a multiple design of coordinated color to provide a "City Light" signature entry statement to the revitalized downtown. Parapet walls, bridge pillars, caps, and



Cast CTB pattern detail



Fiber-optic arches stretches across cover of El Paso phone directory.

used city wide on overpasses, concrete barriers, picnic arbors, post and cable guard rails, and parapet retaining-planting walls.

Concrete Traffic Barriers - Custom concrete barriers have been used on Loop 375, along the United States-Mexico

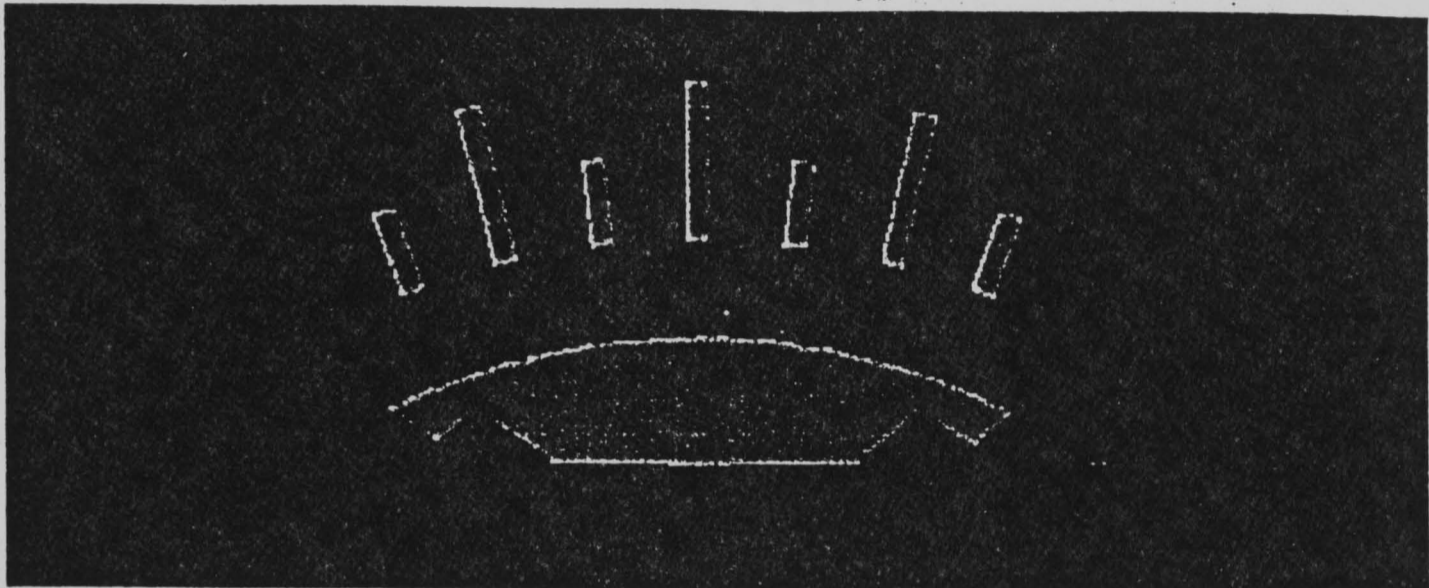
then hand painted. CTB patterns were designed to permit the contractor to place CTBs in random order, with only the requirement that no two identical patterns be placed side by side during the 11 mile placement run. CTBs were painted in three colors. The 'lighter' green color was painted on the bottom third to be more reflective at night.

Roadway Rehabilitation - Interstate 10 was constructed through El Paso in the late 1960's. A new generation of community leaders and professional transportation designers now have the opportunity/problem of how to rehabilitate the existing freeway using improvements that were not considered as the original scope of design 30 years ago. Existing riprap concrete slopes were modified by the installation of angle irons, bolted into the existing slopes and then overlaid with loose crushed aggregate rock. Limestone Rock was framed and mortared into place to create mountain landscape patterns. At the freeway level, raised concrete block planter box walls were constructed, painted in geometric patterns, planted with native desert plants and watered with drip emitter

beams along with concrete barriers were painted to brighten up this section. A special Fiber Optics night time illumination fence, in a series of railroad arches, was installed along the freeway corridor.

Fiber-Optics Illumination - A 3,000 foot section of existing chain-link fence, along the freeway right of way to the Union Pacific switching yard, replaced with a wrought iron fence using railroad details as the design style inspiration. Each one of the 15 curved arches (copied from the window frames of the historic depot station located next to freeway) was illuminated with fiber-optic cable. The cable carries no electricity; instead transmits colored light from a rotating four color wheel in front of a bulb through the plastic fiber-optic cable. Colors at night, are blue, green, yellow and mauve — underscoring the locale of El Paso.

Scenes Along the El Paso Border



You've received the press conference notice and you are probably wondering what we are up to, right? The resurfacing of the IH-10 bonded overlay project has enabled the Texas Department of Transportation to implement the recommendations of both the Aesthetic Committee and the Visual Analysis report.

Color! Their recommendation was to add color and eventually replace the large rip-rap areas with more attractive materials. TxDOT has improved the character of the underpass zone by introducing color on the structures. This has been accomplished by painting the overpasses and the support structures. The long retaining walls will be painted in a mural like pattern which will accentuate the movement along the highway.

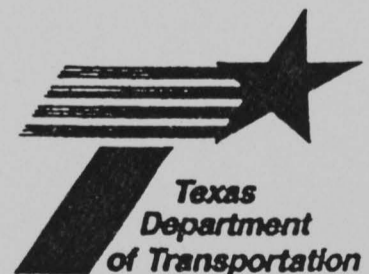
TxDOT's architect, Richard Mason, A.S.L.A. has designed an abstract representation of the surrounding El Paso native landscape. There will be three separate murals, one eastbound, one westbound and one along the downtown Mesa Exit.

The design to the long wall (westbound) is a double-multiple exposure of the Paso del Norte landscape which provided for the setting of El Paso as a bridge between two cultures. There are a series of mountains bi-sectioned by the

pass with the Rio Grande River flowing along side. The design begins on both ends, with the duplication of the graphic representation of the Sunset Heights mural, previously installed on the far west boundary wall just west of the concrete canyon. The design then plays off of the native geographical landform of the desert (tan), leading up to the mountain (terra cotta) with the irrigated riego fields (green) adjacent to the river, both the upper valley and the lower valley, then transmitting outward is the permanent desert (tan) and the mountains (terra-cotta). The mural is outlined with the massive open sky and an occasional cloud.

The Mesa Exit Ramp mural and the mural on the east bound wall are a mixture of the landscape design and the Sunset Height graphic design. These were designed to develop a visual continuity to join all three walls into an overall visual design for the concrete canyon corridor.

All the colors used on these murals are colors already present on IH-10. Overall, we are painting around 3,000 square yards of vertical retaining walls.



TRANSPORTATION

Murals project begins

By Betsy McArthur
El Paso Times

Now that the \$6.6 million renovation of Downtown Interstate 10 is finished, the Texas Department of Transportation is putting the decorative icing on the cake.

Work begins today on three murals on retaining walls below the already-painted overpasses. Motorist inconvenience will be kept to a minimum during the three weeks of painting, department spokeswoman Blanca del Valle said.

"We can officially say the renovation will be complete in three weeks," del Valle said. "And painting won't be done during peak hours."

The murals will be simple, almost abstract and cubist representations of the varied landscape of the El Paso area. Department landscape architect Richard Mason said his concept was to remind Downtown commuters of the varied beauty of the region.

East Side resident Pattie Muñoz, who commutes to classes at UTEP four days a week on I-10, said she is looking forward to watching the creation of the murals day by day.

"Yeah, they sound like they'll be pretty cool. I know some people would rather have just (plain) concrete, but that looks so urban and so sterile, like Dallas. A splash of color could do that area some good," Muñoz said.

But Roger Thompson, a Northeast resident, said the beauty of the murals could be soon spoiled. Thompson drives to the West Side for work every day.

"You know I hate to give anyone any ideas, but the paint probably won't even be dry when the first kids spray it with graffiti. I hope they've thought about that," he mused.

Eddie Sanchez, a deputy engineer with the department, said prison labor would be used to maintain the murals as needed to minimize costs.

Desert murals to accent stretch of freeway

by Laurie Gallardo
El Paso Herald-Post

Texas Department of Transportation officials handed city representatives some paint brushes and told them to get to work. Well, not exactly.

Actually, the transportation department had a ceremony Friday to display plans for new murals to be painted on the retaining walls surrounding the eastbound and westbound lanes of I-10 near downtown. The murals are part of the finishing touches of the freeway reconstruction project that was just recently completed.

The Mesa Street exit ramp on I-10 west was temporarily closed Friday morning as the state transportation officials unveiled the designs for the murals.

Braving a chilly morning wind and exhaust fumes from passing traffic, El Paso state Sen. Eliot Shapleigh, city representatives Raymond Telles,

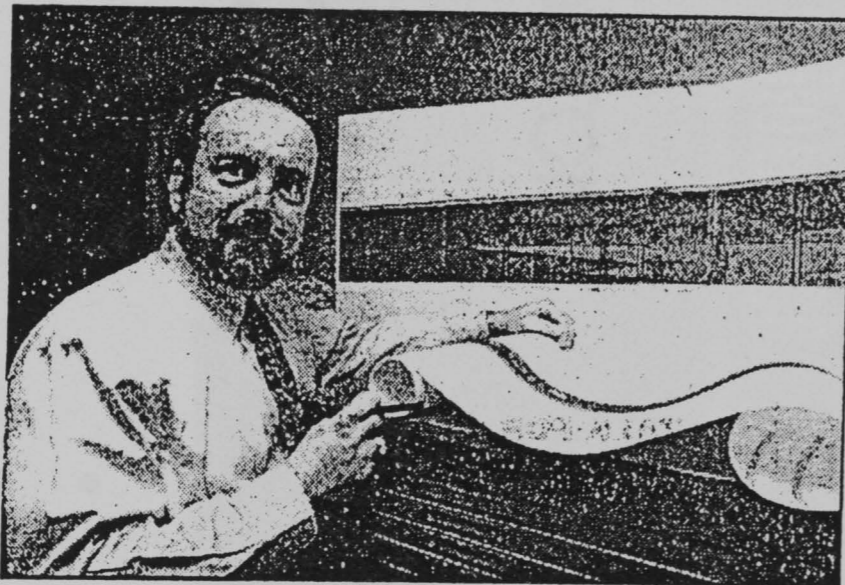
Jan Sumrall, Chuy Terrazas and Stan Roberts donned painters uniforms and hard hats and painted a few streaks of burnt orange on one wall in a show of support for the beautification project.

"What you're seeing here are elected officials and the community working together to get things done," Shapleigh said. "This freeway will hold 18 percent of all NAFTA traffic. It is important to make transportation work in El Paso."

"We talk about improving the quality of life, but we never stop to think of beautifying our own city," Telles said.

Richard Mason, Department of Transportation district landscape artist, who designed the colorful desert patterns that will soon come to fruition, said he took a more abstract approach in the artistry instead of making the murals extremely detailed. This way, he said drivers can still see the murals without having to take their eyes off the road or slowing down while driving by at about 60

■ SEE MURALS / PAGE B-2



BILLY CALZADA / STAFF PHOTOGRAPHER

Richard Mason, district landscape artist of the Texas Department of Transportation, examines plans Friday for murals that will be painted on walls along I-10 in downtown El Paso.

Murals / FROM PAGE B-1

mph.

"El Paso has a wonderful tradition of murals," Mason said. "We wanted to create an abstract interpretation as a reflection of the local heritage."

Mason said the three separate murals will have five basic colors, similar to the Southwestern blue, yellow and tan colors used to paint the freeway underpass structures.

The murals will cover about 3,000 square yards of vertical retaining walls and contain a series of mountains, the Rio Grande and other desert scenery.

Eddie Sanchez, transportation department district engineer, said the murals will take three weeks to complete, with some single-lane closures for the mural-painters' safety. He said the painting will be done during off hours to avoid interrupting commuter traffic.

"I've received a lot of good comments about the colors," Sanchez said. "Painting the (freeway) walls is a very common type of approach throughout the state, especially when you are blending old and new construction."

TEXAS

MARCH / APRIL 1997

JOURNEY

BORDER TOWNS

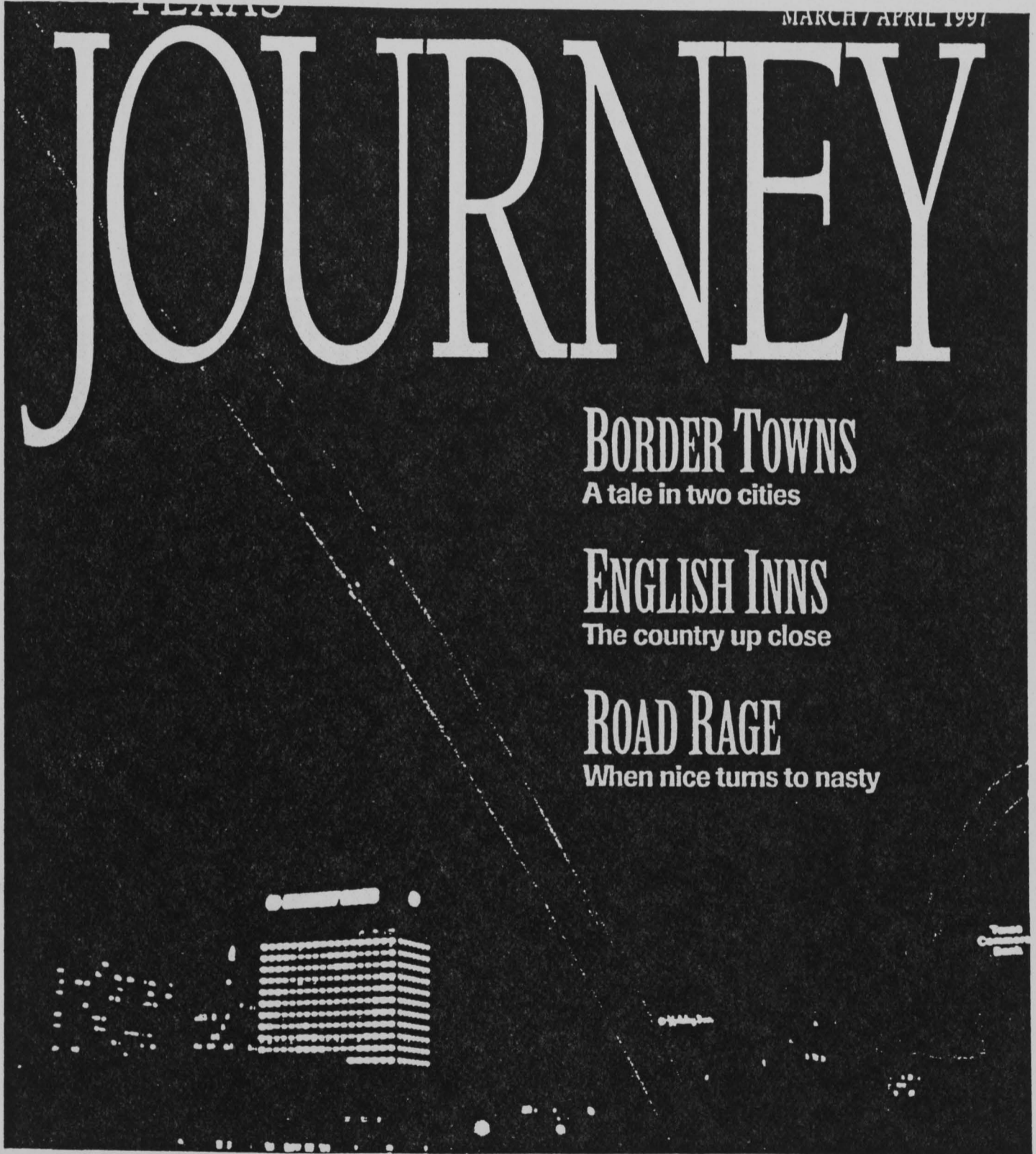
A tale in two cities

ENGLISH INNS

The country up close

ROAD RAGE

When nice turns to nasty



ELP renovation puts icing on the cake

Blanca Del Valle
El Paso District

The El Paso District (ELP) recently finished renovating more than 3,000 feet of Interstate 10 in the downtown area and now is putting the decorative icing on the cake. Elected officials were handed hard hats, painter's overalls, paint brushes and paint, then told to "get to work." Well...not exactly.

State Sen. Eliot Shapleigh, Mayor Pro Tempore Raymond Telles, along with city representatives Jan Sumrall, Chuy Terrazas and Stan Roberts, showed their support for the beautification project by painting a few streaks of color on rip-rap along a selected area of I-10.

"What you're seeing here are elected officials and the community working together to get things done," Shapleigh said. "This freeway will hold 18 percent of all NAFTA traffic. It is important to make transportation work in El Paso."

"We talk about improving the quality of life, but we never stop to think of beautifying our own city," Telles said.

ELP has improved the character of the underpass zone by introducing color on the structures. This has been accomplished by painting the overpasses and the support structures. The long retaining walls will be painted in a mural-like pattern which will accentuate the movement along the highway.

TxDOT landscape architect Richard Mason designed an abstract representation of the surrounding landscape. There will be three separate murals, one eastbound, one westbound and one along the downtown Mesa exit. Mason said he took a more abstract approach in the artistry instead of making the murals extremely detailed.



State Sen. Eliot Shapleigh wields a paint roller on a section of a newly renovated stretch of Interstate 10 in the El Paso District. Shapleigh joined other officials taking part in a recent beautification project.

"El Paso has a wonderful tradition of murals," Mason said. "We wanted to create an abstract interpretation as a reflection of the border heritage."

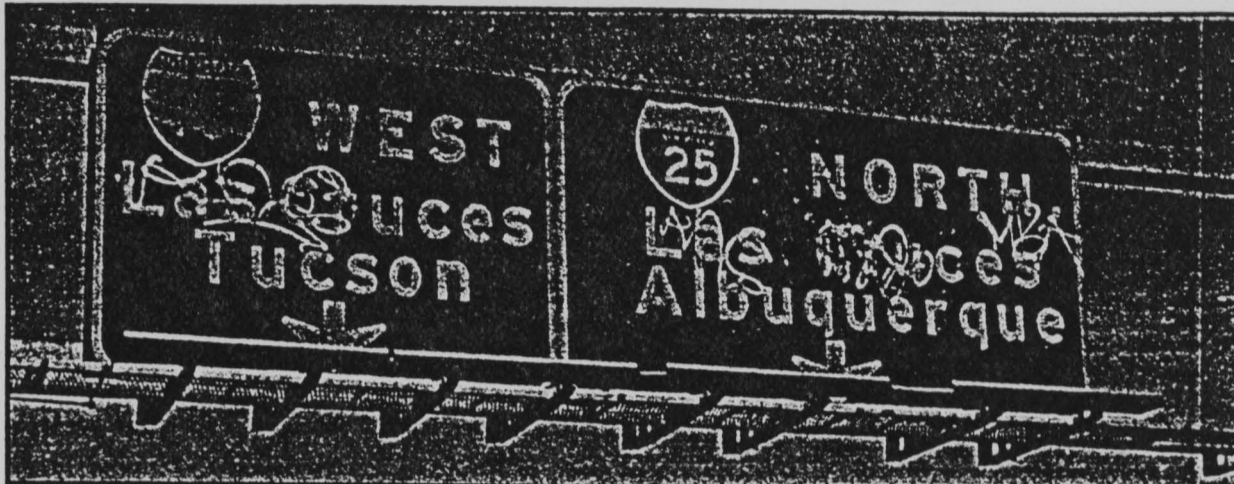
The design on the long wall is a double-multiple exposure of the Paso del Norte landscape which provided for the setting of El Paso as a bridge between two cultures. There are a series of mountains bisected by the pass with the Rio Grande flowing along side. The design begins on both ends, with the duplication of the graphic representation of the Sunset Heights mural (a sunset), previously installed. The design then plays off of the native geographical landform of the desert (tan), leading up to the mountain (terra cotta) with the irrigated fields (green) adjacent to the river (blue), both the upper valley and the lower valley, then transmitting outward is the permanent desert (tan) and the mountains (terra-cotta).

The mural is outlined with the massive open sky and an occasional white cloud. The three murals were designed to develop a visual continuity to join all three walls into an overall visual design for the concrete canyon corridor. Overall, 3,000 square yards of vertical retaining walls will be painted.

"The new murals will give visitors a better sense of the dynamic culture in our community," said Susan Patton, vice president of community affairs for the El Paso Chamber of Commerce. "These murals will make a positive statement about the vibrancy of our community."

ELP District Engineer Eddie Sanchez said, "I've received a lot of good comments about the colors. Painting the freeway walls is a very common type of approach

throughout the state, especially when you are blending old and new construction." ★



TACKY FIRST IMPRESSION — Right now, motorists driving from El Paso are greeted by a graffiti-covered road sign as they enter Las Cruces on Interstate 10. The city plans to counteract that image by creating murals and desert landscaping at three I-10 interchanges. Bulletin photo

Welcome to Las Cruces

Plan takes shape to beautify Interstate entrances to city

By Doug DesGeorges

Throughout the Southwest, public art takes different forms. In Las Cruces, the most visible forms are murals, either on walls or water towers.

Now, get ready for murals on the three major city underpasses on Interstate 10. Armed with grants from the state government, the city is planning murals and landscaping where I-10 crosses Motel Boulevard, Avenida de Mesilla and University Avenue. The goal is to beautify those intersections, both with murals and desert landscaping.

Decorating underpasses and overpasses along major highways is not a new idea. Mayor Ruben Smith said he noticed decorated overpasses in the northern part of the state and wondered why it couldn't be done here. South of Las Cruces, El Paso is in the midst of an ambitious project to decorate all the overpasses and interchanges throughout that city.

And Smith said Las Cruces looks bad by comparison.

"When you look down here, it's kind of pathetic," he said.

City landscape architect Joni Marie Gutierrez said Las Cruces wants to spruce up all interchanges here. I-10 will be done first. Interstate 25 work will wait until after the state adds lanes to the Lohman overpass.

Later this month, the city will ask for proposals from artists for each of the interchanges. Gutierrez said there really isn't any specific concept for what the interchanges look like. She hopes to get different artists for each interchange, but have the three — or however many — coordinate their designs.

Once work begins, many of the artists actually painting the murals will be youths. That's something Smith insisted on, both to encourage young budding

artists and to provide some summer employment. Smith said he hopes work can begin on at least one of the interchanges toward the end of summer.

When done, the Las Cruces interchanges won't resemble the downtown El Paso ones — a sea of concrete walls painted in soothing Southwest colors along a series of underpasses — primarily because I-10 has no underpasses in Las Cruces. But, said El Paso landscape architect Richard Mason, that doesn't mean what results there are can't be attractive.

"Las Cruces has a history of support," Mason said. "You have those water towers and murals. There's no reason why (the interchanges) can't look nice as well."

Mason was able to take advantage of a mammoth road project on I-10 through El Paso to redesign the concrete barriers lining the highway, opening up the view of

the city motorists were rushing through. That, along with the abstract murals and Southwestern colors on underpasses, won Mason an award from the Texas chapter of

the American Society of Landscape Architects. The Texas Department of Transportation will film the I-10 work for a video it's doing on design excellence.

To Mason, highways should reflect cities. He wanted the El Paso project to set the city apart from every other city on I-10.

"We are not Dallas," he said. "We don't want to look like Dallas. There's nothing wrong with Dallas, but this is El Paso."

And Smith feels Las Cruces can achieve the same individuality with its projects.

"It will be unique," Smith said. "And I think when other cities (in New Mexico) see what we've done, they'll do it, too."

The city was able to get money from the New Mexico Highway Department because the project involved having young people help with the painting. "The state is really excited

about having youth involved," Gutierrez said.

The city has \$425,333 for the project. Seventy-five percent of that came from the state and the city is kicking in the rest. Although plans call for murals, Gutierrez hopes there will be some money left over to add some desert landscaping.

Gutierrez said any landscaping will be with attractive, native, drought-resistant plants. The big problem is that those sections are large, and landscaping them will take a lot of money.

Money is necessary. Mason said that before El Paso started its project, the city spent nothing beautifying its highways. In 1993, it spent \$200,000. That jumped to \$750,000 a year in 1995 and 1996. Now, El Paso sets aside \$400,000 a year for such projects, and Mason said he hopes eventually to decorate all major highways in El Paso on that budget.

Mason has had to coordinate his projects with other road work that slows or diverts traffic.

"I've had to do a lot of piggybacking," Mason said.

But, he said, the results are worth it. Response from El Pasoans has been almost uniformly positive.

"We've had wonderful responses," Mason said. "People ask will we do it again in other places."

"When you look down here, it's really kind of pathetic."

— Mayor Ruben Smith



"The state is really excited to have youth involved in the spruce-up project."

— Joni Gutierrez



Awards highlight Transportation Conference

Transportation News November 1997

To recognize the hard work and dedication of its employees, the department presented eight major awards at the annual Awards banquet Oct. 13 at Duncan Hall on the Texas A & M University campus.

Journey Toward Excellence Individual Award

"Transportation is about people," says Richard Mason, winner of the Journey



Richard Mason, right, with Executive Director Bill Burnett.

Toward Excellence Individual Award. This sentiment shines through in the work he has done to significantly alter the driving experience in his district. It has also changed public perception about TxDOT. The pub-

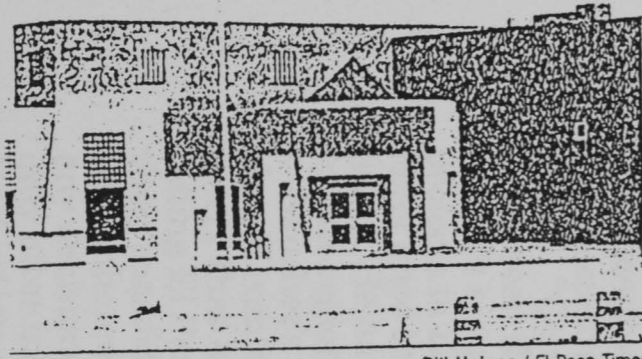
lic thought the district's transportation design was not attractive. Nor did it reflect their cultural values.

In response to these perceptions, the El Paso District hired Mason, the district's first landscape architect, in 1993. He created and chaired a district aesthetics committee, and based on committee recommendations, designed three major projects that have generated widespread community support.

What was once an eyesore—a gray, steel chainlink fence facing an industrial railroad yard — has been replaced with a multicolored fence. A fiber optics system creates a multi-colored, night-time glow along this stretch of I-10.

Under his direction, TxDOT has installed a localized regional design, using color, for the first time in its history. The people of El Paso have had their needs met. The traffic corridors around the city reflect its cultural heritage and make for a visually pleasing driving experience.

Colorful road offices may go gray



Bill Haines / El Paso Times

By Alison Gregor
El Paso Times

The beauty of El Paso may be in the eye of the beholder, even if the beholder lives in Austin.

A new vibrantly painted Texas Department of Transportation building on Loop 375 and Pelicano Drive is under fire from transportation department officials in

Austin because of its unorthodox colors, construction workers said Thursday.

Bobby Steeds, East El Paso's transportation department engineer, confirmed that Austin officials may spend anywhere from \$800 to \$10,000 to have the building, or parts of it, repainted "highway department gray" at 35 cents a square foot.

"The building is really

cool," said Steeds, of the soon-to-open structure designed by The Architectural Practice of Barajas & Bustamante of El Paso. "I was the one who OK'd the color scheme."

But some Austin officials think the Southwestern-style mock adobe building of slate blue, brick red and bright yellow planes, along with milder earth tones, is less than appealing.

"Our goal is to make sure we have a building that is functional to provide the services we need in El Paso, but at the same time, we want it to be an attractive building, as well," transportation department spokesman Randall Dillard said.

Some local transportation department workers like the building, and so does Willie

Please see Colorful 2A

new Texas Department of Transportation building in East El Paso may have to be repainted because a high-level official says the colors are too bright.

Colorful

Continued from 1A

Gonzales, who was working near it Thursday.

"It looks nice to me," he said. "I like the colors."

Gonzales said transportation department officials should have conducted a survey of the public before painting the building if there was a chance it could be

considered an eyesore.

Dillard said the transportation department has not decided whether to repaint any of the building. El Paso district engineer Eddie Sanchez was meeting with Austin officials Thursday to work out a compromise regarding the building.

Sanchez could not be reached for comment.

"We're working with the local people to decide if we like the building the way it is," Dillard

said.

"It's not something we're going to dictate here in Austin."

Steeds said he believes the problem might have originated when transportation commissioner Robert Nichols of Jacksonville visited El Paso and viewed with distaste the new building and brightly painted overpasses on Interstate 10.

Nichols responded to questions through spokesman Dillard.

The practice of painting overpasses has been popular in other Southwestern cities such as Tucson and Phoenix. But El Paso is the only city in Texas that experiments with colored paint on its highways, which costs no more than "highway department gray," Steeds said.

Nichols didn't like the building, overpasses or the landscaping, which was done by nationally acclaimed landscape architect Richard Mason, Steeds

said. Nichols sits on the three-member Texas Transportation Commission, which recently selected a new engineer-director for the transportation department who is rather "old school," Steeds said.

"(We're) worried we're not going to be painting anything this way anymore," Steeds said. "El Paso has its own flair for Southwest architecture that's really unique and neat looking. This fits El Paso."

"We've gotten here locally, nothing but praise for doing this type of thing," he said.

Dillard said he didn't believe El Paso would be asked to repaint its trademark overpasses.

"It's my understanding that there's a little bit of a trend to use more color, not only on our buildings, but on other buildings in the area," he said. "The feedback has been very positive with regard to highways, and the things we've done."

Bridges that dazzle

State will keep adding colorful tones and scenes

State transportation officials in El Paso have performed admirably and creatively to bring Southwest tones and scenes to local bridges and buildings. Fortunately, the highest ranking state transportation official in El Paso said Friday that efforts to decorate with bold colors will continue.

Eddie Sanchez, regional director for the Texas Department of Transportation, said Friday: "No official in Austin has ever tried to change what we're doing out here in El Paso, in terms of painting buildings or freeway overpasses or decorating retaining walls with special scenes." Sanchez also said the fiber-optics arches near the rail yard and several landscaping projects have been added with the permission of state officials. "In fact, I've heard nothing but compliments from department officials in Austin."

That's good news for El Pasoans, the overwhelming majority of whom seem to have accepted the creative touches as distinctive components of the city's personality. It's also good news after this week's report from the district office that district Texas Transportation Commissioner Robert Nichols may have visited El Paso and viewed with distaste a new brightly painted state building and the bold colors of the Downtown freeway overpasses. To the contrary, Sanchez said Friday, "Commissioner Nichols has never seen the building in person, but he's seen pictures of several projects in El Paso and he's heard a lot of good things about what we're doing. He has sent his compliments to this region."

Sanchez's reassuring comments should comfort El Pasoans who worry that Austin officials may be telling El Pasoans how to decorate their roadsides. And, it should be remembered by all El Pasoans that any decisions about decor are made only after intense consultation with local artists and architects. "We have an aesthetics committee that

considers all these issues and makes recommendations on scenes and colors," Sanchez said. "I think they've made excellent decisions. Other than maybe one or two people, I've heard nothing but praise for the Downtown bridge paintings and also the painting that we've done at the Lee Treviño overpass."

As for the new building at Loop 375 and Pelicano, Sanchez said only one bright yellow wall is being reconsidered, "and that's only my personal opinion. We'll have our committee consider it. I think it's too bright, but the other walls are fine with me."

Other encouraging words have come from department spokesman Randall Dillard in Austin: "We're working with the local people to decide if we like the building the way it is. It's not something we're going to dictate here in Austin."

What may have caused some alarm is that such colorful roadside art work is unusual in Texas. "There may be some overpasses elsewhere in Texas that are painted green to match adjacent parks," Sanchez said, "but this is the only city in Texas that's doing this much painting and landscaping."

That local trend should continue because it helps define El Paso's membership among the arid but colorful desert communities. Sanchez said more plans are being considered: "I'd like to have some bridges painted and scenes added on the freeway near UTEP."

Sanchez said more than \$1 million in state and federal funds have been used to paint bridges and freeway walls in El Paso. He also confirmed that such efforts reduce vandalism. "I'm certain that we're seeing less graffiti at these areas after they've been painted," he said.

The great news, then, for El Pasoans is quite simple: The state officials' efforts to add color to existing roads and freeways will grow to include even more eye-catching projects in the future.

Rainbow-hued transportation building will keep its colors, after all

Allison Gregor
El Paso Times

El Paso Transportation Department officials even saw red over a rainbow-colored building on El Paso's East Side, they're denying it now.

El Paso officials said they never planned to paint over the yellow, red and blue building on Loop 375 and Del Encino Drive at taxpayer

expense, though they did say they may repaint a sunny yellow rotunda, about one-fifth of the entire building.

"There were never any plans to repaint this building," Transportation Department spokeswoman C. Eloise Lundgren wrote in a letter to an El Paso resident.

However, architect Guillermo Barajas, who designed the building along

with partner Pablo Bustamante, said they were asked by transportation officials to do some renderings of the building repainted in earth tones.

"At one point, they wanted to change everything," Barajas said.

Barajas explained that the concept behind the building, "memories of what we see traveling down Texas roads," determines the colors. They are not selected

randomly.

"The circular element is the sunrise," he said. "It has been criticized for the bright yellow. I didn't make the sunrise — God did."

Last week, Transportation Department construction workers were worried the department might paint over the building in earth tones at 35 cents a square foot, costing anywhere from \$800 to \$10,000. They also were worried the depart-

ment might repaint El Paso's colorful I-10 overpasses. Those fears are baseless, officials said.

"I've questioned the decision about the yellow there, because I'm trying to make the building less bright," El Paso district engineer Eddie Sanchez said. "I'm asking our aesthetics committee to review the color and see if they have another suggestion or to leave it as is."

Sanchez said the extra

renderings from the architects cost the department nothing. Transportation Commissioner Robert Nichols, who some said disapproved of the colorful overpasses, said he has never seen the building and encouraged experimentation in El Paso.

"I would not have made any recommendations along those lines," he said. "I would not have been in place."

El Pasoans want a colorful city

The following are letters received in response to a comment made by a Texas Department of Transportation official on the use of colors in El Paso's buildings and highway overpasses.

Ann M. Miller, Horizon City: So, Transportation Commissioner Robert Nichols doesn't like our vibrant, Southwestern colors on Interstate-10 overpasses and the colorful Texas Department of Transportation building on Loop 375? This is just one more indication that the officials in Austin know very little about our area.

Mr. Nichols, paint Austin gray, but leave El Paso alone. Letters protesting any

changes should be addressed to Eddie Sanchez, TxDOT District Engineer, P.O. Box 10278, El Paso, Texas 79994-0278.

L.J. Oliva, Northeast El Paso: In Nichols' eyes, apparently jail-house gray covered with graffiti would look better than the beautiful colors on the overpasses and transportation buildings. I hope the mayor and county judge will let him know we like bright colors.

Gabriel Rodriguez, Northeast El Paso: Color is a strong part of the Hispanic community and an important part of El Paso's cultural vernacular.

Do these individuals dictate to our society where we cannot reflect our cultural identity upon objects and space, because they deem it as "ugly?"

By objecting to these colors, this individual is denying El Paso's cultural identity and history.

Luke Gilcrease, El Paso: Don't repaint! We need to encourage simple reflections of our regional tastes through such colorful schemes as can be found on El Paso overpasses and the new East side Texas Department of Transportation building.

Who cares what a few uninformed outsiders think? They don't live here.

Patricia Gorman, East El Paso: Like the wonderful colors on the freeway Downtown, the new Transportation building brings the color of our land to the structures we plant on it.

Let's hope this El Paso beauty is not turned into a non-entity by someone from another climate - Austin.

George Cordova, East El Paso: Leave our colorful city alone. The landscape typifies this great city and exemplifies the desert Southwest.

Austin officials should mind their own business and let our fine highway department continue its great job in making our drab concrete highways a pleasure to drive.

OUR VIEWS

Beautifying highways

Use new grant money to paint freeway overpasses

Here's a quick suggestion for using that \$265,000 in highway beautification money that "Keep El Paso Beautiful" received Friday from the Texas Department of Transportation: Add more of the strikingly attractive Southwest colors and public scenes to local freeway overpasses.

Granted, Keep El Paso Beautiful could put that money to great use with litter-abatement or desert-cleanup programs. But numerous efforts in those directions already are under way. The stunning and tasteful painting of freeway overpasses is a relatively new concept in El Paso, one that seems to have received widespread public support. Plus, the practice creates one of the most powerful and convincing messages that can be dispatched to virtually every motorist driving through El Paso: This city is so proud of its desert environment that it's willing to carry the motif into public art.

Freeway overpasses and side structures are no longer taken for granted in El Paso. The large landscaping and painting project that was installed two years ago near the Piedras exit on Interstate 10 has greatly added to the appearance of that stretch of the freeway. And, Eddie Sanchez, regional director for the Texas Department of Transportation in El Paso, said Monday that his office is researching how \$500,000 could be used next year for landscaping and painting projects on I-10 between Cielo Vista Mall and Lee Treviño.

Congratulations to Keep El Paso Beautiful for presenting the convincing grant proposal that won Friday's \$265,000 grant. No other

city in the state received so large a portion of that grant money. Keep El Paso Beautiful continues to show how aggressive and innovative grants-writing and project designs can make a significant impact on the appearance of the city.

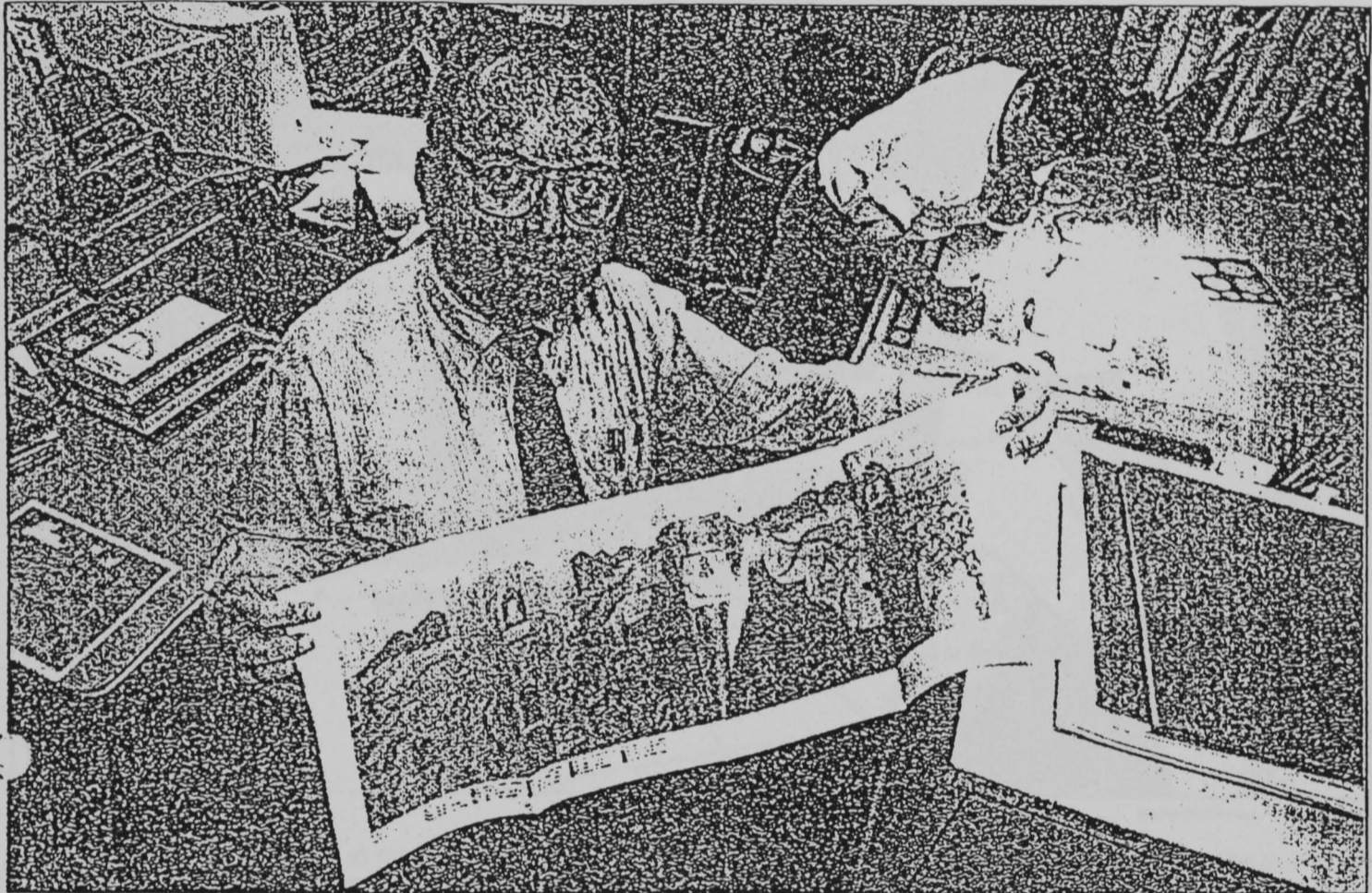
Unfortunately, last year a few guardians of the status quo seemed rather overwhelmed when the Southwest regional scenes were painted on the Downtown freeway overpasses. By now, though, most of the criticism seems to have fallen into an appropriate silence.

The Downtown freeway overpass colors have become a part of this city's distinctive personality. In fact, they've been around long enough that the elements of weather and pollution seem to have taken away some of the luster. Sanchez said Monday that his office is researching ways to either wash or air-clean the colors and restore their original brilliance.

Highway-decorating ideas exist all over the city. For example, near the Schuster exit there could be large public displays on and near the overpasses of scenes that would remind every motorist that this is the home of the University of Texas at El Paso. Numerous other such examples exist, all the way from Anthony to Fort Hancock.

El Paso is a colorful city. The people have colorful ideas and the region's desert always seems to treat us with hues and tones that change with every position of the sun. It's encouraging to see that this city's colorful personality can be projected in the many attractive scenes and landscaping along the highways.

LOWER VALLEY: LOOP 375



Bill Haines / El Paso Times

Richard Mason, landscape architect for the Texas Department of Transportation, shows a mural design based on submissions by students that will be used on Loop 375. In the background is Mason's assistant, landscape designer Jorge Gomez.

Students' designs to decorate roadway

By Cindy Ramirez
East Side Bureau

Thousands of colorful tiles will create a student-inspired mural of the Mission Trail along a future extension of Loop 375 in the Lower Valley.

The Ysleta, Socorro and San Elizario missions will be depicted on the retaining walls on each of the four corners of the Socorro and Loop 375 intersections.

The artwork will be made using 43,000 1-inch tiles, and each mural will stand 10 feet tall and 30 feet wide.

"We wanted it to represent the culture of the Lower Valley community, and this was perfect given it

will be on the historical road (Socorro) that connects the missions," said Richard Mason, district landscape architect with the Texas Department of Transportation.

Mason and the Texas Alliance of Minority Engineers in January 1997 had a design contest at LeBarron Park Elementary School, where students drew up mural ideas and trimming designs.

Seven winning ideas were touched up and incorporated into the mural, the trimming and other aesthetics of the future roadway.

The credited student designers, all age 11 or 12, are Stephanie Hernandez, Christina Hinojosa, Edgar

Lozano, Jorge Martinez, Edward Munnel, Veronica Quezada and Jesus Trausto.

Loop 375 will be extended from South Zaragoza Road north to Interstate 10. The loop will bridge over Panamerican, Socorro, Alameda and North Loop roads. Construction is expected to start in November.

The mural project is still awaiting final approval but should be completed along with the loop extension by early 1999.

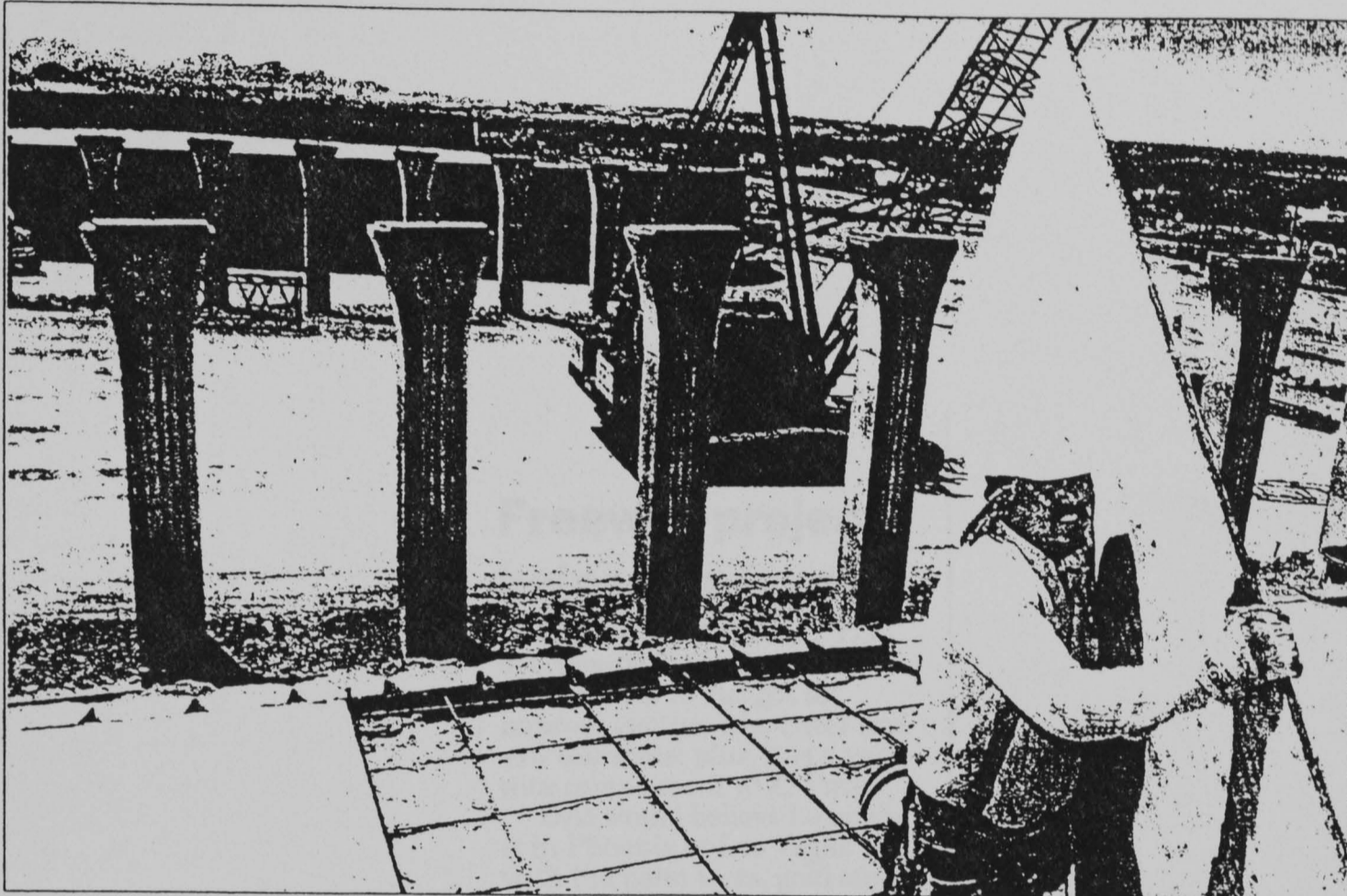
The pillars, arches and bridge railings also will boast Southwest colors and student designs. Indians on horseback, mountain silhouettes and desert plants will add to the design.

Besides beautifying roads, soft colors are believed to be soothing and to calm otherwise frustrated drivers. Pastel shades and Southwest designs already cover parts of Interstate 10 and some gateways on the East Side and Downtown.

"It sounds like it's going to be beautiful, and I'm sure it'll add a lot to our community," Lower Valley resident Adriana Carreon said.

The entire Loop 375 Lower Valley extension project carries a cost of \$25 million, of which \$250,000 is devoted to the mural and other aesthetics. Federal money will pay for 80 percent of the total extension cost, and the state will pick up the rest.

WEST SIDE: I-10 CONSTRUCTION



Rudy Gutierrez / El Paso Times

The Interstate 10 overpass at Redd Road is starting to take shape, and area motorists generally say they like the colorful brick and etched pillars. Mario Gandara is one of the construction workers on the project.

Projects on Arctcraft, Redd begin to show their colors

By Kim Baca
El Paso Times

Through nearly a year of dust and orange barrels along Interstate 10 East west of El Paso's city limits, drivers can now see the beginnings of the \$42 million Arctcraft-Redd Road project.

Crews are building the decorative part of the Redd Road interchange with beige and brown brick.

"It looks really good," area resident Judith Coker said. "I am really happy with all the colors they are using. It's better than regular concrete. They are making it look really nice."

Frank DeSantos, spokesman for the Texas Department of Transportation,

said all work for the project is on schedule. It is expected to be completed in August 1999.

The three-phase project began last year. While most of the phases are in the building stages, the last part of the project will be to connect Arctcraft with Doniphan. The additional stages include building a diamond interchange at Redd Road and I-10 and an Arctcraft interchange.

DeSantos said that while architects had miscalculated the clearance height of the rebuilt Arctcraft bridge, it did not put crews behind.

Crews came up about a foot short on the clearance height of the bridge, which was to be 16 feet 6 inches, the state's standard. The

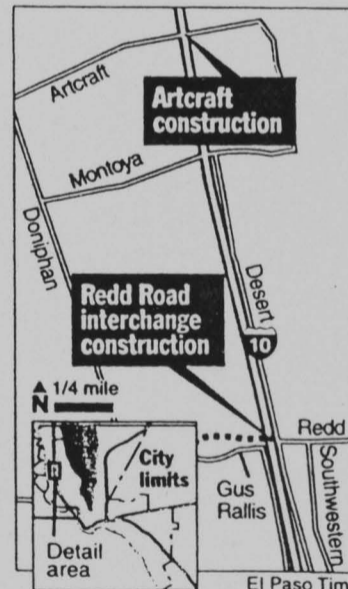
height now is 15 feet 9 inches. He said the company will pay for the correction, about \$250,000.

The sooner the completion date, the better for Ray Lucero. He is vice president of Creative Corner, a business affected by traffic on Arctcraft Road.

"Traffic hasn't been bad, but it's a pain to get around," he said. "We have trucks coming in and out all day long. It causes us a lot of delays and ties up traffic a little bit."

Residents of Anthony, Texas, and others who cross the New Mexico-Texas line also have encountered traffic snags due to a separate \$3.4 million project to build a new four-lane bridge.

Traffic last month was



diverted to side roads one night after the old bridge was destroyed.

That project, which also includes decorative brick and landscaping of medians, is expected to be finished in March 1999.

LETTERS

Freeway project helps our image

What a piece of work! The overpass at Redd Road and Interstate I-10 has got to impress visitors who enter and exit our state; plus, it is a very nice complement to El Paso.

One would believe he or she is in Phoenix or Las Vegas with the palm trees, gold stars and mosaic stonework. The interchange project that is scheduled to open later this month is a must-see for everyone in El Paso.

Wouldn't it be nice to do the same type of landscaping from the airport out to I-10? What a nice impression it would make on visitors, and it would give El Pasoans a lot of pride.

So, with our new image at the airport, let's expand the theme on through El Paso.
¡Viva Avenida de Las Palmas!

Ed Gurley

West El Paso

MENTORS

El Paso employees popular as volunteer school teachers

By Blanca Del Valle
El Paso District

In the El Paso District, science is something to share. The district has been a major participant in the Science Advisers Program, based at the University of Texas at El Paso, since 1992 when the program originated in El Paso. More than 16 TxDOT engineering professionals provide support in math and science for public school students.

The district's volunteer staff consists of engineers, architects, planners, and engineering technicians, who work with students at several elementary schools, science fairs and libraries in local school districts by promoting math and science subjects and engineering education fields.

The visits consist of bilingual math/science sessions for several grade levels, generally sixth grade. At the sessions, district employees to share their knowledge and answer questions about science and math from students, teachers and principals.

District volunteers also perform hands-on experiments that supplement the school's current classroom curriculum.

The interaction between TxDOT and the schools has been a positive experience for both, officials said.

"TxDOT has provided to the program a valuable resource, its people. Without them, the program would not be as successful in the El Paso area," said Yvette Sanchez, program coordinator.

"I love the program! I wish we could have (the program) more than once a month. The children need hands-on stimulus to meet the challenges of today," said Cristina Morales, a sixth-grade teacher at Le Barron Elementary

Engineering specialist Martin Holguin said he also looks forward to the sessions and enjoys preparing for experiments.

"It is only our hope that these students would continue to have the desire to learn more about science and mathematics and someday mention that our sessions and experiments is what generated that spark of interest to pursue a degree in the field of engineering," Holguin said.

In addition to working with students on school and community grounds, the El Paso District also sponsors tours of its facilities so students can learn about various jobs in the transportation field. Tours cover planning, project development, surveying, design, materials laboratory and traffic, including the district's Intelligent Transportation System facility, courtesy patrol, maintenance, sign shop and other offices and job sites.

Some students have used information gathered from their visits as part of their science fair projects. Joey Dominguez, now an eighth-grade student at Carlos Cordova Middle School, was awarded top honors for his science project on concrete and asphalt pavements.

One of the district's most memorable experiences was its participation in a design contest at Le Barron Elementary School.

Sixth-graders were asked to develop an aesthetic concept to be used in our concrete traffic barriers and other applications for local design projects. Richard Mason, the district's landscape architect, reviewed the entries and selected several winners.

One of the concepts selected was incorporated into the Interstate 10-Loop 375 and Loop 375-Socorro interchanges to represent the local historical characteristics of the area. Other concepts from the contest will be used in concrete traffic barriers and bridges for future projects.★

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