

Regional
Rehabilitation and Reconstruction
Program

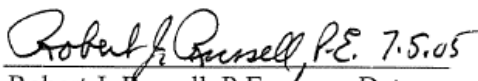
July 5th, 2005


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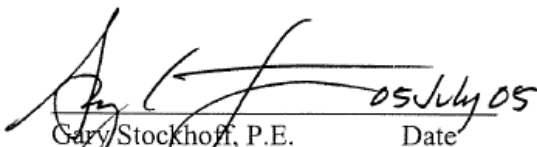
The Regional Rehabilitation and Reconstruction (R&R) program and its project selection process was developed to address the WC-2 Blue Ribbon Committee's request that action be taken to preserve the capital investment of the regional road network. The R&R program goal is to target high traffic roadways for needed improvements. The improvements will typically consist of milling a portion of the roadway surface and placing a new asphalt overlay or possibly the reconstruction of the entire pavement structure. All roads will be evaluated equally, regardless of jurisdictional boundaries, based on current roadway conditions. This will result in pavements that are used by the most people will be repaired first.

To insure that the right roads are chosen for rehabilitation and reconstruction, RTC and the Public Works' staffs developed this technical, needs based, project selection process. The local government agencies will periodically review this needs based selection process and update the R&R program as needed. Critical to the selection process is the Public Works' Pavement Management System (PMS). Staffs from Reno, Sparks and Washoe County have worked hard to update their respective PMS procedures to insure that pavements are inspected uniformly and on a strict schedule so that pavement conditions across jurisdictional boundaries are reported on an apples-to-apples basis. With such uniformity, the selection of streets for the R&R program can be chosen with confidence knowing that the allocation of the public's WC-2 Sales Tax revenues are being spent on a true needs basis.

We are proud to say that the efforts required to create this important document is testament to the fact that regional cooperation, coordination, and communication has been and will continue to be highly successful in returning enormous dividends to our citizens in terms of roadways that will have longer lives at a significantly lower overall cost. Our signatures indicate that we endorse and agree to follow the R&R program, as a representative of our respective agency. Please feel free to contact the Regional Transportation Commission's Engineering Director, Robert Russell, at 348-0171, if you would like to receive more information regarding this vital program.


Robert J. Russell, P.E. Date
Regional Transportation Commission
Engineering Director


Peter Etchart, P.E. Date
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Chief Deputy Director of Public Works


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Washoe County
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Regional Rehabilitation and Reconstruction Program

This document provides a brief summary of information regarding the guidelines for the Regional Transportation Commission's (RTC's) rehabilitation and reconstruction (R&R) project selection process. The document first provides background on pertinent information regarding RTC Fuel Tax eligibility, Regional Transportation Plan (RTP) 2030 plan, and the Regional Maintenance Efficiency and Optimization Program. The second part of this document identifies the regional prioritization for rehabilitation and reconstruction projects and describes the process used to develop the RTC's R&R program for Reno, Sparks, and Washoe County regional roads.

Background Information

Currently, RTC's rehabilitation and reconstruction projects are funded with the RTC fuel tax program. Therefore, a detailed discussion of the RTC fuel tax program funding is discussed below. It should be noted that additional funding sources may also be allocated for future RTC rehabilitation and reconstruction projects. Additional direction and guidance have been established through the Regional Maintenance Efficiency and Optimization program that resulted from the Lorick Consulting Associates effort.

RTC Fuel Tax Program

The RTC Fuel Tax Program must meet the guidelines established in Nevada Revised Statute (NRS) 373.140, the RTC Street and Highway Program, and the RTP 2030 Plan. Each of these items is summarized below.

Nevada Revised Statute 373.140

The primary legal basis for use of the RTC Fuel Tax is Nevada Revised Statutes (NRS) stated in NRS 373.140. Important aspects in the law that pertain to selection of projects for RTC Fuel Tax include:

1. ...all street and highway construction, surfacing or resurfacing projects in the county which are proposed to be financed from a county motor vehicle fuel tax ... must first be submitted to the regional transportation commission.
2. If the project is within the area covered by a regional plan for transportation ..., the commission shall evaluate (candidate projects) it in terms of:
 - a. The priorities established by the plan;
 - b. The relation of the proposed work to other projects already constructed or authorized;
 - c. The relative need for the project in comparison with other proposed; and
 - d. The money available.

RTC Street and Highway Program

In addition to NRS, the RTC Board adopted the following Policy for the RTC Street and Highway Program (Policy):

1. Project eligibility shall be determined in accordance with NRS 373...
2. Except as specifically provided for by NRS 373, in order for a project to be considered for funding by the RTC the street must be shown on the Regional Street and Highway Map* of the Regional Transportation Plan, hereinafter referred to as the Regional Plan...
3. In the interest of promoting efficiency through proper coordination of public works projects throughout the region, the Commission shall consider incorporating non-eligible design and/or construction work into its undertakings when requested to by the local entities provided that compatible funding is made available to defray the additional costs.

* The Regional Street and Highway Map was developed based on the current and projected traffic demands. This information was used to classify all Regional roads as arterials, collectors, or rural highways.

Regional Transportation Plan

As stated in NRS 373.140, a, and as further defined in the RTC Board adopted RTC Policy, the project selection criteria must comply with the RTP 2030 plan. The RTP 2030 Plan states:

“... Eligible uses include overlays, reconstruction and new construction for regional streets included in the Regional Road System (RRS). Routine maintenance is not an eligible use.”

Goals within the RTP 2030 Plan for the pavement conditions are:

1. The average pavement condition index (PCI) for all roads will be no less than 65 by 2007; and no less than 70 by 2012 and beyond.
2. No more than 6% of the pavements within the region will have a PCI below 40 by 2012 and no more than 2% will be below a PCI of 40 by 2020 and beyond.

Regional Maintenance Efficiency and Optimization Program

At a Joint Council/Commission Meeting on December 5, 2002 a motion was passed to have RTC in conjunction with Reno, Sparks, and Washoe County develop a Road Maintenance Efficiency and Optimization Program (Program). In turn, RTC retained the services of Lorick Consulting Associates for this effort. A pavement management system (PMS) subcommittee was formed as part of the Program and met with Harry Lorick which resulted in an agreed common PCI rating for identification of potential rehabilitation/reconstruction candidate projects. The Program identifies pavements with

a PCI of 0 to 55 as eligible rehabilitation or reconstruction candidates. The anticipated benefit of this Program action is to allow more consistent and accurate determination of improvements and regional backlogs. Further, this Program action would ensure that limited regional resources are directed in the appropriate places.

This particular Program action also is beneficial in addressing project selection criteria NRS 373.140, c: The relative need for the project in comparison with other proposed.

PMS Subcommittee

As a result of the Lorick Program mentioned above, all of the local governments routinely meet to discuss regionalization matters for each agency's pavement management system. The PMS subcommittee has standardized pavement condition survey data collection procedures, treatment matrices, pavement deterioration modeling curves, and traffic classifications for the entire region. This group continues to meet in order to maintain the quality of the PMS data for the region.

The pavement management treatment matrices, as shown in Appendix A, identify appropriate pavement treatments for a roadway based on its road classification, PCI, structural distress, previous band aid treatments applied, and time since last surface treatment. These criteria provide management an overview of potential repairs on a region-wide basis. Ultimately, engineering judgment must be used to select the appropriate treatment once a project has been identified for repair. In addition, engineering judgment on a project level basis will be required to identify the distinction between the projects requiring rehabilitation (a thick AC overlay or milling with an AC overlay) and reconstruction (removal and replacement).

Regional Prioritization of Rehabilitation and Reconstruction Project Selection Process

Each year the available rehabilitation and reconstruction funding and list of potential projects will be determined. The RTC will identify eligible funding sources and the limitations of those funds annually. These funds will be prorated amongst the RTP identified rehabilitation and reconstruction projects. Next, the local public works departments will evaluate a prioritized list of rehabilitation and reconstruction projects in terms of the selection process established in this document.

It is understood by all local public works departments that all pavements must meet the following PCI eligibility requirements.

As stated in the Regional PCI Data Collection procedure and summarized here:

- Potential candidate projects will have a projected (to July 1 of the current year) PCI value of 0 to 55.
- All candidate projects must have been surveyed within the last 3 years.
- Pavements with a PCI less than 30 are exempt from the 3 year survey criteria.

All projects that meet the PCI eligibility requirements will be considered as potential R&R candidate projects. The RTC and local government agencies must consider the best interest of the entire region and the benefits that each candidate project will provide to the community. Therefore, the candidate projects will be prioritized on the following needs-based selection criteria regardless of jurisdictional boundaries.

- I. **Prioritization of R&R Candidate Projects** - The criteria in this step are applied to all pavements within the region regardless of jurisdictional boundaries. This will result in a prioritized needs-based list of candidate projects for preliminary agency review that will benefit the region as a whole. The criteria will be followed in the following order to prioritize the R&R projects on a regional basis.
 - a. **R&R PCI Eligibility** – First, all pavements with a current PCI (scored within the past three-years) survey and a projected PCI between 0 and 55 will be considered potential candidates for rehabilitation and reconstruction.
 - b. **Traffic Classification** – Second, the pavements are sorted into six separate lists based on their traffic classification as defined in the Regional Preventive Maintenance Program and Chapter 3 of the RTP. Incline Village pavements that meet the RTP traffic classification definitions will also be included as part of the RTP classified roadways. The regionally identified traffic classifications are categorized as follows.
 1. RTP Arterials
 2. RTP Rural Highways
 3. RTP Collectors
 4. Non-RTP(classification is subject to change) Industrials
 5. Non-RTP Collectors
 6. Non-RTP Residentials
 - c. **Traffic Ranking** – Third, all candidates with R&R eligible PCI's, as identified above, will be ranked from highest to lowest average daily traffic (ADT) within each traffic classification. This ranking is needed to allow projects with the highest traffic volumes to be repaired first; thus delivering the new pavement benefit to the largest number of users within each category of pavements. The ADT information for RTP ranked roadways is obtained from the RTP regional traffic model. The nearest future projected ADT data will be used for this prioritization. This will in effect rank all RTP roadways on the same standardized regional scale.
 - d. **PCI Ranking** – Fourth, the pavements are ranked according to PCI value within each ADT traffic value, as identified above in step I.c. Priorities will be established by addressing those pavements with a higher PCI value (PCI of 55) first and lowest PCI value (PCI of 0) with lowest priority. It is believed that by addressing the needs of the higher PCI valued pavements first that it is possible that these pavements will need less costly repairs, such as a rehabilitation treatment instead of a complete reconstruction. Use of this philosophy will allow the regional governments to repair the most extensive area of the pavement network possible each year.

- II. **Funding Limitations** - A preliminary and secondary funding line will be established within the RTP Arterials, Collectors, Rural Highways, and Industrials lists to assist the local agencies when they evaluate the lists of projects that are eligible or may become eligible for R&R funding within the fiscal year.
- a. **Preliminary Funding “Cut-off” Line** – All available annual funding for R&R projects is applied to the preliminary list of candidate projects established in Step I. Funding is assigned to each prioritized list developed in Step I; from highest to lowest priority. Once all available funds are assigned, a “cut-off” line is clearly identified. All projects above the line can be budgeted for RTC’s R&R funding. Likewise, projects below the “cut-off” line do not have funding allocated for the given fiscal budget year. In other words, funds are allocated by ranked importance until all available funds are consumed for the given fiscal year.
 - b. **Secondary Funding “Cut-Off” Line** – It is anticipated that some of the preliminary projects that are assigned RTC R&R funding will not be recommended for R&R due to extenuating circumstances (such as utility work, association with other projects, timing issues with other municipal projects, etc.). Therefore, a secondary “cut-off” line is designated for an additional twenty five percent (25%) of the allocated annual budget. These funds will be assigned from the preliminary “cut-off” line to the prioritized lists in order of the priority established in step I. This secondary line is being established so that the local agencies can conduct a single annual engineering review to determine the feasibility of projects that may receive funding if a project within the preliminary funding group is delayed. Evaluating projects within the preliminary and secondary funding categories will drastically reduce the review time required during the development of the finalized R&R lists.
- III. **Agency Reviews** – On or about June 1st of each year, the RTC Engineering Director will request that each local Public Works Director review the preliminary rank-ordered lists of candidate projects for the upcoming fiscal year. These lists were jointly developed in Step I according to the availability of R&R funding. Local agency review should entail a thorough analysis of the suggested lists of projects for any extenuating circumstances which may preclude the inclusion or exclusion of any project in this year’s lists of R&R projects. This review will be based on sound engineering judgment using the following criteria:
- Utility Work – Known utility work that will result in patching and other street repairs.
 - Proximity/Timing to Adjacent Projects – Projects may be combined due to the proximity and/or timing of a near by project.
 - Future Development – Known development that will rapidly deteriorate the pavement due to higher traffic volumes than the pavement section was originally constructed to handle.

- Redevelopment – Known redevelopment of a building or other important location adjacent to a deteriorated street.
- Grouping Pavement Sections – Combining logical beginning and ending termini for constructability purposes.
- Pavement Failure Mode – Evaluate to determine the primary source of pavement distress. Pavement distresses are categorized into structural and functional distresses. Pavements with structural distresses typically have failed the entire depth of the pavement section, while pavements with functional distresses typically only have failures within or very close to the pavement surface. Functional distresses can economically be treated by milling the surface to remove the surface distresses and then placing a new asphalt overlay to restore the pavement surface to a like-new condition.
- Additional Infrastructural Needs – Evaluate to determine if extensive and costly repairs are required for the surrounding infrastructure to restore the pavement condition. For example, if the curb and gutter are severely deteriorated while the pavement surface is still in relatively good condition, additional expenses will be incurred during the pavement repairs. This may result in a more costly improvement due to the removal and replacement of the curb and gutter. It may be in the Region’s best interest to postpone this project until the pavement surface has deteriorated further and select other more economical repairs.

In the event that the local jurisdiction’s review concludes that a project should be delayed, then they must give a detailed justification for their position by July 1st. Likewise, if the local jurisdiction’s review concludes that a project should be accelerated higher than the ranking as shown in Step I, then they must also give a detailed justification for their position by July 1st.

- IV. **Revised List of Candidate Projects** – All projects with justification for delay or acceleration will be considered for the revised list of proposed R&R projects. Any funding that was designated to the removed project will then be applied to the next highest priority project(s) that was not funded in Step III until the entire annual budget is consumed. Therefore, some of the projects identified in Step IIb will then be funded. If any portion of funding remains that can not be allocated to the next ranked project due to the budgeting constrains resulting from project size, the next eligibly ranked pavement that can be completed with the remaining funding will be selected. This procedure results in the Proposed Program of Projects.
- V. **Finalization of Program of Projects** – The TAC WC-2 Subcommittee will meet to review the revised list of candidate projects that resulted from Step IV, including delay and acceleration justification of candidate projects. The list of projects from Step IV will be presented to the TAC WC-2 Subcommittee. The TAC WC-2 Subcommittee will meet, review, and recommend a proposed Program of Projects. The recommendations of the Subcommittee will be based on making sure that the RTC reaches its goals and objectives to provide the

best use/greatest needs-benefit of funds for the rehabilitation and reconstruction of the regional roads.

- VI. **Presentation of Program of Projects** - The TAC WC-2 Subcommittee developed proposed Program of Projects will be presented to the RTC CAC and TAC for endorsement and then to the RTC Board for approval.

Appendix A

Pavement Management Treatment Matrices

