

**Assessment of Oregon Department of Transportation's Section 5311
(Rural and Non-Urbanized Area) Grant Allocation Formula**

FINAL REPORT

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Executive Summary

Federal allotments from the Federal Transit Administration's Section 5311 program for support of rural and non-urbanized public transportation services are disbursed to the States that they might fairly and equitably allocate those funds to provide transit services to all rural residents. Little guidance exists from federal sources on how to successfully achieve fairness and equity in disbursing these resources, and as a result, the States have developed a variety of techniques for allocating the funds. Most use a competitive application procedure, whereby applicants' proposed projects or operations are reviewed and prioritized by an evaluation committee. Fewer states, including Oregon, use a formula-funding approach, which seeks to equalize sub-recipients and eliminate political influences from the funding process. Oregon's allocation formula currently includes parameters for population, passenger trips, and service miles.

Oregon Department of Transportation (ODOT) Public Transit Division (PTD) identified several concerns with their current Section 5311 allocation practices. These concerns deal primarily with (1) defining population limitations for funding purposes by transit service operators, who are the sub-recipients of grants, and (2) historical underutilization of grant amounts by these recipients.

The research conducted and presented here sought to develop recommendations for PTD to remedy the identified concerns, using a review of literature and the state-of-the-practice in other states, focusing particularly on the practices used in states similar to Oregon and those using funding formulae. The primary distinction between ODOT's use of the population parameter in its formula and its inclusion in other states' formulae centers on the organizational structure and the sub-recipients of the grants—all other states including population measures in their funding formulae allocate grants to regional entities which then further disburse the funds or which operate the transit services themselves. Solutions to the population-related issue depend on whether this parameter continues to be included in the Oregon formula. The recommendation developed to address the issue dealing with chronic underutilization of grant awards involves a systematic reduction in grant awards by a percentage equal to a three-year average of the operator's surplus allocation.

1. Overview and Study Purpose

Since 1978, federal funding has been distributed through the Federal Transit Administration's (FTA) Section 5311 program to support the development and maintenance of rural and non-urbanized public transportation programs, which may include fixed route, deviated fixed route, and/or demand responsive services. These funds, reserved for areas with populations less than 50,000, are intended to serve the needs of all rural residents by enhancing their mobility and access to health care, shopping, education, employment, public services, and recreational activities (FTA, 2007). States, all of which receive Section 5311 funding based on rural population proportions, are charged with the task to distribute these federal grant monies to individual operators using a "fair and equitable method", to be determined at their discretion.

Lacking further guidance from the US Department of Transportation, FTA, or other federal oversight organizations, states have developed a variety of diverse techniques for allocating these resources to rural transit operators in ways deemed "fair and equitable". Most states use an application process, whereby operators submit applications for projects or operating funds, which are subsequently reviewed by expert panels and compared to determine the projects most deserving of limited available resources.

Other states, including Oregon, make use of funding formulae, which seek to treat all rural transit operators equally and minimize political influences on the allocation process. In Oregon, the resources allocated through this formula funding process are intended to serve as a stable and reliable funding base for sub-recipients, with the expectation that the grantees will supplement state resources with funds from other sources.

Oregon's Department of Transportation (ODOT) Public Transit Division has identified recurring problems encountered in the process of distributing funds from their federal Section 5311 allotment to sub-recipients. This project reviews the literature and state-of-the-practice to develop potential solutions to these identified issues.

2. Literature Review

In 1978, federal legislation established a new program for financially supporting public transportation services in rural areas. Funding for rural transit in these non-urbanized areas with populations below 50,000 residents increased with passage of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), the Transportation Equity Act for the 21st Century (TEA-21), and most recently with the Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU) in 2005.

The Federal Transit Administration's *Circular 9040.1F* sets out the purposes and goals of various rural transit programs, including the Section 5311 program. According to this document (FTA, 2007):

“Specifically, the Section 5311 program intends to: (1) enhance the access of people in nonurbanized areas to health care, shopping, education, employment, public services, and recreation; (2) assist in the maintenance, development, improvement, and use of public transportation systems in nonurbanized areas; (3) encourage and facilitate the most efficient use of all transportation funds used to provide passenger transportation in nonurbanized areas through the coordination of programs and services; (4) assist in the development and support of intercity bus transportation; and (5) provide for the participation of private transportation providers in nonurbanized transportation.”

The FTA goes on to say that it “wants to ensure that all Americans, including those who live in nonurbanized areas, have access to transit to meet basic mobility needs.” (FTA, 2007) From this statement, it follows that the primary purpose of the Section 5311 program is to enhance the mobility and access of rural residents, particularly those who are economically disadvantaged and face a greater challenge in meeting their basic mobility needs. Some sources note that to a lesser extent, spurring of economic development is seen as a supplementary purpose of the 5311 program, by providing connectivity to employment in more urbanized or suburbanized locations (Hartman *et al.*, 1994, Burkhardt *et al.*, 1998).

The FTA “gives the States maximum discretion in designing and managing the Section 5311 program” and instructs that states, as recipients of 5311 funding, are to develop and employ a “fair and equitable method” of further disbursing these resources to their constituent rural transit operators. (FTA, 2007) In the absence of further guidance or regulation, states are tasked with determining and defending a resource allocation process deemed “fair and equitable”.

At the state level, Section 5311 allocation procedures fall into one of two typologies. The first of these is a competitive application process, whereby rural transit operators submit applications for operating funds or specific projects, which are then reviewed by a panel and ranked according to established criteria. The second grant allocation procedure involves the use of a funding formula, in which performance measures and/or non-performance characteristics (such as population) are combined mathematically and used to determine grant amounts. Allocation procedures not based on merit or need are generally viewed as inequitable or inefficient (Alho

and Salo, 2000), and both the competitive application and funding formula processes are geared towards measuring merit and need and allocating resources according to these assessments.

Each procedure has its benefits and drawbacks. Competitive application methods allow the disbursing entity utmost flexibility and judgment in allocating resources. However, the review process is time-consuming and requires extensive resources in terms of gathering panel or review team members and processing the applications. Moreover, applicants must contend with great uncertainty in predicting funding levels and as a result, may more conservatively program their services or avoid innovation of their system (Forkenbrock, 1979). In the long run, the competitive application process can generate political pressures or precedents which may be difficult to eliminate once established (Smith, 2003).

Formula funding procedures, conversely, can be accomplished much more expediently and with lower administrative costs, while eliminating much of the political pressure than may arise with competitive applications (Forkenbrock, 1979; Smith, 2003). By knowing *a priori* the criteria involved in funding decisions, operators included in formula funding allocations can better anticipate funding amounts and plan their services according to these estimates, while strategizing to improve service levels and quality if corresponding performance measures are included in the formula (Forkenbrock, 1979). Formula funding also preserves the ability of recipients to make relatively autonomous decisions concerning use of funds and operating procedures (Talib, 2001). In Oregon, the state allocates funds to sub-recipients for precisely this purpose—that operators may have a stable and reliable source of funding to plan their rural transit services from year to year. Allocations include a \$50,000 base amount for each operator and proportional amounts related to population, ridership, and service miles (see Section 3), with the expectation that sub-recipients will seek out additional supplementary funds from other sources.

2.1. Formula Funding: Fairness, Equity, and Evaluation

Formulaic funding has historically been viewed as a means to equitably distribute resources in devolved organizations. Because this technique tends to ignore political influences in favor of more quantifiable characteristics, the formula funding process is generally perceived as more fair, since it treats disadvantaged recipients equally to more influential ones. As the purpose of disbursing funds to recipients, and particularly public agencies, is to advance the goals of an organization, the design of a funding formula is inextricably tied to the policy objectives of the organization (Levačić and Ross, 1999).

As part of the directives outlined in *FTA Circular 9040.1F*, the FTA instructs States to distribute funds in a “fair and equitable” manner, without further defining “fairness” or “equity”. The term “equity” meets with contention when attempting to assign it a conceptual definition (Zeilinger, 2000). As a highly subjective term, the definition of “equity” tends to depend on the perspective of the one evaluating it, particularly when dealing with political views or motives. The FTA and creation of the Section 5311 program, however, indicate that the primary concern of the program is to provide mobility and access for rural residents who may be unable to meet

their basic mobility needs (FTA, 2007), and as such, one might define equity in this case as the condition of providing equal mobility and access opportunities to all potential users of the rural transit system, regardless of the socioeconomic status of either those users or the public transportation provider.

Economic literature provides guidance on characterizing “equity” and “fairness” in the context of devolved funding processes, and particularly with regard to formula funding. Smith describes several benefits of formula funding, among which he includes the ability of formula funding to address equity concerns: “Formula funding is an essential tool for addressing equity issues, such as offering equal access to services, or securing equal outcomes, which are often invoked as important policy objectives for public services. The systematic rules embodied in formula funding are needed to make such criteria operational.” He goes on to explain that formula funding also addresses the concept of fairness, in that fairness concerns the impartiality of the funding entity: “The distributor of funds wishes to be seen to be fair and non-partisan. A formula appears to treat all in the same way, and if it can be shown to have been derived in a reasonable (or fair) fashion, the recipients of funds are more likely to accept the outcome. That is, the *procedure* for deriving an allocation of funds often has a vital importance over and above any consideration of the *outcome* of the allocation.” (Smith, 2003) Furthermore, Smith states that “a well-designed formula allows finance to flow to providers in proportion to the services provided”, and in combination with establishing equal treatment of all sub-recipients, resources can be allocated in an efficient way.

From these definitions, equity can be viewed as the impact of the funding distribution technique on recipients of the service in question (here, rural transit services), as far as access to services. Equity reflects the ability of rural residents in need of transit services to avail themselves of the service. Fairness, on the other hand, indicates the impartiality of the State in distributing funds to sub-recipients, in that no sub-recipient receives preferential treatment on the basis of factors exogenous to the formula itself.

Equity can be viewed both “horizontally” and “vertically” (Levačić and Ross, 1999; Smith, 2003) and both views of equity may be addressed using formula-based funding mechanisms. Horizontal equity is concerned with providing resources to recipients with like needs (equal treatment of equals (Smith, 2003))—for instance, some minimum threshold allocation to maintain rural transit services in a community. Vertical equity, on the other hand, focuses on differential funding based on differing needs and disadvantageous circumstances (greater priority for those with greater needs (Smith, 2003))—say, providing bonus resources to operators with fewer local funding opportunities or operating environments less conducive to predictable service programming. Equity differs in these respects from pure efficiency in that it implies that recipients of public service benefits determine how the benefits should be weighed (Smith, 2003).

In addition to establishing an equitable distribution of available funding, formula-based grants may also be used to incentivize performance by providing a directive (Levačić and Ross, 1999). By including parameters in a funding formula which relate directly to performance, the

disbursing organization can influence the behavior of the receiving agency in order to improve, for example, cost-effectiveness, in order to ensure greater compliance with organizational objectives.

A funding formula may include elements of equity and/or directive elements. When designing or evaluating a formula, eight primary criteria are generally used (Levačić and Ross, 1999):

- (1) Effectiveness: How well are the goals and objectives of the organization being met?
- (2) Efficiency: What level of output is achieved, relative to the resources consumed to generate that output?
- (3) Equity: How extensively are policy goals being addressed and met, when considering basic and supplementary need, as well as regional variability?
- (4) Integrity: How susceptible are formula parameters and variables to manipulation by applicants/recipients?
- (5) Administrative costs: Does the formula consume unnecessary time in design, maintenance, or practice in determining resource allocations?
- (6) Accountability and transparency: How able are policy and decision makers, as well as stakeholders and the public, to understand the formula?
- (7) Local democracy: How much freedom does the formula allow recipients in making programmatic decisions about the proper use of their grant amount?
- (8) Sensitivity to local conditions: How amenable is the formula to the various needs and circumstances facing more localized interests?

These criteria are not necessarily mutually consistent or exclusive. Establishing the priorities to be met with the formula is essential to determining the usefulness and functionality of the developed formula, or to selecting among candidate formulae. For instance, meeting national mobility goals may take precedence over provision of local freedom in decision making, thus placing greater emphasis on the first criterion over the seventh. Due to this required prioritization and the variability among the states' goal priorities and associated funding formulae, there is never a universally "correct" or "best practice" formula (Levačić and Ross, 1999), and variations in funding formulae can dramatically affect allocation amounts (Marshment, 1998).

While the overarching federal intent of the Section 5311 program is to provide access and mobility to rural residents, a goal with which the states must comply, states may incorporate additional objectives into their rural transit oversight operations. Marshment found that while 90 percent of states indicate that improving access and increasing mobility is a goal of their rural transit programs, large percentages also listed goals or objectives to improve system equipment and maintenance (59%), increase cost-effectiveness (61%), encourage private-sector participation (53%), and improve intercity bus connections (37%) (Marshment, 1998). These additional rural transit objectives (among others) may dictate or guide the priorities of the states in developing their grant allocation procedures.

By setting priorities, the disbursing organization can evaluate the elements of their funding formula on the basis of how well each element addresses the goals and objectives sought by the organization from the grant recipients. In some cases, these objectives may be performance-driven and may necessitate the inclusion of performance-based factors. In the case where performance data are used in allocation decisions, it is assumed that goals, standards, criteria, and/or guidelines have been documented, so that reliable data, collected and reported, can be used to determine whether these targets are being met (Hartman *et al.*, 1994).

2.2. Performance Measures for Rural Transit Services

Synthesis 6 from the Transit Cooperative Research Program (TCRP), *The Role of Performance-Based Measures in Allocating Funding for Transit Operations*, surveyed the urban and non-urban transit grant allocation practices followed by state funding organizations (including state departments of transportation). This study determined that, at the time of the survey, the majority of these funding entities did not make transit funding decisions based on system performance measures. However, a few states relied solely on performance factors and a larger (although still small) percentage combined performance measures with non-performance-based criteria (Hartman *et al.*, 1994). Although performance data are widely collected and analyzed, many funding entities and recipients agreed that funding decisions based entirely upon performance factors lend themselves to inequities in resource allocation. This study evaluated allocations to both urban and rural transit operators and it stands to reason that any inequities induced by inclusion of performance measures in funding decisions may be exacerbated in rural systems, which are less able to provide cost-efficient service. Despite this contention, many states continue to use performance measures in their rural transit funding allocation decisions and some have adopted such factors since the time of the *Synthesis 6* survey.

Performance measures are broadly used to quantify the output of an organization in consideration of its operating environment, with respect to the internal resources managed and utilized in creating that output (Hartman *et al.*, 1994). These resources may include dollars, people, vehicles, and/or facilities at the organization's disposal. Performance measures specific to rural transit systems may be grouped into categories including cost efficiency, cost effectiveness, service utilization or effectiveness, vehicle utilization or efficiency, quality of service, labor productivity, and coverage (Carter *et al.*, 1990; Carter and Lomax, 1992). However, these categories are not quantifiable in and of themselves; performance indicators must be defined to provide measurable results of system output or service. Carter and Lomax outline possible rural transit performance indicators pertaining to these performance measurement categories (Carter *et al.*, 1990) (see Table 1).

Performance Measure/Category	Performance Indicators
Cost Efficiency	Cost per mile Cost per hour Cost per vehicle Ridership per expense
Cost Effectiveness	Cost per passenger trip Revenue per passenger trip Ridership per expense
Service Utilization/Effectiveness	Passenger trips per mile Passenger trips per hour Passenger trips per capita
Vehicle Utilization/Efficiency	Miles per vehicle
Quality of Service	Average speed Vehicle miles between road calls Vehicle miles between accidents
Labor Productivity	Passenger trips per employee Vehicle miles per employee
Coverage	Vehicle miles per capita Vehicle miles per service

Table 1. Rural Transit Performance Measures and Performance Indicators (Carter *et al.*, 1990)

Although some rural transit services are provided by fixed-route systems, many are based on demand-response operations. *TCRP Report 136, Guidebook for Rural Demand-Response Transportation: Measuring, Assessing, and Improving Performance* lists six primary performance measures specific to rural demand-response systems and four supplementary measures (Ellis, 2009). The primary of these include: (1) passenger trips per vehicle-hour, (2) operating cost per vehicle-hour, (3) operating cost per vehicle-mile, (4) operating cost per passenger trip, (5) safety incidents per 100,000 vehicle-miles, and (6) on-time performance. The guidebook includes formulae for calculating these performance measures. The supplementary measures given in the report are the no-show or late cancellation rate, the complaint rate, the average passenger trip length, and average travel time. Guidance is also given for calculating the productivity of the demand-response services, where productivity is defined as total passenger trips divided by total vehicle-hours, and the report states that “productivity captures the ability of the DRT system to schedule and serve passenger trips with similar origins, destinations, and time parameters, using the least number of in-service vehicles and hours. This is the essence of shared-ride, public [demand-response transportation] service.” However, the authors of this report acknowledge that for rural systems, productivity will be unavoidably lower due to dispersed populations and trip patterns within large service areas (Ellis, 2009). The productivity of rural demand-response service is further impacted by other operational and efficiency complexities.

While these performance indicators may be useful in measuring service or resource utilization and possible improvements to service delivery or efficiency, they do not by themselves necessarily reflect use by the neediest groups served by rural transit systems, or how well the system is serving these populations (Marshment, 1998). As a result, many states shy from including such factors in allocation decisions (Hartman *et al.*, 1994), since they may not reflect how successfully the goals and priorities to serve particular residents are being met.

The most well-known formula-based allocation procedure was developed by Forkenbrock in 1978 at the University of Iowa and is based on the net deficit to the state created by an operator (Forkenbrock, 1979). The process proposed inclusion of (1) ridership and (2) revenue miles as not only measures of performance and efficiency, but also as measures of need, especially for rural transit services. Ridership is included in this formula on the premise that those operators serving more trips are also in greater need of funding. Similarly, revenue miles, or, more generally, service miles, for rural operators can build quickly, since service is provided over areas with exceptionally low demand densities and thus more service miles are required to accommodate higher ridership levels. For instance, a rural transit provider serving a passenger residing 25 miles from his or her destination requires the provider to accrue 100 miles of revenue service—50 miles roundtrip to collect the passenger and deliver him or her to the destination and another 50-mile roundtrip to return the passenger to his or her residence and return to the depot. Thus, revenue miles can also demonstrate need.

For this reason, Forkenbrock proposes that in the case of rural transit operators, who provide transportation services for dispersed populations, revenue miles should be weighted more heavily than ridership, since the purpose of the rural transit program is to serve disadvantaged residents in these areas of low demand densities, even though doing so does not directly promote operating efficiency. A primary concern of the rural transit program is the equitable provision of service, and including measures of need in an associated funding formula implies the greater importance of equity over operating efficiency (Smith, 2003). If ridership were instead weighted more heavily than revenue miles, doing so would encourage operators to serve greater numbers of trips in higher-density locations and potentially neglect riders in outlying areas requiring additional vehicle mileage and time to reach.

Forkenbrock developed funding formulae based on these assessments—the formula for small urban systems weights ridership and revenue miles equally at 50% each. For rural systems, serving low demand densities and requiring elevated revenue miles to offer service to a dispersed constituency, he advised weighting ridership at 40% and revenue miles at 60%, in order to balance efficiency and need, further stressing the importance he placed on weighting revenue miles more heavily.

Each state using a funding formula has derived its parameters in a manner deemed logical and fair by that state. The unique challenges and situations facing each state and its rural transit environment contribute to the method and justification of the formula parameters.

2.3. State Management Plans

As part of the Section 5311 program, FTA directs each state to produce a State Management Plan (SMP). These documents are meant to support management of the rural transit program by the state and federal oversight by FTA, and, at a minimum, must lay out the state's objectives, policies, procedures, and administrative requirements with regard to the Section 5311 program (FTA, 2007). Among the SMP content required by FTA, states must describe the criteria and distribution method for resource allocation decisions concerning rural transit funds.

From this portion of the SMP, one may ascertain the procedure used by each state in disbursing rural transit resources to operators.

The SMPs for 38 states were obtained from either the state DOT website or via personal correspondence with a state representative or the regional FTA office. These documents may be found in Appendix A. After extensive effort, 12 states' SMPs were either unobtainable or under revision and consequently unavailable. The inventoried SMPs were reviewed to determine which states use funding formulae and which factors are included in the formulae (see Table 2).

State	Competitive Application or Formula?	Factors in Formula
Alabama	N/A	
Alaska	Formula	Formula (identical to current ODOT); adjustments made based on extra criteria
Arizona	Competitive	
Arkansas	Competitive	
California	Formula	Pop.; Regional planning agencies further allocate to rural operators
Colorado	Competitive	
Connecticut	N/A	
Delaware	N/A	
Florida	Competitive	
Georgia	N/A	
Hawaii	N/A	
Idaho	Formula	Regional population; Allocations made to six regional districts
Illinois	Competitive	
Indiana	Formula	Service area pop., Annual boardings, Locally-derived income; Gov't sub-recipients
Iowa	Formula	Unlinked passenger-trips, Revenue miles (Forkenbrock)
Kansas	Competitive	
Kentucky	Competitive	
Louisiana	Formula	Annual passenger-trips, Annual operating miles
Maine	Formula/Competitive	Regional: Pop., Road miles, Square miles; Application for projects
Maryland	N/A	
Massachusetts	N/A	
Michigan	Competitive	
Minnesota	Not Available*	* SMP undergoing revisions, MnDOT to share finished document in Dec 2010
Mississippi	Competitive	(From funding application; SMP not included in Appendix)
Missouri	Competitive	
Montana	Competitive	
Nebraska	Formula	Base amount (\$2K), Pop. (40%), Annual service miles (60%); Gov't sub-recipients
Nevada	Competitive	
New Hampshire	Competitive	
New Jersey	N/A	
New Mexico	Competitive	
New York	N/A	
North Carolina	Formula	50% div. equally to eligible counties, 50% rural county pop. (as % of NC rural pop.)
North Dakota	Competitive	
Ohio	Competitive	
Oklahoma	Competitive	
Oregon	Formula	Base amount (\$50K), Service area pop., Annual pass.-trips, Annual service miles
Pennsylvania	N/A	
Rhode Island	Competitive	
South Carolina	Competitive	
South Dakota	Competitive	
Tennessee	Competitive	
Texas	Competitive	
Utah	Competitive	
Vermont	Formula	Population (From state AOT website—SMP unavailable)
Virginia	Competitive	
Washington	Competitive	
West Virginia	Competitive	
Wisconsin	Competitive	
Wyoming	Competitive	

Table 2. Section 5311 State Distribution Practices

3. Oregon Section 5311 Program and Primary Allocation Issues Identified by ODOT

The capital, operating, planning, training, technical assistance, and state administration tasks of rural transit services in Oregon are financed through the state's Section 5311 program. In Oregon, 38 rural transit services are currently supported by the Section 5311 program. ODOT's Public Transit Division (PTD) allocates 5311 funds with the intention that these resources be used as a reliable foundation of on-going operational support, supplemented by funds from other sources. For this reason, the allocation process is not competitive (Oregon DOT, 2009).

All recipients of federal Section 5311 funds must comply with and accept the federal program goal of ensuring that rural residents can meet their basic mobility needs (FTA, 2007). Beyond this goal, states are free to add objectives to their own administration of the 5311 program. Oregon's eight goals for the Section 5311 program are (Oregon DOT, 2009):

- (1) Assist in the development and improvement of public transportation services.
- (2) Promote the orderly, efficient, and economical operation of small city and rural transit systems.
- (3) Distribute the funds fairly and equitably to all areas of the state.
- (4) Assure rural transportation providers have financial stability that limits interruptions in established service.
- (5) Encourage new service providers or new services to be eligible for Section 5311 funding through the Start-up Program.
- (6) Develop strategies to diminish duplication of services, and enhance coordination to maximize available funding.
- (7) Establish a regional outlook for the Section 5311 program; identify gaps in service statewide and target future Section 5311 funds (potentially through the Start-up Program) to rural areas without general public service.
- (8) Continue outreach to Oregon's Indian tribes regarding the Section 5311 program; encourage planning and development of general public transportation programs, if needed.

Oregon allocates Section 5311 funds using a formula, comprised of a \$50,000 base amount allocated to each operator, supplemented by a formulaic weighting of service area population (50%), annual passenger trips (25%) and annual service miles (25%). All the parameters included in ODOT's formula are primarily need-based, with the exception of passenger trips, which can also serve as a measure of efficiency in that the system is recognized by users as an available service.

ODOT operates its grant program on a reimbursement basis—recipients must submit reimbursement requests for eligible administrative, capital, and/or operating funds held in their grant allocation account, up to the maximum amount awarded by ODOT.

Consultation with ODOT's PTD resulted in identification of four primary issues facing their Section 5311 allocation procedures. These four concerns are described further in the following section and focus on two fundamental questions—the first question centers on provider ability

to claim a particular population for funding purposes, and the second reflects ODOT's endeavor to use federal funds in the most resourceful way.

3.1. Issue #1: Can multiple providers claim a population or portion thereof?

Oregon does not currently allow multiple providers to claim a population for formula funding purposes. A rural population in need of transit services may be claimed by only one provider, although this practice does not restrict additional providers from offering services to that population. However, constraining an operator's ability to claim a population to which it provides viable transit service necessarily limits the provider's resources in supplying that service, relative to the resources it might otherwise utilize.

This policy originally served the state well because rural populations tended to be isolated and separated by geographical features or distance. However, as rural centers have expanded, transit providers have enlarged their service areas and the isolation of populations once served by a single provider has decreased. The growth of intercity bus services, providing needed transportation between rural communities, has further complicated the use of a population parameter—under the current funding allocation policy, these providers are largely unable to claim residents in the rural communities they serve, particularly when a local provider is already present.

Changing ODOT policy to allow multiple claims on a population would instigate not only a shift in allocation procedures for Section 5311 funds, but brings with it the requirement to define the circumstances under which such claims are justified. By defining baseline levels of service or some other requirement(s) to justify additional claims made on a population, manipulations or potential misuse of the allocation process by sub-recipients could be lessened or curtailed.

3.2. Issue #2: What level of service should constitute the right to claim a portion of a population?

If Oregon were to begin allowing multiple claims on a population, the level and/or type of service offered must be evaluated to determine whether the claim is valid and constitutes legitimate service. This question is of particular concern for intercity bus services.

For services passing through a community with primary origins and destinations outside the community, there must be some technique developed to measure whether the service is actually *useful* to those in that community. For instance, a provider passing through a community once per day does not necessarily constitute the same level of service as one offering service throughout the day. Potential ways to quantify this usefulness or level of service might include some threshold number of passengers served within the claimed area or revenue miles generated by passengers originating from that area.

Complicating these measures are the issues created by services bringing rural residents into a small town but not circulating within that town. In this way, although the service is providing valuable transportation to those brought into town for various purposes, it is not providing mobility to those residing in the town itself. Similarly, measuring the extent to which the service

penetrates a community may be necessary, as when an operator serves the periphery of a community without actually moving into more centrally-located areas. As before, quantifying passengers served within the claimed area or revenue miles generated by passengers originating from that area may be a defensible measure of the usefulness of that service to the community's residents and justify a claim of legitimate service.

Even once practical thresholds are established to quantify the level or usefulness of a rural transit service, these measurements must then be used to apportion the population in question. For instance, should persons in the community be counted multiple times, or should fractional "persons" be counted (i.e. one-tenth, one-fourth, one-half of a person, etc.)?

Additionally, as services are added or cut, associated route and population data will require periodic updating to accurately reflect service revisions and adjustments to population figures used in formula funding procedures.

3.3. Issue #3: In which cases should the right to claim a population be denied?

If allowing multiple claims on a population, situations may arise in which the right to claim a population should be denied, regardless of service provision within that community. For example, some larger towns without existing general transit service may have the resources to realistically develop these services, even if it has not done so. However, should an external provider be allowed to claim that town's population for funding purposes? The population- or population density-based thresholds for measures such as passengers or revenue miles generated by that desired population may provide insight into the usefulness of that service to residents in the community.

3.4. Issue #4: How to reduce allocations for service providers who have a history of not using their full grant allocation?

ODOT seeks to make the best possible use of its available resources and achieving this end requires programming and using those resources in the most efficient and effective manner. While sub-recipient transit providers also strive to maximize the benefit obtained from their expenditures, many will use other funds prior to their Section 5311 grant amounts due to better match rates. While this valid practice helps sub-recipients' resources go farther, it can sometimes result in a surplus at the end of the funding cycle. Some rural transit providers have an established history of using only a small portion (half to as little as 25 percent) of their full Section 5311 grant allocations, which ultimately represents resources that could perhaps have been put to better use. ODOT is seeking a method by which to adjust funding allotments to sub-recipients who habitually underutilize their full grant amounts in order to better reflect the true needs of rural transit service providers.

4. Case Studies of Similar States

In a recent study by Dill and Neal (Dill and Neal, 2010), rural transit systems in Oregon were assessed to determine current and future needs. As part of this analysis, rural population and rural transit operating statistics were compared across the 50 states. This case study section of this report references the findings of that study, based in part on data from the Rural National Transit Database, and selected seven states with characteristics similar to Oregon (extracted and shown in Table 3) to review more in-depth regarding their experiences with the issues identified in ODOT’s rural transit disbursement practices.

State	Proportion of Population Outside Urbanized Areas (2000)	2007 Estimated Number of Unlinked Transit Trips per Capita (rural)	2007 Estimated Revenue Miles per Capita (rural)	2007 Estimated Revenue Hours per Capita (rural)
Oregon	43%	2.11	5.52	0.03
Colorado	25%	8.95	8.58	0.18
Iowa	62%	2.67	7.93	0.04
New Mexico	53%	1.10	4.34	0.37
Oklahoma	57%	1.12	7.08	0.31
Utah	22%	1.92	2.05	0.17
Washington	27%	6.35	11.22	0.11
Wyoming	74%	3.81	5.09	1.77

Table 3. Comparative Characteristics of States Selected for Case Studies (Dill and Neal, 2010)

Compared to other states’ characteristics, the states listed in Table 3 exhibit similarities when comparing across all four parameters and considering geographic service environments (i.e. dispersed communities in possibly mountainous terrain). Particular attention was paid to the rural population proportions and unlinked per capita rural transit trips.

The State Management Plan (SMP) for each selected state was reviewed in depth to determine the process by which funding allocation decisions are made. Moreover, the SMPs were examined more thoroughly with the four identified issues in mind to discover whether these eight states have encountered and developed means by which to cope with comparable programmatic concerns.

After studying each state’s SMP, email correspondence was sent as necessary to an appropriate contact person associated with the rural transit grant programs at each state DOT. Based on the information contained in the SMP and special reference to the four issues at hand, the contact person was queried via either email or phone conversation as to experiences in their state with similar funding allocation dilemmas and solutions developed to address them.

The results of the SMP reviews are given in the following subsections.

4.1. Colorado (Colorado DOT, 2009)

The state of Colorado expressly includes concurrence with the federal rural mobility goal in its SMP and goes on to list their additional goals for the Section 5311 program:

- (1) Provide quality public transportation in Colorado to meet the needs of the general traveling public, especially those without ready access to other means of transportation.
- (2) Provide for transit needs of special groups, particularly elderly persons, persons with disabilities, minority and low-income persons, and other transportation disadvantaged persons.
- (3) Preserve and upgrade existing public transportation services and facilities, and encourage new and innovative forms of public transportation.
- (4) Ensure that private sector transportation operators, minority organizations, consumers and disadvantaged business enterprises and the public have the maximum feasible opportunity to participate in the design, provision and evaluation of public transportation services.
- (5) Maximize the degree of coordination at both the state and local level in the provision of transportation services.
- (6) Ensure a fair and equitable distribution of Section 5311 funds across the state.
- (7) Ensure that services are made widely available and not directly or indirectly limited to a particular client of population group.

Colorado uses an annual competitive application process as well as a multi-year application process based on anticipated funding levels, in order to minimize administrative burden and allow applicants to plan strategically for horizons beyond a single year. In order to apply for funding, applicants must meet minimum threshold eligibility criteria. Those applicants meeting the Threshold Criteria are then assessed based on other Evaluation Criteria.

Each application is presented to the Interagency Advisory Committee (IAC), which assigns points to evaluation categories. Points per category range from zero to three, in 0.5-point increments (lowest merit or performance = 0, greatest = 3). The applicant's overall score is the weighted sum of a Merit Score (20% of the overall score), a Service Performance Measures Score (20% of the overall score), and an Item Score (for capital requests, 60% of the overall score).

The Merit Score is further comprised of three parts: Financial Justification (20% of the Merit Score), Service Justification (30% of the Merit Score), and Coordination (40% of the Merit Score). The Financial Justification component requires (among other factors) that the applicant demonstrate need for the funding amount requested by showing a lack of other available funding and good-faith efforts to obtain funds from other sources, and incorporates considerations for estimates of costs for the project, as well as reasonable use of project costs and revenues over the past three years. Service Justification is evaluated based on demonstrated need for the service, including lack of availability of transit alternatives, the level of transit dependency of the population (especially for elderly or disabled persons and carless or low-income persons), numbers and types of trips served, and the size of the service area, as well as other measures.

The Coordination component of the Merit Score is based on the applicant's efforts to coordinate its services with other organizations, including service promotion and reductions in service duplication. Colorado puts the impetus on the applicant to demonstrate coordination by considering factors such as (1) how well coordination reduces total miles traveled, operating expenses, number of utilized vehicles, and lead time required for demand-responsive passenger scheduling; (2) how satisfactorily the applicant promotes service and improves its efficiency by working with community organizations; (3) the lack of service duplication and/or overlap with other transit providers; and (4) how thoroughly the applicant has worked to coordinate services with private for-profit operators.

Following the calculation of the Merit Score from the Financial and Service Justification and Coordination scores, the application moves on to the Service Performance Measures Score and Item Score. The Service Performance Measures Score ranks applicants based on performance and departmental staff assign points based on the relative rankings of each application. The performance measures used in determining this score for Section 5311 projects include (a) cost per passenger-trip, (b) passenger-trips per service hour, and (c) passenger-trips per capita (additional measures apply to Section 5316 and 5317 projects). The Item Score is used for funds requested for capital purchases, including vehicles.

4.2. Iowa (Iowa DOT, 2009)

With the goal to "maximize the benefits which the people of Iowa can receive through [the] federal transit assistance programs", Iowa DOT's Office of Public Transit (OPT) integrates the federal programs to the extent possible and finances program administration from alternative sources, rather than using the included portion of federal disbursement for program administration at the state level, in order that they may distribute maximum funding amounts to sub-recipients.

To this end, Iowa combines funds for the Section 5311 program (less the 15% intercity bus amount and an apportionment for Iowa's established support of regional transportation planning) with the 30% non-urban set-aside from the Section 5310 program. Iowa continues to use a modified version of the Forkenbrock formula (the philosophy for which was discussed in Chapter 2) developed for them in 1978 (Forkenbrock, 1979). Starting with the ratio of the total regional net public deficits for transit service provision to the sum of this value and the total small urban net public deficits from transit service provision, the proportion of available funds dedicated to regional (rural) systems. A similar ratio using the total small urban net public deficits (or the remainder of the total available funds) is dedicated to providers in the six small urban areas (population between 20,000 and 49,999).

After splitting the total funding amount into these two categories, funds are allocated based on the formulae. Small urban allocations are based 50% on a *system's* share of total unlinked passenger trips and 50% on the *system's* share of total revenue miles. The regional (rural) system formula bases disbursement 40% upon a *region's* share of total passengers and 60% upon the *region's* share of total revenue miles. Rural transit service in Iowa is provided by 16

regional providers, most of which are public intergovernmental bodies and are the sub-recipients of the regional apportionments.

(California follows a similar procedure in which it allocates funds to regional entities based on population, and the regional groups then further allocate resources to rural transit operators.)

4.3. New Mexico (New Mexico DOT, 2010)

The Section 5311 program objectives stated in New Mexico's SMP include the first and second of FTA's goals (without specifically listing the remaining three federal specifications) and adds one of its own, to "maintain needed intercity public transportation services through assistance to intercity transit operators who serve residents of non-urbanized areas."

New Mexico DOT's (NMDOT) Transit and Rail Division distributes competitive applications by mail or email to applicants from whom it received an official letter of intent to apply. Regional evaluation of each received application is done by regional planning organizations (RPOs) and, when a rural project ties in with an urban system, to the associated MPO. These regional groups delegate transit evaluation committee members to assess and prioritize the proposed projects and any remaining questions regarding the proposal must be fielded by the applicant at a mandatory public meeting. Final high-medium-low scores of priority are assigned by the regional evaluation committee members to the applications based on the following criteria, which are ranked as "high", "medium high", "medium", "medium low", or "low".

(1) Rural Public Transportation Planning and Regional Coordination:

- Does the applicant have a short/long term transit plan?
- Is this plan adopted by the applicants governing body?
- Is there coordination with other transit systems and other modes of transportation, including tribal entities?
- Is ongoing funding part of the plan?
- Has a formal process been established for public input?

(2) Regional Need and Justification for the System:

- Does a regional transit/transportation plan exist that includes this service? If not, what is the basis for the need for this service?
- Does a regional need exist to serve the demand in this area?
- How strong is the need to continue/begin this system?

(3) Level of marketing of the Transit System - Public Served (ridership):

- Does the transit system have a marketing plan?
- Has it been implemented?
- Is there a clear direction to increase ridership? Including paratransit?

After receiving the regional prioritizations, NMDOT assesses the preliminary budget recommendations. If the total requested funding level exceeds the available amount for the

program, a Statewide Prioritization occurs; otherwise, the Regional Prioritization is adopted as the Statewide Prioritization after verifying the ordering using qualitative measures and quantitative performance data.

Statewide Prioritization is accomplished using the following rules:

- Due to consistency and reliability of a steady funding source for transit programs to succeed, current transit service providers will be given priority for funding over new applicants.
- Applicants that provide transit service will be given priority over applicants that do not provide transit service.
- Applicants that utilize/request more total operating budget than administrative budget will be given priority over those applicants that have an imbalance of administrative funds in their proposed program.
- Quantitative and standard performance measures of current transit providers will be assessed and placed into a funding distribution index. Budget recommendations will be made on past performance and proposals for improvement.

4.4. Oklahoma (Oklahoma DOT, 2009)

Oklahoma's DOT (ODOT) Transit Programs Division recently implemented a new process for allocating Section 5311 resources. It states its program goal to "provide transportation services for the people of Oklahoma living in nonurbanized areas so that they may have access to services such as health care, shopping, education, recreation, public services and employment by encouraging the maintenance, development, improvement and use of passenger transportation systems." The Section 5311 program objectives for Oklahoma are "to provide transportation services to the public in the rural and small urban areas of Oklahoma, provide fair distribution of public transportation funds to all areas of the State, to the best of our ability and coordinate the activities of existing and proposed public and private providers of public transportation services."

As do most states, Oklahoma reserves small percentages of their federal 5311 allotment for administrative purposes and intercity bus service (as allowed by FTA). However, Oklahoma then sets aside another five percent of the federal total for an annual Program Reserve, used for providers establishing or expanding rural transit service in an area which previously had no service, or for catastrophic or uncontrollable events, such as fleet or equipment destruction by tornados or fire. Any balance remaining from a previous year's Program Reserve is rolled over into the subsequent year's Statewide Allotment.

Oklahoma discretionarily reviews project applications for the following criteria:

- "The lack of an existing transportation provider within the proposed service area,
- Effort to coordinate with other public transportation providers and inclusion of community efforts for human service transportation planning,
- The project scope,

- Managerial and operational capacity of the applicant with regard to operating an open...public transportation system, and
- Willingness to serve the general public's needs.”

Funding allocations are made on the basis of competitive applications and are apportioned in three parts: an Incentive Allotment, a Base Amount, and a Performance Allotment. The sum of these three parts plus the Intercity Bus allotment represents the maximum amount available to a particular applicant.

The Incentive Allotment is an amount equal to the previous two-year average of annual farebox revenue, which includes cash paid into the farebox at boarding and non-subsidized payments made for transit passes. The Base Amount in the 2008 program year was equated as 60% of the sub-recipient's 2006 operating and administrative costs. In each year since, this amount has been reduced by 20%, through the 2010 program year.

After calculating each applicant's total from the Incentive Allotment and Base Amount and summing these over all applicants, the remaining portion of the Statewide Allotment is referred to as the Performance Allotment. The performance statistics for each sub-recipient are reviewed and the applicant's pro rata share of the preceding two years' annual statewide cumulative averages for passenger miles, revenue miles, and passenger trips are weighted and used to determine the final Performance Allotment. Passenger miles are weighted at 35%, while revenue miles and passenger trips are weighted 20% and 45%, respectively.

ODOT makes Section 5311 payments on a cost reimbursement basis and sub-recipients must file claims to receive reimbursement, which typically requires four to six weeks for processing. Funds allocated to sub-recipients by ODOT which are unobligated or not programmed by the end of the program year are considered unused and lapsed by ODOT, which carries those unspent funds over to the subsequent year's Statewide Allotment and re-allocates those funds.

4.5. Utah (Utah DOT, 2009)

Utah's DOT has developed a set of four strategic goals to “improve the quality of life and economic vitality of the state” for guidance in all its systems. These goals, nicknamed the “UDOT Final Four”, include (1) “Take Care of What We Have”, (2) “Make the System Work Better”, (3) “Improve Safety”, and (4) “Increase Capacity”. Beyond these Final Four, the UDOT Public Transit Team (PTT) expressly adopts the FTA goals and adds to these its mission statement, pledging to promote “safe, sustainable, and barrier-free public transit throughout the State of Utah” and to:

- A. Promote and advocate for public transit by raising awareness, building partnerships, and improving customer service.
- B. Support and promote new technologies and information to leverage the effectiveness of public transit resources.
- C. Further leverage transit resources by building relationships with stakeholder groups and by effectively sharing information.

D. Increase responsiveness as a team to changing public transit and public demands by emphasizing planning efforts and increasing awareness of trends affecting public transit.

E. Implement policies and procedures that support the equitable distribution of transit funds throughout the State.

To facilitate statewide coordination of human services, Utah has established an interagency initiative, Utah United We Ride Workgroup (UWRWG), comprised of state human service and transportation agencies, public transportation providers, and UDOT. As part of their role in UWRWG, PTT hosts an annual workshop for potential sub-recipients of rural transit funding grants at the beginning of the grant-making cycle in order to:

- Build on the momentum of recent coordination planning efforts,
- Bring potential applicants together to collaborate on their respective applications for FTA funding,
- Create additional opportunities for coordination to be integrated into new applications for FTA funding,
- Collaboratively review the outcome of recent coordination planning efforts with potential applicants, including a review of the needs, strategies and priorities identified at the local level, and
- Enhance the seamlessness of the transition from the coordination planning process to the annual PTT project development and grant making process.

Utah explicitly defines its definition of “equitable distribution of funds” in Section 2.5.2 of its SMP as follows:

Equitable Distribution of Funds: The PTT has adopted policies and procedures to ensure that the competitive selection process is conducted in an open and transparent manner, resulting in a fair and equitable distribution of funds among agencies across the state, including tribal governments and other entities servicing Native Americans. This does not mean that the selection process will result in an equal allocation of resources among projects or communities. Instead, equitable distribution refers to equal access to, and equal treatments by, a fair and open competitive selection process.

Funding allocations in Utah are determined through a multi-phase competitive application process. The first stage of the process involves a regional review of all eligible applications by each respective regional planning agency. In some cases, a proposed project may serve multiple regions, and in such an event, each region served by the project reviews the application. Each region develops its own evaluation criteria and review processes and submits its findings to PTT.

After completion of the regional reviews, PTT uses its own established criteria and a Selection and Evaluation Committee of public, private, and non-profit transportation and human services providers to review and calculate final scores for each application. Applications for Section 5311 funds are appraised on the basis of:

- Operating and administration assistance for current 5311 sub-recipients
- Capital for current 5311 sub-recipients
- New service
- Compliance
- Managerial capacity

The final project selections are recommended to the Utah Transportation Commission, which approves final grant awards.

4.6. Washington (Washington State DOT, 2010)

The Washington DOT (WSDOT) does not outline additional goals beyond the federal goals set out by FTA. For a variety of reason, WSDOT has consolidated its grant application cycle into 24-month grant contracts, administered in even-numbered years.

The public transit grant application requirements begin with applicants taking part in the Regional Transportation Planning Organization's (RTPO) local planning efforts to guarantee coordination among stakeholders. Through this process, the RTPO and applicants identify common origins, common destinations, available transportation services, and similar types of data for the region. Unmet needs are identified, as are duplications of effort, and these analyses are used to prioritize rural transit projects. Letter grades are assigned to each project, which determine the additional percentile points for the project: "A" receives 50 percentile points, "B" gets 25 points, "C" yields 12 points, "D" is worth zero points, and any projects without letter grades are disqualified and omitted from further evaluation.

WSDOT establishes a project evaluation team comprised of representatives from state transportation and human services agencies and tribal and rider advocates. These team members then use a forced-pair method (see Washington State Management Plan) to compare applications based on pre-determined evaluation criteria. These criteria fall into three categories as follows:

Project Component:

- Does the project establish, preserve, or improve public transportation services in a community?
- Does the project address a recognized need in the community?
- Does the applicant report the leveraging of funds from other sources to support the implementation of the project?
- Does the project reflect a community process of coordination and input?
- Does the project appear to be feasible as described?

Applicant Component:

- Does the applicant report sufficient experience in managing transportation projects to provide assurance of success?
- Does the applicant report sufficient experience in managing previous grant awards?
- Does the applicant report sufficient financial capability and resources to implement and successfully carry out the project?
- Does the applicant report a long-term commitment to the project to continue the effort beyond the availability of the requested grant resources?

Performance Component:

- Does the project describe community benefits resulting from the grant?
- Does the project define the performance measures to be used in determining the success of the project?
- Does the project describe an active effort aimed at improving efficiency and effectiveness?

The projects selected most frequently in the forced-pair analyses are used to create a project list, which is then discussed among team members on the basis of each proposal's merits. Proposed projects are assigned up to a maximum of 100 percentage points and these evaluations and discussions result in a list of prioritized projects, which is then recommended to WSDOT. Points originating from the letter grades assigned as part of the coordination-based regional planning effort are added to the project list. WSDOT reviews the prioritized project list and once finalized, WSDOT determines the source of funds to finance the individual projects. WSDOT may also make grant allocations to priority projects outside this process. Any funds remaining after this allocation process or from overestimates of project budgets are disbursed through a subsequent call for smaller projects.

4.7. Wyoming (Wyoming DOT, 2010)

Wyoming uses a competitive application process for distributing rural transit grants, and beyond the FTA-stated goals of the Section 5311 program, the Wyoming DOT (WYDOT) does not specifically outline additional goals. Initial review of project applications is conducted by WYDOT Transit staff, who tabulate for each application the current funding request, the previous year's award amount, and funding amount recommended by staff, based on the review. Results from the staff review are passed on to a Project Evaluation and Recommendation Committee, which includes a representative from a transit provider based in an urban area (Cheyenne or Casper) and "equitable" representation from "larger rural providers" and "smaller rural providers". Appointments to the Project Evaluation and Recommendation Committee are made by the president of WYTRANS (the Wyoming Transit Association). The committee reviews the staff assessments and generates its recommendations. WYDOT makes final decisions on grant allocations, which are then approved by the Wyoming Transportation Commission.

Evaluation criteria are categorized into three components: a Project Component, an Applicant Component, and a Performance Component. These components and criteria, very similar to those used in Washington, are as follows:

Project Component:

- Does the project establish, preserve, or improve public transportation services in a community?
- Does the project propose service area expansion, extended service areas, and/or address identified unmet needs?
- Does the project proposed identify efforts to leverage funding from other sources to support the overall project?
- Has the community participated in, have underway, or completed a coordinated community transportation-human services planning effort?
- Does the project reflect a coordinated community process and encourage input from the community?
- Is the application's budget balanced and feasible?
- Is the project sustainable and contribute to the livability of its service area?

Applicant Component:

- Does the application indicate that the applicant has sufficient oversight and direction by its Board of Directors or Governing Body?
- Does the application indicate that the applicant has sufficient experience in managing the requested project funding?
- Does the applicant appear to have sufficient financial and program management capabilities to meet the program compliance requirements?
- Does the applicant exhibit a sustainable commitment to the project to continue the effort beyond the availability of this funding cycle?

Performance Component:

- During previous funding cycles, has the applicant completed its contractual responsibilities and program compliance requirements in a timely fashion?
- Does the application indicate the sponsor is attempting to improve program efficiency and effectiveness?
- Does the project set forth targets and goals to be accomplished which would measure success of the project?
- Does the application describe community benefits resulting from the funding request?

Starting with the FY2012 funding cycle, WYDOT will move somewhat away from its customary discretionary selection procedure and begin considering performance factors in its grant allocation process. By this time, WYDOT will have implemented an electronic performance measures reporting system for use in funding decisions, including service output measures of cost per ride, total trips, cost per mile, the proportion of total trips serving Americans with Disabilities (ADA) trips, and the locally-generated revenue per number of rides.

4.8. Other States Using Population-based Funding Formulae

As revealed from the nationwide scan of State Management Plans, few states use funding formulae, and even fewer include population as a parameter in their formula. The following states are those found to use population as a formula-based consideration in allocating Section 5311 funds.

Alaska (Alaska DOT, 2010; Correspondence with Debbi Howard, Alaska DOT State Transit Coordinator): Alaska uses an allocation procedure nearly identical to Oregon’s and allows a population to be claimed only once. Sub-recipients of Section 5311 grants in Alaska are non-profit agencies and borough governments. Correspondence with a representative from Alaska DOT’s rural transit group revealed that Alaska is dealing with similar problems to Oregon in applying their formula, although they are currently in the beginning stages of dealing with these issues. According to the DOT representative: “We are exactly where you are...[W]ith this next grant cycle, we will have a community adding a commuter service and ferry system to the one traditional public transit system that is currently serving the area. I am also looking for ideas and would appreciate hearing how you ultimately handle this issue.”

California (California DOT, 2007): The state of California, after allocating 15% (each) of their federal Section 5311 grant to administrative costs and the intercity bus program, disburses the remaining 70%, termed the Regional Apportionment, to regional entities, based on regional population. Grant allocations are made to regional transportation planning agencies (TPAs), who are then charged with coordinating services between transit providers and equitably distributing funds to members, and which, in some regions, conduct rural transit operations directly. In areas where non-profit operators or private providers deliver transit services, those rural transit operators apply to the regional TPA for Section 5311 funds. California’s SMP states: “Under the Regional Apportionment, the distribution of funding for specific projects is determined by TPAs and they are responsible to allocate those funds in the most equitable and fair manner.” Furthermore, “The [California Department of Transportation’s] policy is to delegate activities to [the] local level when ever feasible. Both the regional apportionment banked funds and carryover balances are programmed by the TPA of the region or county.”

Indiana (Indiana DOT, 2008): In Indiana, the ability to apply for Section 5311 funds is restricted. According to the Indiana State Management Plan, “Eligible applicants of Section 5311 funds from INDOT are limited to units of government authorized under state law to provide and carry out a local public transportation project. Eligible applicants include the State of Indiana, counties, cities, or towns.” The funding formula used in Indiana includes service area population, annual passenger boardings, and locally-derived income, weighted at 30%, 30%, and 40%, respectively. Inclusion of population in the formula is justified as a stable and predictable factor used to provide a base allocation to all sub-recipients.

Nebraska (Nebraska DOR, 2009; Correspondence with Jerry Wray, NDOR Transit Liaison Manager): Nebraska uses a funding formula process to allocate funds to governmental entities—municipalities, counties, or public purpose organizations providing transportation

service on behalf of counties or municipalities. The formula allocates a \$2000 base amount to each sub-recipient, supplemented by an apportionment based 40% on service area population (relative to the total service area population of all applicants) and 60% on service mileage (relative to the total annual service mileage of all applicants). NDOR also allows a 5% growth factor for “those applicants whose prior year projected reimbursements are less than the current initial allocation.”

When an allocation to a sub-recipient exceeds the requested amount, those surplus funds are returned to the pool and further allocated among systems whose allocation was below the requested amount. The same formula procedure is used to distribute these funds. At year’s end, individual sub-recipients’ unutilized funds are rolled into the subsequent year’s funding pool.

Although allocations in Nebraska are made to governmental entities, NDOR is careful to assure that populations are counted only once. According to a representative from the NDOR Rail and Public Transportation Division, “...[w]e at NDOR determine the population that is used for each sub-recipient (based on their service area) so that there is no overlap and an area’s population is only counted once.”

North Carolina (North Carolina DOT, 2010): North Carolina has established an overarching program for management of rural transit grants. Through this program, ROAP (Rural Operating Assistance Program), the State allocates rural transit funds directly to eligible counties among the 100 counties in the state. Each county’s finance officer is then responsible for administering the local ROAP program and managing sub-recipients. The State will not disburse funds to the individual sub-recipients selected by the counties.

The ROAP program is further subdivided into three programs, funds from all of which are distributed according to formulae: The Elderly and Disabled Transportation Assistance Program (EDTAP), the Employment Transportation Assistance Program (EMPL), and the Rural General Public Program (RGP). Of these programs, the RGP is most similar to Oregon’s 5311 program. Fifty percent of RGP funds are allocated equally among all eligible counties and the remaining 50 percent are based on the rural population of each county as a percentage of the total state rural population. For counties containing urbanized areas, the population in any municipality where an urban or small urban transit system is excluded from the qualifying rural population value used in the second portion of the allocation.

Rather than the reimbursement format used in most other states, North Carolina disburses ROAP funds according to a pre-determined schedule. For FY2011, counties receive 50% of their ROAP allotment August 31, another 25% on December 31, and the final portion of 25% on March 31 (proposed dates). At year’s end, the State invoices counties for any unspent or undocumented portion of the sub-recipient’s total ROAP allocation.

Maine (Maine DOT, 2009): The 70% of Maine’s federal allocation remaining after setting aside 15% for administrative costs and 15% for intercity bus is split into two equal portions. The first

of these portions (35% of the federal allotment) is disbursed to eight predefined regions based on population, road miles, and square miles. The remaining portion is allocated based on competitive applications from all municipalities and planning organizations in Maine.

4.9. Summary

As discovered from this nationwide scan and detailed case studies, few states use funding formulae for Section 5311 allocation purposes, and of those utilizing formulae, few incorporate a population parameter. Of those who do consider population, population tallies and associated funding allocations are made on regional bases to regional or smaller planning agencies or segments of government. In some cases, these regional organizations are directly responsible for rural transit service provision—in other cases, they are charged with further allocating Section 5311 funds to eligible sub-recipients. With the exception of Oregon, in no reviewed case where population is included in funding formulae are apportionments made directly to individual service providers, unless the regional government or planning organization operates the rural transit service itself.

Concerns involving incomplete use of sub-recipients' Section 5311 allocations are dealt with in a variety of ways. In some cases where funds are allotted to regional entities which then further allocate funds to sub-recipients, those entities are responsible in the subsequent year for re-allocating any unused resources from the prior year. In other states, 5311 funds are dispensed by reimbursement to sub-recipients, up to some maximum allocation. In such a system, the allocated funds left unprogrammed at the end of the grant cycle are always within state control and thus upon year's-end may be deemed lapsed and rolled into the next year's available Section 5311 funding total.

These practices provide insight into Oregon's options for resolving the identified issues with their Section 5311 allocation practices. The available options are outlined in the next chapter.

5. Conclusions and Recommendations

In its rural transit grant program, Oregon follows a unique allocation procedure not replicated by any similar state, or indeed by any reviewed state using a funding formula to disburse Section 5311 funds. The states using formulae are few and those including population in their formula make allocations to regional bodies for further disbursement to operators, rather than presenting grants directly to providers based on any measure of population served.

Consultation with ODOT's PTD established the following issues requiring resolution within their Section 5311 allocation practices:

- Issue #1: Can multiple providers claim a population or portion thereof?
- Issue #2: What level of service should constitute the right to claim a portion of a population?
- Issue #3: In which cases should the right to claim a population be denied?
- Issue #4: How to reduce allocations for service providers who have a history of not using their full grant allocation?

The first three of the four identified issues ODOT's PTD faces in allocating Section 5311 resources deal with the population parameter currently included in the formula. The first question centers on whether ODOT should change its policies to allow multiple providers to claim a population for formula funding purposes. No other investigated state (except Alaska) is dealing with this issue because any formula-based decisions regarding population are controlled for by using regional population measures and allocating funds to regional organizations, rather than directly to non-profit or private service providers. The second and third identified issues hinge on the decision made in resolving the first.

A set of recommended options, described below, has been developed to bring resolution to the four identified issues. These issues maintain or enhance the fairness of ODOT's Section 5311 allocation practices by increasing the transparency and impartiality of funding decisions. Equity is upheld by not affecting riders' access to services through preservation of the lower bound on sequential annual allocations. Determination of the appropriate action is left to ODOT, being in a position to better estimate the political and administrative consequences of each option.

5.1. Options for Resolution of Issues 1 through 3

Because the states (other than Oregon) incorporating population measures into funding allocation formulae make disbursements to regional entities rather than to individual operators, multiple claims on a population are not at issue (at least at the state level). Oregon must first determine whether to continue including population as a variable in the state funding formula and, based on this decision, choose how to proceed with regard to the associated alternatives. The options outlined here assume that Oregon keeps with a formula-based allocation process—replacing formulaic allocations with the more common competitive application procedure is, of course, another alternative (Option E in Table 3), but Oregon sub-recipients have indicated an overwhelming preference for the formula-based approach.

The \$50,000 base amount was originally built into the formula to benefit smaller rural transit operators due to the lack of economies of scale in the industry, and is considered by ODOT to be roughly half the amount needed to finance basic rural transit operations (i.e. one driver, one vehicle, one manager/dispatcher, etc.). However, as sub-recipients have expanded their services to other communities or as struggling services have been absorbed by established providers, some individual sub-recipients have qualified for multiple base amounts under the current policy. ODOT may wish to examine this practice for its fairness and equal treatment of all sub-recipients. By eliminating the base altogether or developing policy restrictions on its availability, allocations may be distributed in a more transparent manner.

5.1.1. Options for Continued Inclusion of Population Parameter in ODOT Funding Formula

If ODOT chooses to retain the population parameter in its Section 5311 funding formula, it will be necessary to make adjustments to related practices in order to accommodate the population measure. The following actions are possible options for making these adjustments.

(a) Develop detailed measures to quantify service provision per population and policies to determine the level of provision constituting legitimate service and when to deny population claims. Without altering current practices for allocating funds to operators based on individual service areas, ODOT will need to define quantifiable measures to determine the level of rural transit service required to justify a claim on a population. Additional research will be required to implement this option, based on population distributions, access distances, and route deviations, among other factors. These decisions will be necessary whether or not ODOT decides to allow multiple claims on a population—if only single claims are allowed, denying a population claim based on service by an external operator to a town capable of initiating its own rural transit system will require some rationale. If multiple claims are to be allowed, establishing some minimum threshold level of service will be essential. These questions are particularly relevant to intercity operators serving trips in areas with existing local service. Another option could be to use past performance data, such as rides per individual town populations, to generate proportional weights assigned to the population values associated with each served town. If selecting this approach, ODOT should put the impetus on rural transit providers to coordinate service at the regional level. Additionally, application of this process may involve annual revision of estimates as routes and services are changed or augmented.

(b) Organize operators by zone and use zonal populations for all operators in that zone. Another approach to simplifying the assignment of population statistics to operators involves establishing zones throughout Oregon and organizing rural transit operators by these zones. Using the existing ODOT regional designations would likely not produce the most equitable results, and therefore creating these proposed zones in an accurate way would entail additional research. Zones could be established by analyzing state and regional travelsheds, perhaps using the statewide travel demand model to evaluate rural transit trip-making patterns. Zonal populations could then be developed and each operator providing service within that pre-defined zone would receive the same population value in the funding formula. For providers serving trips in more than one zone, a weighted average of their annual service miles per zone could be developed to generate an appropriate population value.

(c) Change funding allocation operations to a region-based system. States incorporating a population parameter in their Section 5311 funding formula do so on regional bases, then distributing funds to regional entities, such as regional planning organizations. One option for ODOT is to follow this practice and make funding allocations to regional entities, rather than directly to operators. Doing so would place the responsibility for allocation to operators on the regional organizations. However, major drawbacks of this option involve (1) the effort and time required of ODOT and local interests to establish these regional agencies, and (2) the administrative burden entailed with adding an extra layer of management to the current system. Under this process, ODOT's ability to gather operational and performance data would be reduced, as would their capacity to monitor and control activities within the statewide rural transit network.

5.1.2. Options for Elimination of Population Parameter from ODOT Funding Formula

The chief difference between ODOT's inclusion of the population parameter in its formula and other states' use of population is in the definition of grant sub-recipients. In Oregon, service providers are the direct recipients of grants, but other states using population as a variable in their funding formulae distribute rural transit funds to regional entities which then further allocate funds at the local level or operate the transit services in-house. Oregon's use of population as a funding parameter, combined with allocating resources directly to providers and ODOT's restriction that a population can be claimed but once, are the primary causes of the conflicts identified in Issues 1 through 3.

(d) Eliminate the population parameter from the current funding formula. Currently, the population parameter constitutes 50% of the weighted allocation value. Removing this parameter from the Section 5311 funding formula would simplify the allocation procedure by relying on the performance of the operator and need, measured by service utilization (passenger trips and service miles). Concerns over maintaining the reliability of funds could be addressed by preserving the upper and lower bounds on sequential annual allocations.

If the population parameter is eliminated, the formula weights on ridership and service miles will require adjustment. Following the Forkenbrock formula used by Iowa (40% passenger trips, 60% revenue miles) may be advisable. Alternatively, if sharing service area populations is a concern, greater emphasis might be placed on ridership to measure the service utilization by any given population. One such option could involve weighting the two parameters equally.

In some ways, including population may lead to redundancy in the current formula, since population and ridership are likely to be correlated to some extent. Verifying such a relationship from available ODOT data is not possible at this stage since population figures associated with individual grant recipients are limited by ODOT's policy restriction on population claims. However, this premise for collinearity and direct proportionality between population and ridership is substantiated in numerous references (SG Associates, 1995; Attaluri *et al.*, 1997; Painter and Casavant, 1999; Painter *et al.*, 2007), in which population is used as a primary determinant in estimating demand for rural transit services.

5.2. Option for Resolution of Issue 4

Many states have developed means to retrieve or control unspent Section 5311 grant funds. Underutilization of allocated grants by sub-recipients represents resources which could have been used more effectively and programs or projects which may have been underfunded or unfunded as a result. The alternative given here suggests a solution to these practices.

(a) Reduce operator allocation by amount reflecting unspent portions over most recent three-year history. ODOT has indicated that those operators failing to use their full grant allocation tend to have a history of doing so. The primary motivation behind resolving Issue 4 is to adjust grant amounts to reflect the true need of the sub-recipient and bring allocations more in line with actual grant utilization. This option involves reducing the grant allotments for such recipients by the deobligated (unspent) fraction of their annual allocations over the most recent three-year period. Mathematically, grant amounts could be reduced as follows:

$$\text{Adjusted grant amount} = \frac{\text{Formula grant amount}}{(1 + \alpha)}$$

where α represents the three-year average unspent proportion of allocated grants.

After reviewing data for fiscal years 2008-2010 reflecting sub-recipients' deobligated grant amounts (funding left unspent at the end of the fiscal year), it was decided in consultation with PTD that should an individual sub-recipient maintain a three-year average grant deobligation exceeding ten percent, their subsequent year's allocation will be reduced by their effective three-year average deobligation percentage. This threshold and corresponding reduction will be implemented in order to more accurately reflect their true funding need, and the surplus funds shall be redistributed according to the basic formula to any sub-recipient from whom a reduction has not been made and who has not reached the upper funding limit threshold.

Using a three-year time period for the average unspent allocation represented by α is sufficiently long to justify a historical tendency to underutilize Section 5311 allocations, while allowing sub-recipients to amend their spending behavior over a relatively short period of time. It also does not unfairly penalize an operator with a single year of unprogrammed 5311 resources. It is recommended that this option, if used, be phased in over time and not be implemented immediately, so that sub-recipients may be apprised of the change and have an opportunity to adjust their spending if necessary.

5.3. Summary

The suggested options for resolution of Issues 1-3 dealing with the population parameter are listed in Table 4, along with the most important criteria for discerning between the options. These criteria include (1) consistency with the expressed preference of sub-recipients that the formula-based process be retained, (2) ease of implementing the adjusted practice, and (3) low administrative burden on ODOT's part. Fully black circles indicate that the criterion is addressed

by the option, while half-circles represent partial addressing of the criterion and empty circles are given where the criterion is poorly or not addressed by the potential solution.

Option/Criteria	Consistent with sub-recipient preference for formula-based procedure	Ease of implementation	Low administrative burden
Retain Population Parameter in Formula			
A. Develop service measures to quantify provision limits	●	◐	○
B. Develop zonal populations for all providers in a zone	●	◐	◐
C. Change funding operations to region-based system	●	○	○
Eliminate Population Parameter from Formula			
D. Eliminate pop. parameter; Adjust formula accordingly	●	●	●
Eliminate Formula; Use Competitive Application			
E. Abandon formulaic approach for competitive process	○	○	○
● Well-Addressed	◐ Partially Addressed	○ Poorly/Not Addressed	

Table 4. Criteria for Consideration in Selecting Listed Options for Issues 1-3

Each of the possible solutions has other drawbacks not tabulated in Table 4. These compromises are described in individual option listings in Sections 5.1.1 and 5.1.2. According to the analysis completed here and the results presented in Table 4, elimination of the population parameter from the formula (Option D) presents the fewest logistical and administrative challenges to ODOT in managing the Section 5311 program.

Currently, ODOT guarantees grant sub-recipients a minimum allocation of no less than 90% of their prior year grant amount and a maximum of no more than 115% of their prior year's amount. PTD has indicated that these limiting values should be adjusted to 95% and 110%, respectively. It is recommended that upper and lower bounds on funding be maintained, particularly during the transition period between the current and future procedures, to minimize the effects of policy changes on sub-recipients' service provision.

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Appendix A. State Management Plans

PART I

Alaska
Arizona
Arkansas
California
Colorado
Florida
Idaho
Illinois
Indiana
Iowa

PART II

Kansas
Kentucky
Louisiana
Maine
Michigan
Missouri
Montana
Nebraska
Nevada

PART III

New Hampshire
New Mexico
North Carolina
North Dakota
Ohio
Oklahoma
Oregon
Rhode Island
South Carolina
South Dakota

PART IV

Tennessee
Texas
Utah
Virginia
Washington
West Virginia
Wisconsin
Wyoming