DALLAS COUNTY CIP- 2003

Steve Chutchian

To: Daugherty, Clarence

Subject: RE: Proposal

Clarence - In response to some of the issues you brought up, please note the following:

1. We are looking at the entire length of Keller Springs, from the Tunnel to Dallas Parkway. We should get a set of plans from NTTA for the portion, from the Tunnel to Addison Rd., very soon. We need to tie the NTTA project into our overall project, with DART Lap funds, totaling $280,000 also included. We need funding to help pay for the Addison Rd. to Dallas Parkway portion.

2. We need to develop a "not to exceed contract" if at all possible.

3. If you will forward a list of items, such as traffic accident records, utility replacement needs, we will get that informatin to you ASAP. I believe that most of the water mains will be replaced. Sewer lines may be another issue.

4. The $12M streetscape budget may be used as a lump sum figure for streetscape and surface-utility undergrounding. However, we will need to generate costs for water and sewer replacement, street reconstruction, etc.

If you have any questions, please let me know. Thanks.

Steve C.

-----Original Message-----
From: Daugherty, Clarence [mailto:CDaugherty@pbsj.com]
Sent: Friday, May 02, 2003 4:34 PM
To: Steve Chutchian
Cc: Forbes, Scott; James, Michael A
Subject: Proposal

We are working toward getting you a proposed contract early next week. I am going on the assumption that you want a very thorough estimate that will not come back to haunt you and us later when the bids come in. That is the basis of us planning the work effort for this little project. So we intend to be very conscientious on identifying everything that should be included and preparing solid estimates for each item.

When we looked at the plans for Keller Springs that you loaned me, we found that it is for a very short section near Addison Rd. I got the impression it was for the whole segment between Addison Rd and Dallas Pkwy. It appears that the basic street is a four-lane undivided section with left and right turn lanes at intersections. Is that right or are you looking for a four-lane with median? Or something else? Just let me know so we can make sure we know what we're getting in to.

We will be ready to start work on this when we tum in the proposal/contract even before we formally get approval - we know we don't have much time. We will count on Addison and PBS&J being able to come to terms on a fee for the job. I think we will propose that this be an hourly job with us giving you our best estimate of how much time/cost it will take. We will have a very detailed list of tasks that we have identified so you can see what we plan to do.

Since we will need information from the Town, we need for you guys to be geared to this too. For instance, have you asked your utilities folks to determine what utilities are under Beltline and what needs to be replaced? Hopefully they are working on that now. Also there is information that has to go into the Dallas Co application we will need from the Town - for example traffic accident history. We'll prepare a short list of those items, but we'll need for you to get that info in the right timeframe in order for us to meet the Dallas Co deadline.

We also need for you to decide whether or not you want us to use the $12M as the budget for the streetscape or if you want that to be part of the estimate that we prepare. If the $12M was based on some homework that you have already done on the streetscape and the utililites that have to be put underground, then that might be a fairly good figure to use. But if the utilities really haven't been investigated thoroughly, then I would say we need to get into it.

We will try to submit our proposed contract to you Tuesday.

Clarence Daugherty, P.E.
Director of Municipal Services
PBS&J
5999 Summerside Dr., Ste. 202
Dallas, Texas 75252
972 380-2605

Steve Chutchian

Mike: Dallas County Public Works Department is currently accepting applications for Major Capital Improvement Program (MCIP) project funding. Our Department previously discussed the opportunity of receiving matching County bond funds for certain roadway impovements on Belt Line Rd. We would also tie the proposed $11 million Belt Line Rd. Streetscape improvements into our portion of the overall Belt line Rd. project.

Dallas County was contacted regarding the type of roadway improvements that would qualify for County funding. I talked with Jack Hedge, with their office, and he stated that we could submit a proposed H.M.A.C. overlay or a total reconstruction of Belt Line Rd. and utilitize our current streetscape funds to enhance our stated cost participation. The County's match would then be well within their desired levels. At this time, our department can enlist the help of P.B.S. & J to perform cost analysis of the Belt Line Rd. improvements and formally submit the extensive application to the County on our behalf. However, we need some direction regarding the type of proposed roadway to submit in our application to the County. Thanks.

Steve C.

DRAFT

Dallas County

Major Capital Improvement Program (MCIP)
Application Instructions

The following instructions provide a detailed description of the information requested for each field within the MS Access 97™-based Project Application. The application was designed to solicit sufficient information to convey a thorough understanding of each proposed project. It is recommended that a team composed of Planners, Engineers, and Right Of Way agents be assembled to completely fill-out the application for each proposed project. Additionally, cities are strongly encouraged to submit all available documents on the proposed project such as design plans, ROW parcel acquisition/donations, and preliminary engineering specifications, in order to assist the County in the project cost estimation, evaluation, and selection process.

Table of Contents

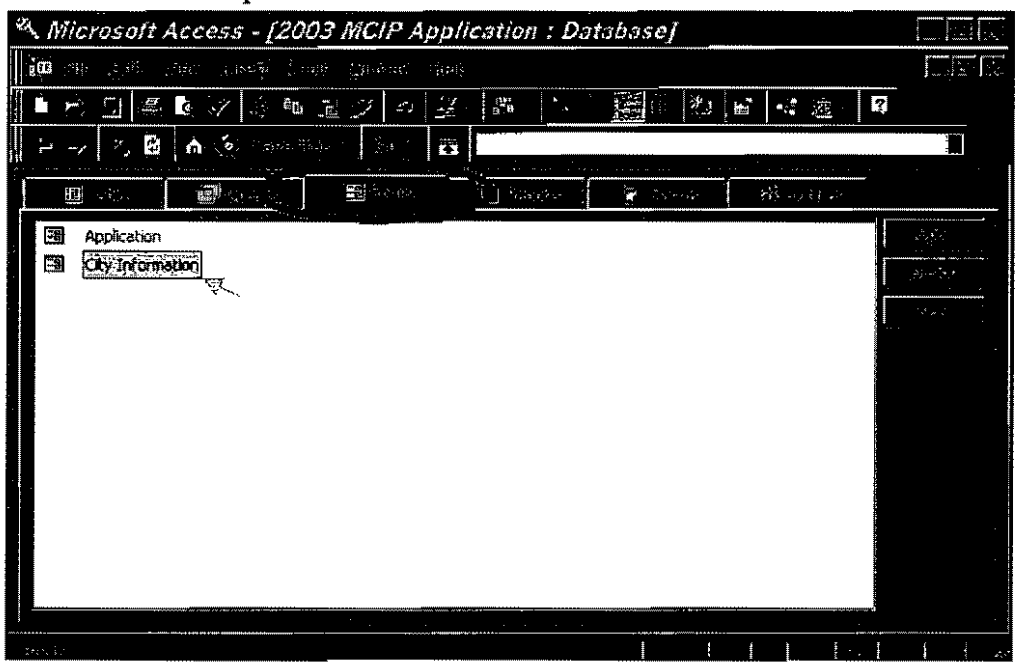
Application Process Steps	Page Number:
Step 1: Accessing the Application	2
Step 2: Entering Contact Information and Navigating MS Access 97™	2
Step 3: Entering Project Information	3
Step 4: Submitting your Applications to Dallas County	4
1) Paper Submittal of all Applications and Cover Sheet	5
2) Electronic Submittal of Database	5
Individual Field Identification	
Part 1. Traffic	7
Part 2. Pavement	8
Part 3. Drainage	9
Part 4. Utilities	10
Part 5. ROW Acquisition	10
Part 6. Amenities to the Project	11
Part 7. Other Amenities to the Project	13
Part 8. Public Involvement	14
Part 9. Total Project Cost	14

Step 1: Accessing the Application

The 2003 MCIP Application is available from the Dallas County Website. It can be accessed at the following link: http://www.dallascounty.org/html/citizen-serv/pubwks/mcip-projects.html Download a copy of the application to your hard drive or network computer in order to save any entries you make to the form. It is also recommended that you save these instructions in the same folder for quick reference. A DRAFT version of the application was posted in early February, 2003. Be certain that the version you are entering your final project information to is not the early DRAFT version that was posted to solicit feedback on the new application.

Step 2: Entering Contact Information and Navigating MS Access 97™

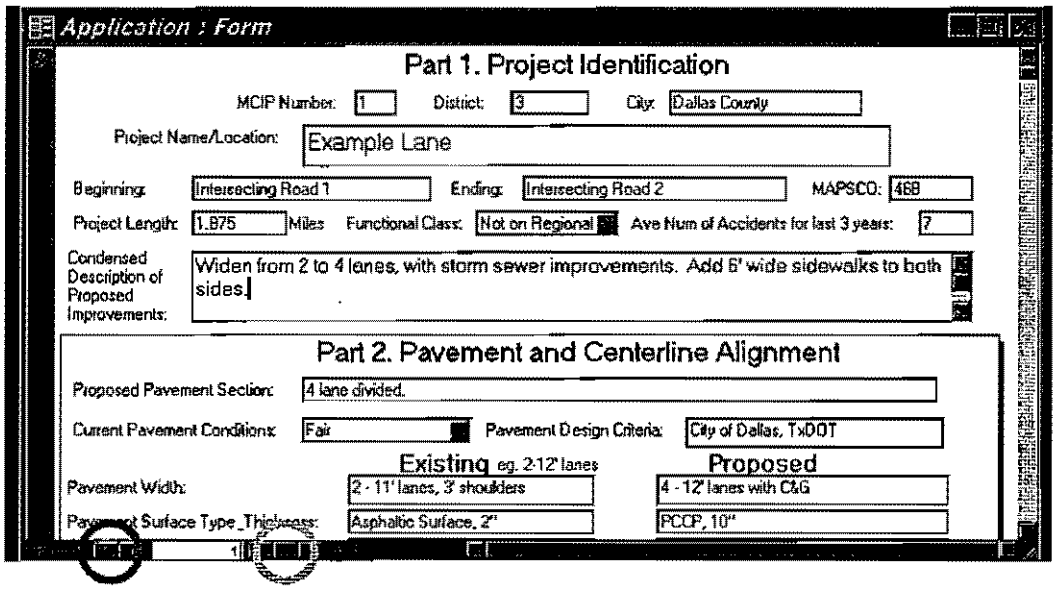
After you copy the application onto your hard drive, you are ready to launch the '2003 MCIP Application' Database. Open it up and find the Forms tab (pink circle). Click on the Forms tab. In the Forms tab you will see a form called "City Information". Point the cursor to this form and double click on it to open it.



Once you open the "City Information" form, you will see a space to enter your city's name, the project contact person's name, email, mailing address, and phone numbers. You can advance along the form by using your keyboard "Tab" key or the point-and-click method. Upon completion of this form, you may close the 'City Information' form by clicking on the "X" in the upper right corner of the form window. The data you entered will automatically be saved. Be sure to click on the lower "X" as clicking on the upper "X" will close the MS Access application.

Step 3: Entering Project Information

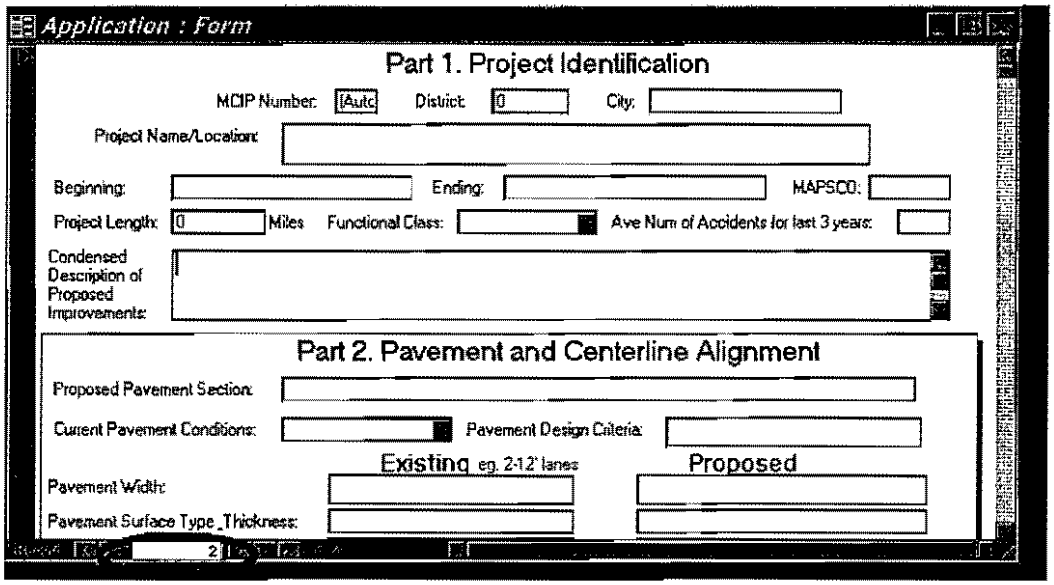
You are now ready to begin filling out the project information. Once again, looking at the Forms tab, you want to open up the 'Application' form. Upon double clicking on 'Application', the following should appear:



Notice that the **first record** has been filled out. This has been provided as an example only of the kinds of responses requested for each question. Whenever you are unsure of what to enter into a field, you can press the button on the bottom left corner of the screen that has a green circle around it above. It is a bar line with a left arrow next to it. This button brings you back to the first record, which in this case is the example record. Once you have looked at the field in question, press the right arrow bar line (yellow circle) and it will take you to the last record in the database, which in a sequential order of input would be the one you were just working on. Additionally, the button with the left and right arrows alone allow you to go through your applications in order of input either backwards or forwards respectively

The **scroll bar** on the right side of the form allows you to go up and down on the application form. Take a moment to scroll down to the end of the example application noticing the number of parts (sections) in this application and the types of questions requested in each. Upon becoming familiar with the application you are now ready to enter the information for your first application.

Press the Right Arrow Star button that is located to the right of the yellow circle above. This button means a new record will now be entered. At this point the number between the arrows we have been looking at will change to 2. This number will change sequentially as more projects are added. The screen at this point should show the following:



Point your cursor to the District field and begin entering your project-specific information. After entering the number of the Dallas County district in which the project is located, you can move ahead by pressing the 'Tab' key. Once you have tabbed your way to the bottom of the application and filled in all of your project information, pressing tab again will automatically start a new record for you. At that point you will see that the number in the bottom of the screen between the arrow boxes (purple circle) increased by one.

Continue filling in all project information. You can leave off and come back to any and all applications as time permits. If the example alone (record 1) does not provide a clear enough explanation of the desired input, you can also access explanations to each field in the "Individual Field Identification" instructions provided below. If after looking at those instructions you are still unclear about the information required based on your particular project, you may contact the following people for each section by dialing (214)563-7151:

MCIP Selection Process	Edith Ngwa
MCIP Application Function	Isela Rodriguez
Design	Jack Hedge
ROW	Selas Camarillo

Step 4: Submitting your Applications to Dallas County

Congratulations! You have now entered all of your project information and saved it to your hard drive, or network computer. The task at hand now is to get the information back to Dallas County in time for the submission deadline. The following two things should be provided to Dallas County:

1) Paper Submittal of all Applications and Cover Sheet:

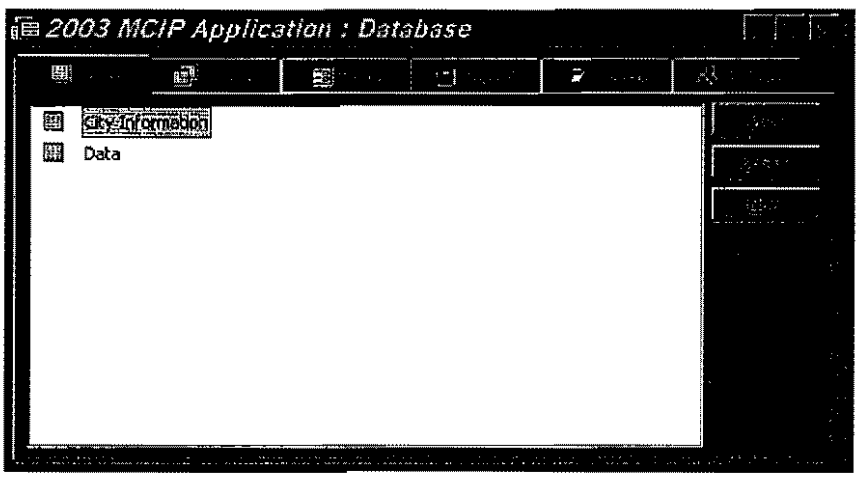
Go to the "Reports" Tab in the Access Application. You will see two reports labeled '2003 MCIP Application' and 'Application Cover Page'. Open each up one at a time and print both out. Be sure to Preview each report to ensure the margins are set correctly on your computer so that you do not end up with wasted paper. Each application should print out on three sheets of paper. Some of the fields may not print out the inputted text in its entirety. Do not worry about those fields, part two of the submittal will provide us with the hidden information.

The 'Application Cover Page' will show your main contact information and should display the correct number of applications you are submitting. Upon verification of those items, preview the report and print it out. If there are any errors in the data, they can be corrected in the Forms tab where you originally entered your city's contact information. If the number being represented as number of submittals is incorrect, simply cross it out on your paper copy and write the correct number in. You will be mailing in this packet of information, together with any supporting data such as maps, titles, etc. to Dallas County Public Works, care of Dr. Edith Ngwa. The address should have printed out with your 'Application Cover Page' as a separate sheet.

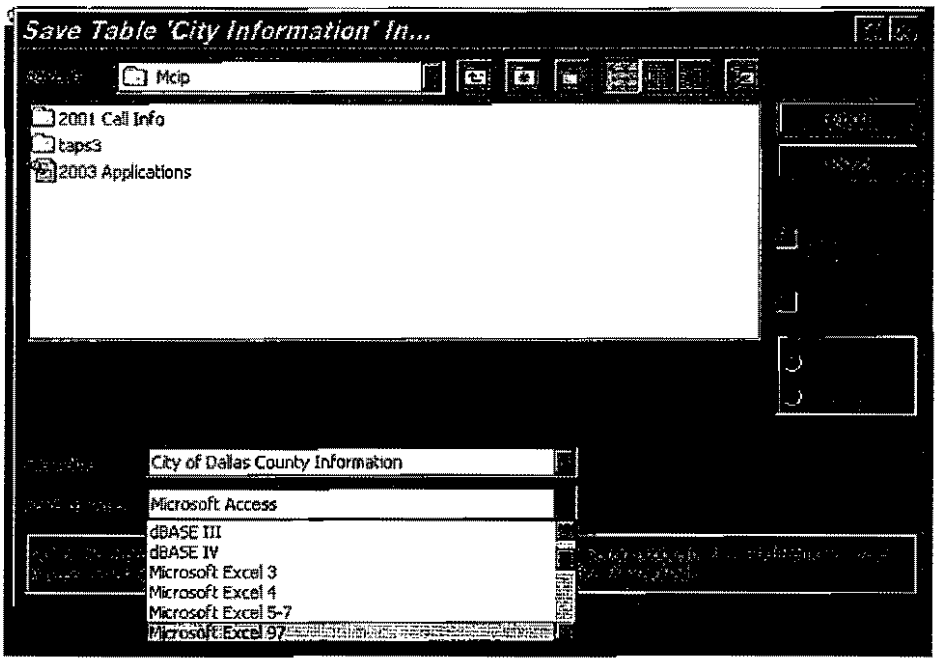
2) Electronic Submittal of Database

Dallas County also needs to receive the database in an electronic format along with the paper copy. Since the application file will be too large to email, you can burn it onto a CD. Those cities with CD burners will be able to burn their completed copy of the 2003 MCIP Application onto a CD for submittal to Dallas County and include it in the same package as the paper copies.

If you **do not** have a CD burner, the next option is to convert the individual tables into an Excel spreadsheet and email them to Dallas County (engwa@dallascounty.org). You can convert the tables into Excel by doing the following:



Go to the Tables Tab. You will see two tables in this tab called 'City Information' and 'Data'. Highlight the 'City Information' tab as shown above. Right click on 'City Information' once. Next, select "Save As/Export". Make sure the "To an External File or Database" button is selected and click OK. Change the file name to "City of [Your City Name] Information" and the file type to Excel 97 as shown below:



Click Export and repeat for the 'Data' Table as well, renaming it 'Data for the City of [Your City Name]'. The Excel spreadsheets created should be substantially smaller and fit into a diskette or email format. If again, they are not, call me (Isela Rodriguez) at (214) 653-7151.

Individual Field Identification

Part 1. Project Identification

MCIP Number: This field will be populated automatically and requires no input on the part of the City.

District: Dallas County Commissioners' District in which project is located (1-4)

City: The City submitting the application

Project Name/Location: Street on which project is located and one word explanation (Widening, Repaving, etc.)

Beginning: For linear projects, enter the point of beginning; for intersections, enter the cross-street

Ending: For intersections, enter N/A

MAPSCO: Give the project location in the MAPSCO

Project Length: Length in miles. For intersections, enter 0.25 miles

Functional Class: Select 2001 Regional Thoroughfare Plan classification According to NCTCOG of project street from the drop down menu: Freeway; Regional Arterial; Other Arterial; Not on Regional Thoroughfare Plan

Average Number of Accidents: Based on police accident records, state the average number of accidents that have occurred in the proposed project location in the last 3 years.

Condensed Description of Proposed Improvements: Fully describe the proposed project concisely.

Part 2. Pavement and Centerline Alignment

Proposed Pavement Section: Number and width of lanes. If known, indicate if the road is to be divided (D) or undivided (U).

Current Pavement Condition: Select the condition of the roadway from the drop down list - Excellent, Good, Fair, or Poor.

Pavement Design Criteria: List the order of precedence of design standards. Some of the standards are TxDOT, NTCOG, City and AASHTO standards. An example would be City of Dallas, NTCOG and TxDOT. This example says that the City of Dallas standards are over NCTCOG which is over TxDOT. If a specific city standard is not used the county will assume to use the City of Dallas standards.

EXISTING AND PROPOSED:

Pavement Width: For existing roadway – list the width of pavement. Examples are 2- 11 ft. lanes or 3- 10 ft. lanes or 24 ft. For proposed roadway – list the number and width of the lanes. The width should be in feet.

Pavement Surface Type & Thickness: For the existing roadway – list the surface type of the road and its thickness in inches. Examples are asphalt, asphalt over concrete or concrete pavement. For the proposed roadway – Enter the type of pavement surface desired and its thickness.

Pavement Base Type & Thickness: For the existing roadway, enter the thickness in inches of the base pavement and its type. If the current pavement thickness is unknown, state unknown. For the proposed roadway enter the minimum pavement thickness and type.

Pavement Subgrade Type & Thickness: For the existing roadway, enter the thickness in inches of the pavement subgrade and its type. If the current pavement thickness and material are unknown, state unknown. For the proposed roadway enter the minimum subgrade pavement thickness and type.

Parkway Width: In feet, state the width of Right of Way from the back of the curb to the Right of way line. If no curbs, state the distance from the edge of the pavement to the Right of Way line along with no curbs. The parkway usually contains the sidewalk and the utilities such as electric, gas, water meters and cleanouts. If the parkway width is not the same on each side of the road state such. An example is 10 ft E and 14 ft. W which means 10 feet on the East side and 14 feet on the West side of the road.

Sidewalks & Width: If no sidewalks, enter "0"; if sidewalks on one side, indicate which side (L,R,N,S,E,W)and width in feet; if sidewalks on both sides, enter "2"and width of each in feet. Eg.: 2, 6' means there are 6 foot sidewalks on both sides.

Through Lanes & Width: For corridors, use the minimum number of through lanes in both directions anywhere within the project limits. For example, a roadway that at its narrowest provides for one lane of through traffic in each direction would be encoded as "2". Note that dual left turn lanes or auxiliary lanes are not included. For intersections, use the maximum number of lanes available for through traffic for the direction with the minimum number of lanes, including shared lanes. For example, an intersection that provides for 3 through or shared /through lanes in one direction but only two in the other would be encoded as "2". Note that exclusive turn lanes are not included in this count.

Left Turn Lanes & Width: **For corridors**: reflects the presence of continuous left turn lanes or bays at every intersection. **For intersections**: this value is the maximum number of exclusive or shared left lanes on the approach with the minimum number of left turn lanes. (See comment for through lanes)

Left Turn Storage Length: What is the length of the left turn storage bay in feet?

Right Turn Lanes: **For corridors**: reflects the presence of auxiliary accel/decel and right turn lanes. **For intersections**: enter the maximum number of right turn

lanes (exclusive and shared) on the approach with the minimum number of such lanes.

Median Width: For the existing roadway, state the width in feet of the median from the inside edge of the pavement to the other inside edge of the pavement. If there is not a median then state 0. For the proposed roadway state the desired width of the median in feet.

Bicycle Lanes & Width: If no bicycle lanes, enter "0"; if bicycle lanes on one side, indicate which side (L,R,N,S,E,W); if bicycle lanes on both sides, enter "2". After determining side, enter width of lanes in feet. Eg.: 1 N, 12' (Bicycle facility on the north that is 12' wide.)

Grade Requirements

Average Expected Cut: If known state the average amount of material to be removed in feet.

Average Expected Fill: If known state the average amount of material to be added in feet.

For Projects with repairs

Type of Repair: Identify the type of repair to be done by selecting from the drop down list. If your repair type does not fall into any of the drop down list categories, type it in.

Actual Repair Size: State the size of the area to be repaired in square feet and linear feet of edge.

Is centerline aligned in center of ROW? If not, how much is it offset from the center and to which side?: Yes / No. Check the box for yes. If it is not aligned, state in feet the distance from the roadway centerline to the midpoint of the Right of Way.

Part 3. Traffic

Design Speed: Speed the roadway was designed for.

Average Posted Speed: For corridors with more than one speed limit, the average posted speed (in miles per hours) is the weighted average of the posted speeds. For intersections, enter the highest posted speed of the intersecting roads.

Average Operating Speed: Operating speed at period of peak demand, in miles per hours, calculated by dividing the length of the project by the time required (in hours) to traverse the projects.

Traffic Volume: The average daily traffic (adt) of the facility to be improved. For new roadway facilities, enter "N/A"

Traffic Volume Source: The source of traffic volume information. For estimates, enter "Estimate"; for real world data, enter "Count" and the month and year of the count.

Presence of Bus and/or Heavy Truck Traffic: Check the box if the project is on a roadway that experiences bus or heavy traffic. Leave box unchecked if it does not have heavy vehicles on it.

Part 4. Drainage

Storm Sewer Design Criteria: State what storm sewer or drainage manual are proposed. Is no storm sewer is needed then state N/A. If a storm sewer is to be installed and the city does not have their own manual then use the City of Dallas Manual.

EXISTING AND PROPOSED

Number of culverts and dimension of culverts: State number and dimension of existing and proposed culverts. If none exists and/or is being proposed, enter "N/A"

Bridge length and width: State length and width of existing and proposed bridge. If none exists and/or is being proposed, enter "N/A"

Is any section of the road under the 100 year flood plain?: Check box for "Yes", Leave blank for "No"

Part 5. Utilities

For each of the following utilities, please check if it exists in the proposed project.

Water Lines:

Gas Lines:

Storm Sewer:

Sanitary Sewer:

Cable:

Electricity Lines:

Railroad Lines:

TRA Lines:

Transmission Lines:

Underground Vaults:

Other Underground Utilities: Please state any other utilities not listed above that exist in the proposed project location

Document known risks for utility partners: State any known risks for utility partners

Utilities are on existing street ROW: Check if utilities exist on street ROW and leave blank if they do not

Utilities own their ROW or have prevous easements: Check the box if utilities are located on their own ROW or have an existing easement and "No" if utilities are located on street ROW

SUE (Subsurface Utility Engineering) will be needed: Check the box if SUE will be needed

Any Special Considerations: Please state any other concerns or special considerations for utility relocation from the project ROW

Part 6. ROW Acquisition

A Safety

Check if the following exist or are proposed as part of the project.

Transit (DART Lines):

School:

Church:

Municipal Buildings:

Other: State any other safety issue that might exist in the proposed project location

B. Environmental

Check if the following exist / apply in the proposed project.

Floodplain: Please indicate the FIRM Panel number in the "Comments of ROW Availability/Easements" Box

Lake: If present, indicate proximity (in feet) of a lake to the project in the "Comments of ROW Availability/Easements" Box. If project crosses lake, please say so.

Historical Designation: Please indicate location and organization that bestowed the designation in the "Comments of ROW Availability/Easements" Box

Cemetery: Please indicate name of cemetery and contact person if known in the "Comments of ROW Availability/Easements" Box

Junkyard: Please indicate if junkyard is present and any contact information known in the "Comments of ROW Availability/Easements" Box

Other: State any other environmental issue that might exist in the proposed project location and contacts if known

C. Right of Way

ROW Contact Person: Who is the person to contact for ROW questions in your organization?

Phone Number: What is the ROW contact's phone number?

Existing ROW width: This is the width of the road right of way before the project. If the width is variable please include a map to indicate the varied widths with your project submittal.

Proposed ROW width: This is the amount of right of way that it will required to complete the project

Number of ROW parcels: Number of Properties that will be impacted by the project. Please include easements in this number.

Area of ROW Required

Fee Acquisition: What is the acquisition fee?

Permanent Easement: State if there is a permanent easement

Temporary Easement: State if there is a temporary easement

Number of Bisected:

- **Houses:** Enter the number of houses being bisected.
- **Commercial Buildings:** Enter the number of commercial buildings being bisected.

Comments on ROW Availability: Please indicate any properties that may be a dedication possibility or that are known to be against the project being completed.

D. General Acquisition Costs

Estimated Cost of Land Only: An estimate of the consideration due the land owners for the land to be acquired without regard to improvements or damages

Cost of Improvement in ROW: The compensation due to the land owners for the improvements with in the acquisition area. This will include Landscaping , driveways and other flatwork, fencing, and all other improvements in the acquisition area.

Number of parcels with damage: List the number of parcels with damage

Cost of damages: State cost of damages

Number of bisected improvements: List number of bisected improvements

Cost of Bisections: State cost of bisection

ROW Subtotal: Subtotal of all above costs (Automatically added up. If nothing is shown, be sure $0 are entered where no costs will accrue above.

Inflation Factor (6 years): Cost of inflation over 6 years.

Total ROW Cost: Total costs of all ROW items above, plus inflation

List and explain any non-conformity issues: Ex. Contaminated Soil, service stations, fuel tanks, landfills, noise walls, trailer parks, tree ordinances, etc.

Part 7. Other Amenities to the Project

Please check if the following amenities are proposed as part of the project. The cost of items with asterisks may not be covered by Dallas County.

Landscaping:

Exposed Aggregate Driveways, Sidewalks:

Stamped/Colored Concrete:

Irrigation:

Brick Pavers:

Street Lighting:

Traffic Signals:

Pavement Markings:

DART Bus Turnout:

Bus Stops or Shelters:

Water Utility Improvements:

Water Utility Relocation:

Sanitary Sewer Improvements:

Sanitary Sewer Relocation:

Retaining Walls:

Sod, Seeding, Topsoil:

Drainage Improvements:

RR Crossing Improvements:

Grade Separations:

Ramps or Connectors to TXDOT Facilities:

Part 8. Public Involvement

Has your City Council Approved the Project?: Check if Yes.

Has any Opposition been encountered?: Check if Yes.

Comments on Opposition: State the nature of the opposition encountered, if any

Other General Comments: State any additional comments you may have on public involvement

Part 9. Total Project Cost

Paving and Drainage Cost: Includes paving, drainage, sidewalks, bike lanes, and handicap ramps

Bridge: Cost of bridge (Typically $60/Sq. Ft._

Lighting: Cost of lighting (Typically $3800 / light based on one light per 200 feet)

Signal: Cost of signals

Railroad: Railroad cost (Typically $200,000 for 4 lanes or $300,000 for 6 lanes)

Subtotal 1: Cost of paving and drainage + Bridge Cost + Lighting Cost + Signal Cost + Railroad Cost (if any).

Inflation: 3% / year X 6 years X Subtotal 1

Materials Testing: 2% X Subtotal 1

Construction Total: Subtotal 1 + Inflation + Material Testing

Design: Cost of design
(11% X Construction Total if Construction Total is $1 million or less
9.5% X Construction Total if Construction Total is between $1 million and $5 million
7% X Construction Total if Construction Total is between $5 million and $25 million)

ROW Cost:	Total cost of ROW, carried over from ROW section automatically
SUE:	Cost of Sub-surface Utility Engineering (Typically 0 to 1.5%, depending on utilities involved in the project, X Construction Total.)
Utility/Amenities:	Cost of utility will be added to only city share of total project cost
Subtotal 2:	Subtotal 1 + Construction Total
Project Delivery Cost:	10% X Subtotal 2
Total Project Cost:	Total of all project costs above
Shared Cost:	Total project cost less cost of Utility/Amenities
Percent of Local Cost Contribution:	The percent of the total project cost your city is willing to contribute
City's Share:	The share of total cost borne by the city, based on percent of local contribution
Supporting Comments Regarding Cost:	State any other supporting comments regarding project cost. For example, if city has already paid for design cost and plans exist, or city will pay for the entire cost of utility relocation, etc.

Please do not forget to mail your supporting documents!

FY 2001 MAJOR CAPITAL IMPROVEMENT PROGRAM
DALLAS COUNTY

Prepared Jointly by the
Dallas County Department of Public Works
and the
North Central Texas Council of Governments

Proposed Evaluation Methodology to Score and Rank Candidate Thoroughfare System Improvements

INTRODUCTION

In Fiscal Year 2000, the Dallas County Commissioners Court replaced its traditional bond-financing approach to funding infrastructure improvements with a programmed Major Capital Improvement Program. The underlying theory of this new approach is that a project will take five years from approval of funding to final construction, and that every year projects will be authorized for funding and projects will be completed. Thus, in any given calendar year, there will always be projects in each of the various phases of implementation (i.e. design, right-of-way acquisition, construction), thereby allowing for the more efficient use of personnel and resources.

In contrast, under the bond-financing method, all projects are authorized at the same time and are constructed at the same time. This approach creates a project "wave"—initially, there is a flurry of design activity, and the necessity of design resources; then, the wave passes to right-of-way acquisition, and the design resources become underutilized while right-of-way is bulked to handle the "wave"; finally, the projects pass to construction, creating the need to invest in construction-related resources, while the design and right-of-way resources are underutilized.

With the new financing and programming approach, the "project wave" is eliminated, and all project activities are occurring simultaneously (although not necessarily on the same project) and, more importantly, continuously. Thus, valuable resources are always being utilized and the funds that previously would have needed to be expended on additional resources (as a result of the "wave" effect) can instead be devoted to infrastructure.

This Program will be implemented by issuing an annual county-wide call for projects to identify and fund needed roadway improvements within the county, with local governments submitting candidate projects for potential selection and funding under this program. An annual "Call-for-projects" is an improvement over the traditional method of calling for projects every five years. The advantages of an annual call are twofold. First, with fewer submittals per Call, the quality of submittals, both of the projects submitted and the submittals themselves, will improve, as staff will be able to devote more time per submittal. Second, an annual Call provides more flexibility for cities to determine infrastructure needs based on changes that may have recently occurred or will soon be occurring, such as a new

development or infrastructure, instead of trying to determine needs based on a conjecture of what might occur five years into the future.

EVALUATION CRITERIA

In order to evaluate candidate projects in an equitable and consistent manner, ten evaluation criteria have been developed which will be applied to each project submittal to establish a basis for scoring and ranking projects. This ranking will identify which projects provide the greatest benefit to the county based on factors such as mobility, cost-effectiveness, safety, and air quality.

The proposed evaluation methodology is presented below. Each of the ten evaluation criteria will initially be assigned a maximum value of 10 points, with 100 points being the total maximum aggregate score possible for a given project. In addition to the "equal weight" scenario, other weighting scenarios can also be evaluated to determine which scenario most appropriately addresses the needs of Dallas County.

TECHNICAL METHODOLOGY FOR MODELING PROPOSED IMPROVEMENTS: Travel Model Forecast Procedures

The Dallas-Fort Worth Regional Travel Model (DFWRTM) is the planning tool used to help estimate current and future travel demand needs and allows detailed project evaluation to occur. The Major Capital Improvement Program must have a way of testing and evaluating the mobility benefits of a wide range of potential roadway projects, including the addition of new thoroughfare streets, the extension of existing thoroughfares, and the rehabilitation of existing thoroughfares. The DFWRTM is the tool used to accomplish this analysis.

In order to assess and quantify the benefits of the projects submitted under this Call-for-Projects, it is necessary to develop four different roadway network analyses. These four different network analyses simulate both baseline (year 1995 no-build) and future year conditions with and without the effects of the proposed projects. The four network analyses that will be used to evaluate the benefits of the projects submitted for the Major Capital Improvement Program are as follows:

- Analysis 1: The first analysis replicates conditions as they existed in 1999, the year the model was validated for, using the roadway network that existed in 1999 and 1999 demographic data for population, employment, and number of households.

- Analysis 2: The second analysis predicts year 2025 conditions assuming a no-build, or "do-nothing" scenario. In this analysis, the 1999 existing-conditions roadway network used in the first analysis is modeled using year 2025 demographics. This analysis shows the performance of the transportation system in the year 2025 if no improvements are made to it.

- Analysis 3: The third analysis predicts year 2025 conditions assuming that all the projects submitted for funding are implemented and constructed. This is accomplished by coding into the 1999 no-build roadway network all the projects submitted under this Call for Projects, creating a year 2025 build network. This year 2025 build network will be modeled using year 2025 demographic assumptions.

- Analysis 4: The fourth analysis predicts year 2025 conditions assuming an "all-or-nothing" scenario. This scenario uses the year 2025 build network and year 2025 demographic assumptions, but doesn't use the typical "capacity-constrained" technique to model traffic in which only a finite number of trips can be assigned to a particular roadway segment. With an "all-or-nothing" assignment, an infinite number of trips can be assigned to a particular segment, and where several different routing options are available, all trips are assigned to the most desirable route (based on criteria specified). For this analysis, trips are assigned to the route with the best travel time, based on speed and distance only. This analysis is used to score projects under the Travel Desire Rating.

EVALUATION CRITERIA AND TECHNICAL METHODOLOGY FOR SCORING PROJECTS

Evaluation Criteria

Functional Classification Rating - (10 Points)

This evaluator assigns points based on functional classification as designated in the 2000 *Regional Thoroughfare Plan.* For any given project, the functional class assigned to the project will be the classification of the highest classified facility which can reasonably be assumed to be either directly or indirectly positively impacted by the proposed project.

Example Arterials A and B are parallel arterials one-mile apart. Freeway X runs perpendicular to both A and B and has interchanges at both. Approximately one-quarter mile from and parallel to Freeway X the City is proposing to build a four-lane roadway that will intersect both A and B.

Scenario 1: Freeway X is the only existing roadway that connects with both Arterials A and B. Thus, a motorist on A wanting to use B must use Freeway X. Under this scenario, the City's new roadway would be scored as a freeway, as it is reasonable to assume that it will reduce congestion on Freeway X by eliminating the necessity of all local traffic going from A to B to use Freeway X. In other words, there is a certain percentage of local traffic that is only using Freeway X by default that would divert to an alternate route. By eliminating this local traffic from Freeway X, its congestion is reduced and its reserve capacity is increased.

Scenario 2: Freeway X is one of several roadways that connect with both Arterials A and B. Thus, a motorist on A wanting to use B does not necessarily need to use Freeway X. Under this scenario, the City's new roadway would be scored by its own functional classification, as it is reasonable to assume that it will not reduce congestion on Freeway X because other routes for local traffic to travel from A to B already exist. In other words, local traffic diversion from the Freeway is already occurring, and the addition of another alternate route will not have an impact on the operation of the Freeway.

Each project will receive a score based on the classifications shown in *Table 1*.

Table 1

Functional Classification Rating

Functional Classification Designation	Score
Regional Arterial	10 Points
Freeway (existing and proposed)	7 Points
Other Arterial	3 Points
Not on Regional Thoroughfare Plan	0 Points

Speed Delay-Rating - (10 Points)

Each candidate project submitted for funding will be assigned a speed-delay rating based on the anticipated improvement to travel times and speeds that will result from the roadway improvement. This will be calculated by taking the difference between the posted roadway speed limit (maximum free-flow speed) and a current observed speed on the facility (current operating speed), divided by the length of the project. For intersection projects, an estimated length of 0.25 miles should be used to calculate the speed delay rating. Each city submitting a project for funding will be asked to collect and provide recent peak-hour speeds which will be used in calculating this rating. Using speed delay as an evaluation criterion takes into account both the traffic congestion on and the physical condition of the roadway, both of which affect the operating speed.

The delay rate is defined as the difference between the time it takes to travel a set distance at the posted speed limit without stopping (free-flowing) and the actual time (observed) it takes to travel that same distance (accounting for traffic control delay and congestion), divided by the distance traveled, expressed in minutes per mile.

A 1996 report by **Metroplan**, the Council of Governments for Central Arkansas, established a delay rate congestion threshold of 0.41 minutes per mile, based on criteria established in the *Highway Capacity Manual*, vehicle limitations, and driver perceptions. In other words, a facility is considered congested when its delay rate is equal to or greater than 0.41 minutes per mile. This number corresponds to the difference in time it takes to travel one mile at 55 miles per hour versus traveling one mile at 40 miles per hour. From this delay rate, a numeric value for congestion, the "degree of congestion" or DOC, has been defined as follows:

$$DOC = Delay\ Rate - 0.410$$

Thus, a facility at the congestion threshold, that is, with a delay rate of 0.41, has a DOC of 0.000. A facility operating at its maximum free flow speed has a delay rate of 0.00 and a corresponding DOC of –0.410.

In order to provide insight into the magnitude of congestion, eight congestion categories were defined -- five for congested facilities and three for non-congested facilities. The DOC threshold for each of the eight categories is shown in *Table 2*, along with the points assigned for each category.

Table 2

Speed-Delay Rating Criteria

Category	"Degree of Congestion"	Score

Extreme	Greater than 4.499	10 Points
Severe	Between 1.499 and 4.498	8 Points
Serious	Between 0.499 and 1.498	6 Points
Moderate	Between 0.213 and 0.498	5 Points
Mild	Between 0.001 and 0.212	4 Points
Borderline	Between – 0.168 and 0.000	2 Points
Acceptable	Between – 0.410 and – 0.167	1 Point
None	Less than – 0.411	0 Points

Traffic Volume Rating - (10 Points)

This rating evaluates the project according to the magnitude of traffic-flow improvement that can be expected to result by making the proposed improvement to the facility. The Traffic Volume Rating is calculated by taking the difference between a "build" and a "no-build" condition, which yields the additional traffic resulting from making the improvement. Specifically, year 2025 traffic projections will be generated with and without the improvements in place in order to model the anticipated change. Projects showing the greatest amount of traffic improvement will receive a higher score for this criterion.

Specifically, this criterion is calculated by taking the difference between two year 2025 travel model runs, the "build" condition (Analysis 3) and the "no-build" condition (Analysis 2). The difference between these two analyses is the expected change in traffic volumes resulting from making the proposed improvement to the facility. In general, projects showing the largest amount of traffic improvement will receive a higher score for this criterion. The maximum score available for this criterion will be ten points. The range of possible scores will be determined after the analyses are complete and the data is available to determine minimum and maximum values.

Traffic Volume Growth Rating - (10 Points)

The Traffic Volume Growth Rating is derived from the growth in traffic volumes expected to occur on each candidate segment of roadway between the current condition (year 1999) and the future travel model projection (year 2025). This rating assumes that the project is not in operation in the current year and that it will be operational by the future forecast year. Points will be assigned to each project based on the percentage of growth estimated to occur during this time period.

Specifically, the percent change between traffic volumes in the year 2025 "build" network (Analysis 3) and the 1999 "existing condition" network (Analysis 1) will be calculated. Projects showing the largest amount of change will receive the higher scores. The maximum score available for this evaluator is ten points. The range of possible scores for this criterion will not be determined until after the model runs are complete and the minimum and maximum values are derived.

Travel Desire Rating - (10 Points)

This rating will score each candidate project based on its inherent attractiveness and desirability assuming there is no congestion at all on the facility. When congestion is factored into the equation, roadways that may be more direct and desirable to travel on are sometimes avoided because of high levels of congestion, even though they are the preferred

routes. This evaluation criteria is derived by looking at the difference between a year 2025 capacity-constrained model run (Analysis 3), which takes into account the congestion on the roadway, and an "all-or-nothing" model run (Analysis 4), which assumes that there is no congestion on any roadway. The "all-or-nothing" model run allows vehicle trips to choose the preferred route (based on shortest distance and fastest speeds) regardless of any effects due to congestion. The percent difference between the two model runs shows whether the facility is being used because it is the most direct and preferred path ("all-or-nothing") or whether traffic is being diverted to the facility due to congestion on other routes (capacity-constrained). The maximum score available for this criterion is ten points. The range of possible scores will be determined after the travel model runs are complete and the maximum and minimum values are identified.

Benefit-Cost Ratio Rating - (10 Points)

This rating is calculated based on the ratio of benefits resulting from the proposed improvement to the cost of the improvement. The benefits for each project are determined from the reduction in travel-time delay experienced on the roadway segment with and without the candidate roadway improvement. Local government and Dallas County staff will estimate the costs for each project.

Benefits used in the B/C ratio are calculated from the delay savings gained from an increase in capacity or speeds on the segment (if, in fact, a gain is induced). The reduction in delay is calculated from the increase in average daily loaded speeds, which are derived from the travel model runs. This analysis compares the modeled speeds before an improvement (Analysis 2) and the speeds after the improvement (Analysis 3). After average daily loaded speeds and 24-hour projected traffic volumes are determined for both Analysis 2 and Analysis 3, a benefit-cost ratio is calculated based on the following equation:

$$\frac{TAB}{TAC} = \left[\frac{\left[\left(\frac{VOL^A * VOLFAC * LENGTH}{SPEED^A} \right) - \left(\frac{VOL^B * VOLFAC * LENGTH}{SPEED^B} \right) \right] \times DAO \times VOT \times NOD}{(\ TOTAL\ COST\ X\ CRF\ )} \right]$$

Where: TAB = Total Annualized Benefit ($)

TAC	=	Total Annualized Cost ($)
Vol^A	=	24-Hour Volume from Run 2 (no-build scenario)
Vol^B	=	24-Hour Volume from Run 3 (build scenario)
VOLFAC	=	0.6, volume factor (peak/off-peak/directional dist.)
Length	=	Length of Project (miles)
$Speed^A$	=	Link Speed from Run 2 (no-build scenario)
$Speed^B$	=	Link Speed from Run 3 (build scenario)
DAO	=	1.29 persons per vehicle, Daily Auto Occupancy
VOT	=	$9.70 per hour, Value of Time
NOD	=	260 per year, Number of Days for annual benefit
Total Cost	=	Total Project Cost ($)

CRF = 0.06646, Capital Recovery Factor (40 yrs @ 6%)

Points are assigned to each project based on the ratio of the total annualized benefits divided by the total annualized cost. *Table 3* provides the scoring ranges with their corresponding benefit-cost ratios.

Table 3

Benefit-Cost Ratio Rating

B/C Ratio	Score
0 – 0.50	0 Points
0.51 – 0.75	1 Points
0.76 – 1.00	2 Points
1.01 – 1.25	4 Points
1.26 – 1.50	5 Points
1.51 – 2.00	6 Points
2.01 – 3.00	7 Points
3.01 – 5.00	8 Points
5.01 – 10.00	9 Points
10.01 or greater	10 Points

Accident Rate Rating - (10 Points)

Each candidate project will receive an accident rating based on the raw accident rate per million vehicle miles.

Each city will be asked to provide three years worth of actual accident data for each roadway segment submitted for review. Projects with a higher accident rate over this three-year period will receive a higher rating. After all the accident data has been analyzed, a range of scores will be developed between zero and ten points, based on the magnitude of accidents reported.

Air Quality / Energy Conservation Rating - (10 Points)

Each project submittal will be evaluated based on its overall impact toward improving the quality of the region's air. The Dallas-Fort Worth region is currently designated as a non-attainment area by the U.S. Environmental Protection Agency based on past exceedances of the national ambient ozone standard. In order to promote regional air quality goals and objectives, each project will be quantified in terms of air quality reductions. Specifically, the dollars per pound of nitrous oxide (NOx) emission reductions will be calculated and each project will receive a score based on its reduction potential.

Emission reductions will be calculated by estimating emissions before and after the improvement is in place, and taking the difference. Projects contribute positively toward air quality reductions, in general, when speeds approach 50 miles per hour and operating

performance is improved. The following formula provides the methodology for calculating emission reductions on a project-by-project basis.

$$\frac{\$}{Lb.} = \left[\frac{(TOTAL\ COST \times CRF) \times C_1}{\left[(VOL_B \times EF_B \times LENGTH) - (VOL_A \times EF_A \times LENGTH)\right] \times 260\ DAYS/YEAR} \right]$$

Where:

VOL_B	=	24-hour modeled volume before improvement (Analysis 2)
EF_B	=	Emission factor based on speeds from Analysis 2 grams/mile)
Length	=	Project Length (miles)
VOL_A	=	24-hour modeled volume after improvement (Analysis 3)
EF_A	=	Emission factor based on speeds from Analysis 3(grams/mile)
Total Cost	=	Total project cost ($)
CRF	=	0.06646, Capital Recovery Factor (40 yrs @ 6%)
C_1	=	454 grams per pound (conversion factor, grams to pounds)
$/lb.	=	Dollars per pound of NOx emissions reductions

Points will be assigned to each project based on the ratio of the annualized cost to the annualized NOx emissions reductions. *Table 4* provides the scoring ranges for this evaluation criterion.

Table 4

Air Quality / Energy Conservation Rating

$ / Lb. Of Nox Reductions	Scoring Range
> 100.0	0 Points
50.0 - 99.99	3 Points
10.00 - 49.99	5 Points
5.00 - 9.99	7 Points
< 4.99	10 Points

Sustainable Development/ Redevelopment/ "Smart Growth" Rating (10 Points)

Each project submittal will be evaluated with respect to encouraging regional sustainable development or "smart growth" patterns (i.e. densification of the urban core counties) or redevelopment of distressed areas. There will not be a sliding scale of points available for this criterion. Each project will either receive the full 10 points or will receive a zero. A

project located within a census block classified as "Distressed" or "Under-Utilized" as defined in the Dallas County Tax Abatement Policy (see attached maps) will receive the full 10 points; all other projects will receive a zero.

The aforementioned policy defines a "Distressed" area as a census block whose median family income is less than or equal to 150% of the poverty level for a Dallas area family of four or a census block contained within a federally or state-designated enterprise zone.

An "under-utilized" area is a census block that meets three of following five criteria:

1) *Low population growth* (percentage change in population that is less than the County average for 1980-1995)
2) *Low employment growth* (percentage change in employment that is less than the County average for 1990-1995)
3) *Low traffic congestion* (roadways where, in 1995, no more than 30% of lane miles exceeded free-flow traffic levels during peak hours)
4) *Low property values* (median value of owner-occupied structure is no greater than 50% of the County median)
5) *Predominantly low/moderate income population* (at least 51% of population earns less than 80% of the Dallas area median household income)

For census blocks that are at least two-thirds (2/3) undeveloped, only one of the five criteria listed above need to be met to qualify as "under-utilitized."

Intermodal / Multimodal / Social Mobility Rating - (10 Points)

Each project submitted for funding will receive a score based either on its ability to involve more than a single mode of travel or its long-term economic development potential that could benefit the community. There will be a sliding scale of points available for this criterion. There are three separate elements that comprise this scoring criteria. These three elements are:

- Infrastructure Investment Project - A capital project with a likelihood of producing long-term economic benefits as opposed to an operational project which only provides direct benefits for a given short time period. (10 points)

- Social Mobility Project - A social mobility project is one that provides transportation services to individuals or groups who need some form of transportation due to an inability to utilize existing forms of transportation. This can include services to the elderly and disabled or economically disadvantaged individuals. (10 points)

- Multi-Modal /Inter-modal Projects - Projects that facilitate non-SOV (single occupant vehicle) modes or provide for the interaction of two or more transportation modes in a given area.
  Transit (bus/rail) - (10 points)
  School Bus - (7 points)
  Bicycle Paths - (5 points)
  Pedestrian Paths - (3 points)

Projects that incorporate any combination of the above 4 modes of transportation will receive the full 10 points.

Special Case Rating Methodology

Special Case #1 - If all or part of a roadway consisted of a new roadway, then it was not possible to calculate a Speed Delay Rating, a Benefit-Cost Ratio Rating, or an Air Quality Rating. In these cases, the Speed Delay Rating, the Benefit-Cost Ratio Rating, and the Air Quality Rating are all given zero points, and the maximum points for the Traffic Volume Rating are increased to 40. This is accomplished by multiplying the Traffic Volume Rating by four.

Special Case #2 - In certain situations, the Benefit-Cost Ratio may be misleading because the traffic induced by the capacity improvement was so great that the resulting congestion was higher than without the improvement. This signifies that the project is highly warranted. Projects falling under the Special Case #2 category will receive zero points for the Benefit-Cost Ratio Rating, and the maximum allowable points for the Traffic Volume Rating will be increased to 20. This is accomplished by multiplying the points assigned to the Traffic Volume Rating by two.

Special Case #3 - The criteria which use percent change as a basis for scoring, Traffic Volume Growth Rating and Travel Desire Rating, could be misleading if the absolute value of the traffic volumes is less than 5,000 in the year 2025. To avoid overrating these projects, the maximum points available for the Traffic Volume Growth Rating Criteria and the Travel Desire Rating will be reduced to five for each rating element. This is accomplished by dividing the score for these two criteria by two.

LOCAL COST PARTICIPATION MULTIPLIER

In order to aide in the successful implementation of the Dallas County MCIP, it is imperative to accept only those projects for funding that have a strong commitment from all the stakeholders. One strong indicator of this commitment is the value of resources being contributed. In order to reward those projects with strong commitments, a multiplier based on the value of the local commitment (as a percentage of the total project value) will be applied to the aggregate scores. This multiplier will be equal to 1 plus the percent of local match, expressed as a decimal. Thus, if a City commits to a match of 50 percent of a project's value, that project's aggregate score will be multiplied by 1.50 in determining the final score. For a match of 20%, the multiplier is 1.20.

As the financial resources of all possible stakeholders are not equal, said multiplier may be considered to be inherently biased against those possible stakeholders with limited resources. Therefore, in order to mitigate this perception of inherent bias, bonus points will be assigned to those cities where 60% of the land area falls in census blocks defined as "Distressed" or 51% Low/Moderate Income. This bonus consists of adding 0.3 to the multiplier for any project submitted by a city qualifying for the bonus. For example, the multiplier for a project submitted by a qualifying city contributing 20% of the total cost of the project will be 1.50 (1.20 plus 0.30), the same multiplier applied to a project for a non-qualifying city contributing 50%.

Example 1.
Projects for Cities A, B, C, and D all finish with aggregate scores of 80. Cities A, B, C, and D agree to contribute 50%, 20%, 0%, and 20%, respectively, of the cost of the project. City D qualifies for the 60% local match multiplier bonus.

The multiplier for the four projects are as follows:
City A – 1.50
City B – 1.20
City C – 1.00
City D – 1.50

The final point totals for the four projects, computed by multiplying the aggregate total by the multiplier, are as follows:

City A – 120.0
City B – 96.0
City C – 80.0
City D – 120.0

Example 2.
City Q is a qualifying city and contributes 20% of the project cost. Q's project finishes with an aggregate score of 70 and a total score 105.0. City R's project finishes with an aggregate score of 100, but since R is not willing to commit local resources (and is non-qualifying), the project finishes with a total score of 100.0, below Q's. So does City S's project with a total score of 102.0, which finished with a higher aggregate score of 85 but was supported with a 20% local commitment (S is a non-qualifying city) resulting in a multiplier of 1.20 compared to Q's 1.50.