

**Metro**

**Planning Department**

***2040 Performance Measures  
Best Practices***

---

**December 2006**

A Report by the Office of the Auditor



**METRO**

PEOPLE PLACES

OPEN SPACES

**Alexis Dow, CPA  
Metro Auditor**

---



**METRO**

**AUDITOR**

**ALEXIS DOW, CPA**

December 28, 2006

To the Metro Council and Metro-area citizens:

The Metro Auditor's Risk Assessment and Audit Plan and interviews with Metro's Planning Department revealed that opportunities for improvements to Metro's 2040 performance measures reports might exist. We determined that identifying best practices in the field of performance measures could yield countless benefits to Metro and its citizens.

Metro's 2040 performance measures effort evolved over time with input from many individuals, committees and staff. The amount of time invested in the development of the process and compilation of the reports has been significant. Due to diverse advice given over the years and legal reporting requirements, the resultant reports are thick with data, charts and graphs. Our research shows that a more streamlined approach, combined with emerging best practices, would strengthen the performance measurement process, making it more meaningful and effective.

Our recommendations to incorporate best practices fall into three categories: strengthening the process, improving the indicators that are measured, and improving the reports themselves. Key recommendations made in our report include:

- taking a fresh look at the entire process, to redefine and refocus the overall project
- creating rigorous selection criteria and reducing the number of indicators
- shortening the reports and making them more readable by reducing the amount of raw data and charts and graphs.

Detailed recommendations to enhance Metro's performance measures reporting process are described on the following pages. The last section of the report includes a statement from Metro Chief Operating Officer Michael Jordan in response to the report.

We very much appreciate the assistance provided by Planning Department personnel and wish to recognize the many people at Metro who are actively committed to improving the efficiency and effectiveness of Metro operations.

Yours very truly,

A handwritten signature in cursive script, appearing to read 'Alexis Dow'. The signature is written in black ink and is positioned above the printed name.

Alexis Dow, CPA  
Metro Auditor

## Table of Contents

Executive Summary	1
Summary of Recommendations	2
Introduction and background	3
Best practices	6
Recommendations	8
Audit objective and methodology	20
Resources	21
Appendix A – Improving charts and graphs	22
Response to Recommendations	
Metro Chief Operating Officer Michael Jordan	

## Executive Summary

Metro published two thick comprehensive performance measure reports and one shorter comparative pamphlet in 2003 and 2004, providing numerous statistics about various aspects of life in the Portland region. These reports were the cumulative result of many hours of committee effort and staff time devoted since 1992 to define a process that would reflect the region's livability and the impact of Metro's land-use planning policies. The Metro Auditor's Risk Assessment and Audit Plan and interviews with the Planning department revealed that opportunities for further improvements might exist. It was determined that identifying best practices in the field of performance measurement would yield the most benefits to Metro and its citizens.

The audit consisted of detailed reviews of Metro's history and legal requirements that led to the establishment of its performance measurement process and the performance measure reports. Extensive research covering a wide variety of sources was conducted to identify current trends and emerging best practices. The research revealed that performance measurement processes:

- can be highly effective management tools when properly designed and implemented
- lend themselves to measuring livability and sustainability of a region
- are growing in usage at exponential rates
- are gaining in sophistication as best practices emerge.

Metro's effort evolved over time with input from many individuals, committees and staff. The amount of time invested in the development of the process and compilation of the reports has been significant. Due to diverse advice given over the years and legal reporting requirements, the resultant reports are thick with data, charts and graphs. Metro's ability to convincingly explain the intent and impact of its land-use policies could be increased with a more succinct presentation of fewer, more compelling data. This streamlined approach coupled with adoption of emerging best practices would strengthen the performance measurement process, making it more meaningful and effective.

Audit recommendations to capitalize on Metro's investment and incorporate best practices fall into three categories: strengthening the process, improving the indicators that are measured, and improving the reports. Key recommendations include:

- taking a fresh look at the entire process, to redefine and refocus the overall project
- creating rigorous selection criteria and reducing the number of indicators
- shortening the reports and making them more readable by reducing the amount of raw data and charts and graphs included.

Implementing all ten recommendations will result in a more meaningful performance measurement process, enabling Metro and the public to better understand the impact and effectiveness of Metro's land-use planning policies throughout the region. A summary of the ten audit recommendations follows.

## Summary of Recommendations

Best practices can be divided into three primary categories: overall process, indicators, and reporting. Together they can create a well-designed performance measurement system that provides new, meaningful and persuasive insight into whether or not government operations are efficient and economical, and policies are producing desired results. Following are recommendations to enhance Metro’s 2040 Performance Measures.

### Promoting a more meaningful process

A well-designed performance measurement system has the potential to provide meaningful information to assist elected leaders, staff, and the public in making informed decisions. Monitoring and understanding the impact of those decisions can lead to modification or revision of policies as needed. Dramatic shifts in how an agency perceives its roles and responsibilities, with corresponding improvements in delivery of services, are possible. Metro could benefit from a fresh look at its performance measurement process, to ensure that the effort yields maximum benefit, generating useful, informative and relevant information that leads to improved performance and most effective policies.

**Recommendation 1:** Redefine the overall purpose of Metro’s performance measurement effort.

**Recommendation 2:** Restructure the overall process, incorporating and strengthening best practices.

### Improving the quality of indicators

Indicators are the foundation of performance measurement processes. Carefully chosen key measures should be relevant to Metro’s policies and sphere of influence, so that the impact of policy decisions can be assessed. They should be limited in number and focus attention on Metro’s and the public’s priorities.

**Recommendation 3:** Reduce number of indicators and related “data factors.”

**Recommendation 4:** Create a set of robust criteria for evaluating existing and proposed indicators.

**Recommendation 5:** Consider participating in alliances dedicated to best practices, including use of standardized indicators.

### Improving the reporting

Presentation of data greatly impacts its ability to inform and influence. Recent growth in performance measurement efforts has resulted in a number of published reports that can be analyzed and compared. Reports which stand above others lead to identification of best practices. Some organizations are devoted exclusively to analyzing reports and identifying best practices, and some focus on developing universally applicable standards. Metro’s adoption of best practices in this area can:

**Recommendation 6:** Increase readability and effectiveness of the reports.

**Recommendation 7:** Prioritize information to reflect the community values and Metro’s goals.

**Recommendation 8:** Increase effectiveness of charts and graphs.

**Recommendation 9:** Increase effectiveness of comparative information.

**Recommendation 10:** Produce reports that comply with standardized report formats and methodologies.

## Introduction and background

The Portland region has long been recognized as innovative in land-use planning that promotes livability and sustainability. Voters approved the Metro Charter in 1992, establishing Metro as the regional government with primary responsibility for managing growth in the Portland metropolitan region while preserving and enhancing the quality of life and the environment for present and future generations.<sup>1</sup>

### **Metro’s role in promoting the region’s livability**

The voter-approved Charter directed the Metro Council to adopt a Future Vision to guide its planning efforts<sup>2</sup> and to adopt a Regional Framework Plan uniting all of Metro’s adopted planning policies and requirements.<sup>3</sup> The purpose of the Future Vision was to anticipate the region’s growth over the next 50 years while promoting preservation of natural resources and a “culture of livability.”<sup>4</sup> Metro’s Charter also mandates a focus on “Livability Protection:”

The Regional Framework Plan shall include measures to protect the livability of existing neighborhoods taking into consideration air pollution, water pollution, noise, and crime as well as provision of an adequate level of police, fire, transportation and emergency services, public utilities, and access to parks, open space and neighborhood services.<sup>5</sup>

### **Metro’s performance measurement history**

The Future Vision Commission, composed of 18 business leaders, urban and transportation planners, elected officials and citizen volunteers, met over 15 months from late 1993 to early 1995. The Commission issued its Future Vision Report in March 1995. In addition to addressing concepts of growth and preservation of livability in the region, the report also laid the groundwork for Metro’s eventual performance measurement process. It recommended that Metro annually produce a state of the region report on progress toward achieving the objectives of the vision statements, accompanied by a survey to determine if the public is satisfied with that progress.”<sup>6</sup> The report proposed that Metro develop a short list of “key quantifiable indicators” to direct attention to “trends requiring urgent action,” helping citizens and Metro leadership gauge progress and establish Metro’s priorities for planning and implementing activities in the coming year.<sup>7</sup>

Between this initial proposal in 1995 and issuance of the first Performance Measures Report in 2003, the concept of the process and related indicators went through various versions and revisions. Numerous citizen and community committees<sup>8</sup>, as well as Metro staff, elected officials and experts, contributed their ideas.

During 1996 and 1997, Metro adopted formal performance measures reporting requirements which were made part of the Metro Code.<sup>9</sup> Metro’s self-imposed performance measure requirements were intended to evaluate the progress of the region in implementing the Urban Growth Management Functional Plan. The plan’s eight fundamental values were:

- Encourage efficient use of land within the Urban Growth Boundary.
- Protect and restore the natural environment.
- Provide a balanced transportation system.
- Maintain separation between the UGB and neighboring cities.
- Preserve physical sense of place of communities inside Metro boundaries.
- Ensure availability of diverse and affordable housing options.
- Create a vibrant place to live and work.
- Encourage a strong local economy.

In 1997, the State of Oregon also established certain performance measures that Metro was required to report to the Department of Land Conservation and Development. While some of the state's measures reflect aspects of livability (for example, air quality and public access to open spaces), the overall focus is on buildable land supply, housing density, and the urban growth boundary. These state reporting requirements were incorporated in the Metro code in 1997.

These legal requirements guided the conversations as committees continued to consider which indicators would be reported and how the process would be implemented. The intent was for a logical and disciplined approach with prioritized indicators, while assuring that indicators reflected society's values and Metro's strategic goals. Over a period of several years, and with the input of many different groups and individuals, this became a challenge.

By Spring 1999, Metro's performance measurement project focused on complying with state planning reporting requirements, and measuring the impact of Metro's own multiple planning laws and concepts. The Council Community Planning Commission advised that Metro:

Prepare the performances measures report as a livability report while addressing the following:

- a) Progress on the implementation of 2040 Growth Concept
- b) Outputs (the amount of effort that has been made) and outcomes (how the region has improved)
- c) Existing conditions
- d) Areas where the region and local governments have met or exceeded goals
- e) Public survey to augment the quantitative data.<sup>10</sup>

Each of these topics is potentially complex on its own. In addition to this guidance, the Metro Council directed staff in 1999 to refine and expand a list of suggested measures.<sup>11</sup> Metro conducted extensive outreach efforts between 1999 and 2002, again working with numerous committees, to select meaningful and inclusive indicators in response to this advice.

At the same time, components that contribute to the effectiveness of a performance measurement system – a focus on outcomes (results, as opposed to effort), establishing goals for measures, and taking corrective action when results

are not trending in the hoped-for or expected direction – that were first envisioned for Metro<sup>12</sup> ended up getting dropped in the process.

**Metro’s  
performance  
measure reports**

The first *Performance Measures Report: Complete Results* was issued in March 2003. A smaller, more user-friendly pamphlet, *The Portland Region: How Are We Doing?* was also issued in 2003. The report is 227 pages long, jam-packed with data and statistics and charts. In fact, so much data is presented that the value of the work may have been somewhat lost in the details. Metro Council adopted this first report, and directed staff to prioritize the 138 performance indicators, consider reducing them, and recommend changes that would improve the overall presentation.”<sup>13</sup>

A committee formed to address Council’s concerns made several recommendations: reduce the number of indicators to 32, include the eight 2040 fundamental values from the Urban Growth Management Functional Plan, and retain other indicators but rename them “data factors.”<sup>14</sup> These revisions were intended to address the essential activities related to implementation of the 2040 Fundamentals and to make the report more readable.

The 2004 *Performance Measures Report* is considerably shorter at 119 pages. There are ostensibly only 24 indicators, but many previous indicators are also included and simply recast as “data factors.” For example, even though the first chapter nominally reports on only four indicators, it is twenty-nine pages long, containing thirty-seven charts and tables and one map, many of which provide information relating to “data factors.” In spite of the reduction in named indicators, and although it is improved and more readable than its predecessor, the report is still thick with data and numbers, charts and graphs,.

The 2004 report purposefully “focuses on outputs (how much effort has been made)” and “does not suggest benchmarks or targets for achieving regional planning objectives and avoids editorial commentary and suggestions of which policies may need revamping.”<sup>15</sup> The report includes performance measures required by Oregon and Metro laws, but the stated intent was to provide better linkage between indicators and key Metro policies.

The linkage between results and policies could be significantly strengthened in both reports. Indicators do usually seem to have some logical relationship to a fundamental land-use planning goal, but if and how Metro policies or actions influence the measures needs to be made much clearer. Very few measures are compared to goals, making it difficult if not impossible to ascertain if progress is being made and if policies are effective. The abundance of data, presented for the most part as being equally important, obscures which issues are of priority to Metro and the region.

Metro has placed the next performance measure report on temporary hold, pending completion of its New Look project. The New Look is designed to obtain updated information about citizens’ values and goals, hopes and dreams for the region – in other words, their concept of what constitutes *livability*.

## Best practices

Measuring for results is the underlying concept of a performance measurement system. At its simplest, the process works like this: goals are defined, quantifiable indicators are selected to measure progress toward reaching those goals, and regular measurements of the data are taken to assess progress toward reaching the goals. When results are unfavorable or not as expected, policies and programs are modified or changed in an attempt to improve results.

Best practices can be divided into three primary categories: overall process, indicators and reporting. Together they can create a well-designed performance measurement system that provides new, meaningful and persuasive insight into whether or not government operations are efficient and economical and policies are producing desired results.

### Best practices for an effective process

- Engage leaders in designing and using performance measures.
- Link indicators to strategic plans.
- Set measurable targets, and then measure against them
- Aim high; have lofty goals.
- Identify constraining factors that impede progress, so that mitigating plans can be developed.
- Use results as a management tool to evaluate programs and policies.
- Celebrate successes.
- Acknowledge adverse trends to encourage transparency, accountability, and corrective action.
- Reveal complex relationships in new lights by focusing on analysis rather than data collection.

### Best practices for effective indicators

- Focus on fewer, higher quality indicators.
- Select indicators directly related to strategic goals.
- Select relevant indicators that reflect agency and citizen priorities.
- Select measures the agency can influence through actions and policies.
- Choose quantitative indicators that are measurable and verifiable.
- Ensure indicators are credible and reliable to support decision making.
- Measure outcomes – how things have changed – rather than the underlying activity or effort.
- Adopt standardized indicators to foster meaningful comparisons.

**Best practices for effective reporting and presentation**

- Keep reports short, focusing on critical aspects of performance.
- Structure the report in an executive summary format.
- Provide further levels of detail in layers, or even supplementary reports.
- Ensure relationship between data and its intended purpose is clear.
- Use well-designed charts and graphs to summarize large datasets and complex relationships.
- Limit the number of charts and graphs.
- Provide comparative data over time.
- Compare results to other regions only if comparisons are meaningful.
- Avoid comparative data that does not promote greater understanding.
- Use consistent layouts for similar data relating to multiple locations or periods.
- Adopt formal reporting standards to promote excellence and consistency.

## Recommendations

### Recommendations to promote a more meaningful process

A well-designed performance measurement system has the potential to provide meaningful information to assist elected leaders, staff, and the public in making informed decisions. Monitoring and understanding the impact of those decisions over time can lead to modification or revision of policies as needed. Dramatic shifts in how an agency perceives its roles and responsibilities, with corresponding improvements in delivery of services, are possible. It is this potential to help government do more with less, in light of all the many pressures and demands placed upon it, that contributes to the interest and growth in performance measurement systems.

An enhanced performance measurement process could provide meaningful information, helping Metro fulfill “its most important service, planning and policy making to preserve and enhance the quality of life and the environment for ourselves and future generations,” as mandated by the Metro Charter. Two key ways that Metro can improve its performance measurement process are:

- Refocus and redefine the overall purpose of the process.
- Restructure the overall performance measurement process, incorporating and strengthening best practices.

---

### Recommendation 1:

Redefine the overall purpose of Metro’s performance measurement effort.

---

Metro’s performance measure reports provide a wide-ranging collection of statistics, but it is not always clear how they are related to Metro’s activities and policies. The abundance of disparate data is the consequence of well-meaning suggestions and directives compiled over the years. Unfortunately, the end results seem to lack focus, with an excess of data and a dilution of the results-oriented monitoring aspects this type of program typically includes.

Metro has expended significant effort seeking input and advice regarding its performance measurement process. Multiple committees contributed ideas for indicators and how to structure the process and reports. Many of the current indicators are specific to land-use planning, relating to housing density, undeveloped land inventory, consumption rates of undeveloped land, etc. Other indicators relate to issues generally considered to be aspects of livability, such as air quality, access to parks and natural areas, quality of schools, etc. There are also economic and population statistics relating to disposable income, retail sales volume by area, number of households at different economic rankings, population levels, etc. While there is an effort to relate the statistics to the 2040 Growth Concepts, Metro’s intent or ability to influence many of the reported statistics through land-use or other policies is often not explained.

Metro's performance measurement process could benefit from a fresh start, keeping best practices in mind. A core analysis needs to focus on clarifying the purpose and redefining the overall goal. With a clearer, more focused sense of purpose, the selection of indicators becomes easier. Previously used indicators that do not add value or lend support to the overall goal of the performance measurement system can be abandoned, or if required by law, reported elsewhere in a different format. Eliminating measures that are outside the sphere of Metro's actions or influence focuses attention on areas that Metro can and intends to impact through policies and actions. When the New Look project is complete, new insights will be available to assist Metro in establishing goals and related performance measures that reflect the values and goals of the communities it serves.

A streamlined process that focuses on key, critical data would reduce staff time in compiling data and preparing reports, and allow more time for analysis of results and policy effects. Smaller, more focused reports that are easier to read would present more accessible information to the public, thereby encouraging citizen involvement. A more rigorous process incorporating quantitative goals and measuring progress against them would provide more meaningful feedback to the public and Metro, enabling easier assessment of the impact of policies on key indicators.

---

### **Recommendation 2**

Restructure the overall performance measurement process, incorporating and strengthening best practices. Annually, Metro should:

- Publicize Metro's goals for the coming year.
- Measure performance against pre-established quantitative goals.
- Indicate the role Metro played in generating results included in the report.
- Identify constraining factors that limit progress.
- Develop mitigating solutions to minimize impact of constraining factors.
- Report adverse results to promote accountability and encourage corrective action.
- Celebrate successes.

---

Establishing goals and measuring progress against them at regular intervals is a key concept of performance measurement systems. This is what allows a government agency and the public to assess how well policies are working and how effective the agency is in carrying out its mission. By incorporating this meaningful step in its performance measurement process, Metro can improve the impact and value of the effort that goes into compiling performance measure reports.

Metro's 2004 performance measure report states that it "does not suggest benchmarks or targets for achieving regional planning objectives and avoids editorial commentary and suggestions of which policies may need revamping."

This recognizes that it is Metro’s Council’s responsibility to make policy, after careful consideration of information and input from citizens and staff. However, as the 2004 report indicates, effective performance measurement processes, by their very nature, include evaluation of the effectiveness of policy and actions, encouraging early intervention and corrective action when policies and actions do not yield expected results or trends.

Accordingly, it is important that Metro Council clearly articulate pre-established quantitative goals against which to measure performance and progress. Without this important component, the reports will inevitably be limited in their ability to promote effective government and policies. Publicly stating goals in advance may seem politically risky, but this approach may ultimately prove more politically viable. Citizens want and expect government accountability. Establishing targets, measuring progress, assessing effectiveness of policies, debating alternative approaches, and sharing this information with the public on a regular basis allows Metro to lead informed discussions in a positive, open context. Celebrating successes and identifying opportunities for improvement are signs of leadership and promote credibility. When Metro leads the discussion it confirms its important role and commitment to improving livability in the region.

**Recommendations  
to improve the  
quality of  
indicators**

The choice of indicators, and the process for choosing them, are critical to an effective and meaningful performance measurement process. Indicators should address issues that are most important to the public – they should be relevant and meaningful. Performance measures should be aligned with Metro’s goals and objectives. Short-term goals should logically connect to long-term strategic goals. Indicators should reflect issues that Metro can impact through its actions and policies. And, perhaps most importantly, they should be limited to the important few, to focus attention on what matters most.

Metro has elicited input from numerous committees and individuals in identifying indicators that are relevant and material to its activities and the public. All of this input, combined with legal requirements, has resulted in a wealth of data that can obscure the concept and usefulness of the performance measurement process. Opportunities exist for reducing the number and improving the quality of the indicators. This in turn can result in more useful and pertinent data, which can support informed, meaningful evaluation of the impact of Metro’s policies.

---

**Recommendation 3**

Reduce the number of indicators and related “data factors”.

---

Limiting the number of indicators is consistently identified as a best practice by leading organizations. In fact, Metro’s own Future Vision Commission advised, when it laid the groundwork for Metro’s performance measurement process, that a list of indicators should be kept short “as a means to focus attention on the

region as a whole, rather than on the status of its individual parts.”<sup>16</sup>

Over time, the concept of a short list of indicators was expanded with input from several other committees, resulting in an expanded list of indicators. Metro’s first performance measure report contained 138 indicators. The 2004 report included 32 indicators, but the reality is that many other indicators were also retained and simply renamed data factors. In addition to many charts and graphs, there are “paragraphs” often consisting almost entirely of numbers and statistics.

Identifying what matters most within Metro’s sphere of influence, is the path toward reducing the number of indicators. Limiting indicators to those that clearly relate to the region’s key goals and priorities will give meaning to the overall process and serve as powerful communication regarding the state of the region. The next recommendation provides an approach to selection of meaningful indicators.

---

#### **Recommendation 4**

Create a set of robust criteria for evaluating existing and proposed indicators. The criteria should require, at a minimum, that indicators:

- logically connect to Metro’s strategic goals and objectives
- reflect values of the community
- focus on outcomes, as opposed to simply measuring activity

---

The extensive effort on the part of many committees and individuals over several years to select indicators for Metro is evidence that this can be a challenging task. Part of Metro’s challenge has been not just finding pertinent indicators, but keeping the amount of data and statistics to a manageable quantity that relays significant and meaningful information. One approach to refining the choice of indicators is to establish a set of qualifying criteria that indicators must meet in order to be adopted. This filtering or screening can apply a certain rigor and logic to the selection process, reducing the number to a critical few key indicators.

In addition to proposing that Metro establish a performance measurement process, the Future Vision Commission also proposed the creation of a Vision Index. This Index would establish criteria to evaluate and decide policy and set budgets.<sup>17</sup> Proposed criteria examined policy from a broad, lofty viewpoint, aimed at furthering visionary outcomes. Sample questions included:

- Will the action or plan assist in improving the welfare of children?
- Will the action or plan . . . serve as a vehicle for enabling wider participation in policy formation and planning?
- Will the action or plan add to efforts to diversify our economy and encourage the creation of new enterprises best able to further other regional objectives?<sup>18</sup>

A parallel can be drawn between the use of criteria to guide policy decisions and the selection of performance measures assessing the impact and effectiveness of land-use policy.

The concept of using a set of criteria to evaluate Metro's performance measures is not new. Metro used the following criteria to evaluate the 2003 indicators:

- Is the indicator required by the state?
- Does the indicator measure the 2040 fundamental values directly or indirectly?
- Can the results of the indicator be used to set targets/ benchmarks?
- Does the indicator address issues within Metro's authority?
- What is the difficulty of data collection?
- How reliable is the available data?

For the most part, these criteria address practical aspects of data collection rather than greater policy issues or long-term strategic goals. More rigorous policy-oriented criteria could screen indicators to identify those that are meaningful and appropriate to Metro's activities, reflecting Metro's long-term strategic goals to sustain and improve livability of the region.

---

### **Recommendation 5**

Consider participating in, following and leading standard-setting efforts and alliances. Possibilities include:

- Adopting standardized indicators.
- Joining national or international groups promoting best practices related to performance measurement systems and sustainable development indicators.
- Encouraging Metro jurisdictions to develop a standard set of indicators to track progress within the region at the local level.

---

Metro's current performance measure reports include indicators required by the Metro code and state law and other indicators selected by a variety of committees over several years. The 2003 and 2004 reports are similarly structured, but the indicators are not consistent from year to year. Identifying meaningful indicators seems to have been a lengthy, challenging process for Metro, and is still in the formative stage. One option going forward is to adopt a standardized set of indicators that already exists and is being used by other agencies.

With the growth in the use of performance measurement processes and sustainability indicators around the world, several partnerships or consortia have formed to bring together government, non-profit and research organizations engaged in developing and promoting performance measures best practices. One result of this pooling of resources, experience and expertise is the development of standardized indicator sets. Two examples:

- The United Nations Department of Economic and Social Affairs Division for Sustainable Development encourages use of a core set of 58 indicators, culled from a working list of 134.<sup>19</sup> Built around the concepts of economic, social and environmental policies, many of the indicators are familiar to Metro – population growth rate, crime rate, housing, air quality, biodiversity, waste generation and management, transportation, etc.
- The Global Reporting Initiative (GRI) has developed a set of guidelines with standardized information to include in sustainability reports.

Both of these sets of indicators include methodologies for calculating and compiling data to promote consistency in measurements and reporting around the world. The indicators are designed to be usable by a wide variety of entities, including sovereign nations, states and local governments. The GRI guidelines have been used by non-profit agencies as well as publicly and privately owned for-profit corporations. Both sets have experienced increased usage in recent years. Other standardized sets of indicators are also worth consideration.

One potential benefit in adopting a standardized set of indicators is that the measures have been compiled by large, reputable organizations with focused resources and a broad base of participation. Experts have already submitted the indicators to rigorous analysis, sometimes after they have been in use for years. Adopting a standardized set of indicators backed by experience and expertise would alleviate the need for further time-consuming effort on Metro's part.

Joining one of these groups would enable Metro to participate in the development and promotion of best practices at a high, sophisticated level. This is consistent with Metro's goals to promote workforce excellence, and communications and leadership excellence.<sup>20</sup>

On a more local level, some jurisdictions within Metro are engaged in benchmarking and performance measurement efforts to varying degrees.<sup>21</sup> Metro could consider leading a joint effort, encouraging local jurisdictions to agree upon a standard set of performance measures, and gather data that could be compiled into a regional report. This would facilitate consistent analysis of the impact of land-use policies and decisions at the local level, where they have the most impact.

**Recommendations  
to improve the  
quality of reporting**

Presentation of data greatly impacts its usability, which in turn has tremendous impact on the overall effectiveness of a performance measurement program. Recent growth in the implementation of performance measurement systems has resulted in a greater number of published reports that can be analyzed and compared. Some reports stand above others in quality of presentation and usefulness, leading to identification of best practices. Some organizations are devoted exclusively to analyzing reports and identifying best practices, and focus on developing universally applicable standards to promote consistency and comparability of reported data. By incorporating these best practices, Metro can

produce more readable performance measure reports that promote informed assessment of the impact and effectiveness of policies and land-use planning decisions.

---

**Recommendation 6**

Increase readability and effectiveness of reports:

- Shorten them considerably.
  - Provide multiple levels of detail by layering information.
  - Consider different formats and delivery methods for different audiences.
  - Use footnotes to reference technical data and reporting requirements.
  - Look for opportunities to reduce repetitious language.
  - Incorporate more white space into the layout.
- 

At Metro, significant improvements were made between the 2003 and 2004 performance reports. Both reports reflect much effort and contain much information. However, the benefit of this good work is lessened due to the abundance of data that is presented. There is simply too much data, and it overwhelms the reader. The 2003 summary report provides good examples of how the presentation can be simplified: graphics are spread out, there is more white space, charts are accompanied by narrative that does not repeat what is contained in the charts, charts are simplified, and the reader is directed to other sources for additional details.<sup>22</sup> Future reports could benefit from application of some aspects of this simplified format.

One comment yet to be encountered in performance measurement literature is that a report *failed* to include enough data. Instead, there are repeated pleas to simplify and shorten reports. Government Accounting Office focus groups consistently advise the use of an executive summary format. A recurring suggestion is to layer information, starting with a summary overview and providing supplemental layers of increasing detail that readers can access according to their own interests.

Guidance differs with regard to what content should be included. Some experts recommend preparing different reports for different audiences; others expect reports to be used by various audiences with diverse interests, including researchers, management, citizens, policy makers, etc. It is worth exploring the idea that layering information provides the right level of detail for a variety of readers without having to produce multiple, different versions of reports.

Another development gaining momentum is posting performance measurement data directly to websites, allowing users easy access to statistics and information at a level of detail of their own choosing. Quicklinks allow for fast and easy movement between summaries and detailed presentations, and among different datasets. This ease in moving among different levels of detail is more challenging to create in a printed report, but can be partly achieved by providing an executive summary accompanied by supplemental materials.

Whatever approach is adopted, Metro can streamline its performance measure reports to promote readability and focus on key trends. One easy step toward focusing on key trends is to prioritize information according to Metro's and the public's most important concerns.

---

### **Recommendation 7**

Prioritize the information presented, based on:

- issues most important to readers
- Metro's long-term strategic goals
- aspects of livability or sustainability that Metro can or wants to influence

For increased credibility, explain the process for determining the relative priority of issues included in the report.

---

Readers want easy access to information that is important to them. Giving equal weight to all material, especially when there is a large amount of it, adds to the sense of "too much" information.

Metro's performance measure reports are full of data and charts given the same relative weight in presentation. It is very difficult to identify the key issues Metro is trying to address through its policies and activities. The information should be prioritized according to Metro's strategic goals or community values. Clearly prioritizing material conveys a sense of relative importance. Community values identified by outreach efforts such as Metro's current Big Look effort are a logical place to start. Long-term strategic plans, annual goals and objectives, and budgets typically reveal an organization's sense of priority. These are what matter, and what people want to know about.

Structuring a performance measure report around the community's key values and Metro's program priorities should aid in determining which information to emphasize and include. Extraneous information that does not address the key points can be excluded altogether, or made available in addenda or supplemental reports. In other words, a sense of priority assists in a logical filtering and layering of information, with the most important coming first. Readers who want to know more can pursue secondary levels of detail.

---

### **Recommendation 8**

Increase effectiveness of charts and graphs:

- Reduce their number
  - Encourage personnel to attend an Edward Tufte (or similar) seminar.
  - Use Tufte (or similar) texts as resources in the design of graphics.
  - Engage the assistance of Metro's graphic artists in the design of graphics.
  - Avoid repetition of data in paragraph form that is presented graphically.
-

Metro's performance measure reports are overflowing with charts, graphs and tables. Charts and graphs can sometimes convey information more effectively and succinctly than words, enabling the reader to more readily grasp the underlying meaning of large datasets, make comparisons, understand trends, assess progress, etc. However, charts and graphs that are poorly designed or that do not prioritize information can have the opposite effect.

Metro's intent with the 2040 performance measure reports is to present meaningful data in formats that promote understanding of that data, but that may not be the end result. The large quantity of graphs is overwhelming. There is no sense of priority to all the information presented, and the message of what is important tends to get buried under the weight of the presentation. In addition, some of these charts and graphs contain so many pieces of data that it is nearly impossible to detect important trends or relationships.

One result of presenting too many graphic elements is an almost unavoidable increased rate of errors – converting large amounts of data into charts and graphs can be challenging and time-consuming, and software can produce surprising results. Metro's 2004 performance measure report has several charts with quite noticeable layout errors, which surely are not reflective of the intent or effort that went into them.<sup>23</sup>

Limiting charts to those that are most compelling and informative allows more time to be devoted to them. Designing effective graphics is a science and an art, and takes practice and time. But it is an essential skill in the preparation of reports that are built around data. The quality of graphics can enhance or detract from any report, and can make a difference in the clarity and impact of the message.

One expert in the effective design of graphs representing large sets of data is Edward Tufte. Tufte has published several compelling textbooks and maintains a lively, informative and interactive website.<sup>24</sup> He also offers occasional one-day seminars in various locations, including Portland. One book that Tufte praises highly<sup>25</sup> for statistical displays that “are detailed, clear, often fascinating, and up-to-date” is the award-winning<sup>26</sup> *Atlas of Oregon*. The atlas provides many examples of how complex data can be reduced to graphical representation that is compelling, interesting and informative.

Metro's performance measure reports can be enhanced and provide greater value with fewer, better-designed graphic elements. As with focusing on fewer, more critical indicators, focusing on a smaller number of graphics enables more time to be spent on them, ensuring better and more meaningful representation of important data. Helping the reader visually grasp complex data encourages informed assessment of Metro's policies and actions.

**Recommendation 9**

Increase effectiveness of comparative information:

- Report consistent measures from period to period to reveal trends.
  - Report net changes or percentage change rather than raw data.
  - Contrast policies and activities when comparing different regions to Metro.
  - Consider developing a standard template to evaluate each jurisdiction.
  - Avoid it if it serves no useful purpose.
- 

Comparing performance over time documents progress toward achieving goals. Comparative data can also reveal adverse trends or unexpected results, leading to modification of ineffective policies or identifying the need for alternative solutions. Metro's performance measure reports contain some comparisons over time, but many of these presentations consist of large amounts of raw data, which tend to obscure potential patterns. When trends are identifiable, it is often not clear what steps Metro is taking to influence those trends. In contrast, the 2003 summary report, *The Portland region: How are we doing?* contains less raw data and more summarized comparative information, which is easier to read and understand.

Noting how other areas are faring in promoting livability and sustainability can provide useful information, if there is sufficient background information and depending on how the information is used. One common approach to using comparative information is benchmarking. Benchmarking typically compares performance among a group to identify "best in class." Best-in-class performance demonstrates what can be achieved given the right mix of circumstances and policies. The next step is see how one's own performance measures up against the best, and determine what needs to be done to achieve similar results. Sightline Institute<sup>27</sup> effectively uses benchmarking by quantifying performance gaps in the Northwest. For example, it compared the difference in projected life span of Northwest newborns compared to those in Japan, which has the longest lifespan and therefore best in class status for this particular measure.

Metro's performance measure reports sometimes compare Portland to other US cities, but the sizes of the cities vary greatly – from populations of 421,000 to 3.5 million, and land-use policies are not discussed. It is unclear what challenges these different cities are facing, and how government policies impact statistics. Review of many performance measure publications indicates that it is relatively easy to obtain comparative information about the City of Portland, but Metro boundaries include 24 other cities of varying size within three counties.

Comparative information among the different Metro jurisdictions is sporadic in all of Metro's performance measure reports. It is at the local level, however, where the public most closely feels and sees the impact of land-use planning policies. Comparing and contrasting progress within Metro's boundaries over time is probably more important for gauging policy effectiveness and tracking progress in meeting long-term strategic goals than comparing progress with external locations.

One approach when reporting comparative data for many locations or time periods is to use a standardized template. Children First For Oregon issues annual databooks that assess children’s well-being in Oregon, county by county. Each county’s data is presented on a single page using the same format that varies little from year to year.<sup>28</sup> This consistency in design allows the reader to concentrate on changes in data rather than design.

Effective performance measurement systems compare current status to established goals. They also report changes over time, often in summary format, so that progress and the rate of that progress is easily ascertainable. Metro can improve and increase its presentation of comparative data, facilitating greater understanding of the impact of its land-use policies throughout the region.

---

**Recommendation 10**

Adopt standardized report formats and methodologies.

---

As the use of formal performance measurement processes expands and matures, best practices emerge. Several influential associations and institutes have developed guidelines for preparing effective performance measure reports, with some groups advocating the adoption of formal reporting standards and methodology. As with financial reporting, standards in performance measure reporting can promote increased discipline, reliability and consistency.

Metro’s performance measure reports have evolved over time. Various committees, elected officials, staff, and academic leaders have contributed ideas and suggestions on what the reports should include and how they should be structured. Metro’s continuous improvement efforts with regard to its performance measure reporting have resulted in one summary and two large reports that have similarities but also differ considerably from each other. Metro has not yet decided upon a consistent reporting format, which complicates efforts to compare performance from period to period.

One way to improve performance measure reporting is to consider guidance developed by larger groups with more resources dedicated to this complex topic. Several stand out as providing comprehensive and meaningful proposals:

- The Global Reporting Initiative (GRI) has developed a set of reporting guidelines preparing sustainability reports. The guidelines also provide methodologies for calculating a set of standard indicators. The goal is to establish consistent definitions and reporting formats on a global basis. This reporting approach can be used by a wide variety of entities, including governments, non-profit agencies, and corporations of varying size, whether publicly or privately owned. Experts from around the world are participating in this very dynamic endeavor, which is growing exponentially. In the U.S., some companies perceive GRI guidelines reports as offering a competitive advantage, and advertise them on their corporate websites.

- The Mercatus Center at George Mason University in Virginia annually reviews performance measure reports issued by federal agencies.<sup>29</sup> Their reviews present clear, understandable examples of best practices, as well as offering specific, practical advice for improvements.
- The Canadian Comprehensive Auditing Foundation has issued clear, comprehensive guidance on performance measure reporting.
- The Governmental Accounting Standards Board’s (GASB) in-depth report “*Reporting Performance Information: Suggested Criteria for Effective Communication*” defines 16 criterion for governments to consider in preparing performance measure reports, and provides specific examples drawn from a variety of sources.

The sophisticated best practices identified by these leading organizations focus on improving performance measure reporting. Their insights can provide useful and perhaps time-saving guidance to Metro as it further explores how to improve and refine its reports to provide meaningful and relevant information to the public.

## Audit objective and methodology

Metro has been striving to continually improve its performance measurement process since it was first envisioned. The Metro Auditor's Risk Assessment and Audit Plan and interviews with the Planning department revealed that opportunities for further improvements might exist. It was agreed early in the audit process that focusing on the identification of best practices would provide the greatest value to Metro and the public.

Performance measurement processes are perceived as effective management tools, and have grown in use significantly over the past few years. Resources promoting effective implementation have also increased. Experts and practitioners from academia, research centers, government agencies, non-profits and journalism contribute meaningful research and writing to the discussion, resulting in a wealth of information that leads to the identification of best practices.

The audit consisted of extensive review of a wide range of literature in the field of performance measurement. This literature included academic monographs, general circulation magazines and newspapers, web-based articles, books, governmental publications and audit reports prepared by many different jurisdictions, and think-tank books and articles. Governmental reporting standards and guidance were reviewed, including reports issued by the federal Government Accounting Office (GAO) and the Government Accounting Standards Board (GASB).

Metro's three performance measure reports were studied in detail, as were similar reports issued by other jurisdictions. The Oregon Progress Board's benchmarking program was reviewed, as was the local Multnomah Portland Progress Board's benchmarking program modeled after it. Comparative rankings by print and web journalists of cities and metropolitan regions on different topics such as public school performance, most livable city, best city for singles, etc. were reviewed to review methodologies and indicators.

Activities, reports and standards created by non-profit groups conducting and/or studying large-scale performance measurement processes were monitored over several months to identify trends and best practices.

Metro's Code and Charter, Oregon statutes, and minutes of Metro committee meetings spanning several years were consulted to track the history and development of Metro's current performance measurement process and statutory requirements.

Our audit was conducted in accordance with generally accepted government auditing standards. These standards require that we review internal controls and report significant deficiencies that are relevant to audit objectives. Significant internal control deficiencies found during the course of the audit are described in the report.

## Resources

The following material provides succinct guidance or examples developed by some of the leading organizations involved in identifying best practices related to performance measure processes. They amplify recommendations and observations included in the audit report, and are provided for those wishing to pursue the topic further.

- Performance Measure Process**
- The Bellagio Principles, developed by the International Institute for Sustainable Development, succinctly summarize best practices for measuring and assessing progress toward sustainable development. They were created by an international group of measurement practitioners and researchers from five continents. ([www.iisd.org](http://www.iisd.org))
  - “Critical Design Features Needed to Overcome a Range of Key Challenges” were identified by the federal Government Accountability Office (GAO), which has been active in bringing groups of experts and practitioners together to encourage use of effective performance measure processes throughout government as well as other entities. ([www.gao.gov](http://www.gao.gov))
  - “Neighborhood Indicators: Taking Advantage of the New Potential” lists ten lessons learned by the National Neighborhood Indicators Partnership as it developed its program and selected indicators to assess multiples cities in the U.S. ([www.urban.org](http://www.urban.org))
- Indicators**
- The UN’s Indicators of Sustainable Development are an example of a standardized set of indicators in use by multiple governments and agencies around the world. These have been developed and modified over time by experts and experienced practitioners, and can serve as a model to Metro in refining its list of indicators. ([www.un.org](http://www.un.org))
  - The Cascadia Scorecard developed by the Sightline Institute (previously Northwest Environment Watch) provides an example of a few critical indicators carefully selected using a set of qualifying criteria as a screening and qualifying device. These seven indicators summarize many aspects of livability and sustainability in the Northwest. ([www.sightline.org](http://www.sightline.org))
- Reporting**
- The Mercatus Center’s Annual Performance Report Scorecard Evaluation Criteria provides specific examples and guidance relating to best practices in preparing performance measure reports. ([www.mercatus.org](http://www.mercatus.org))
  - “Reporting Principles” prepared by the Canadian Comprehensive Auditing Foundation is another succinct summary of useful guidelines in preparing performance measure reports. ([www.c2003.evaluationcanada.ca](http://www.c2003.evaluationcanada.ca))
  - The Global Reporting Initiative Guidelines provide a structured and standardized approach to sustainability reporting, and have been adopted by governments, non-profits and publicly and privately held corporations. ([www.globalreporting.org](http://www.globalreporting.org))
  - Excerpts from the Children First For Oregon Databooks illustrate the use of a standardized layout to report similar statistics for different locations, which is an approach Metro could consider adopting in evaluating progress within the many jurisdictions comprising the region. ([www.cffo.org](http://www.cffo.org))

## Appendix A – Improving charts and graphs

### Realign columns, use larger size font and shading

Graphs are intended to aid the reader by presenting data in formats that encourage understanding and comprehension. This in turn enables the reader to make informed assessments and decisions. This is a critical aspect of performance measure processes – proving information to support assessment of progress and policies. Metro’s performance measure reports can be improved with clearer and more succinct presentation of the data that is included.

Sometimes small changes can have large impact. Realigning the columns in this chart<sup>30</sup>, using a larger size font and shading would make it easier to read.

Table 1.7: Change in Population in Portland MSA and Metro Boundary

	Portland MSA	% Change from previous year	Metro	% Change from previous year
1985	9,200	1%	7,700	1%
1986	9,700	1%	18,400	2%
1987	9,400	1%	8,900	1%
1988	22,600	2%	21,300	2%
1989	21,800	2%	21,400	2%
1990	32,791	3%	21,000	2%
1991	43,518	4%	32,400	3%
1992	30,066	2%	28,400	3%
1993	29,977	2%	24,500	2%
1994	24,470	2%	18,000	2%
1995	26,552	2%	26,200	2%
1996	31,378	2%	24,700	2%
1997	26,841	2%	20,400	2%
1998	22,250	2%	22,400	2%
1999	19,890	1%	26,300	2%
2000	14,986	1%	28,474	2%
2001	32,569	2%	29,442	2%
2002	23,039	2%	20,828	2%
2003	14,917	1%	13,485	1%

Table 1.7: Change in Population in Portland MSA and Metro

Year	Portland MSA	% Change from previous year	Metro	% Change from previous year
1985	9,200	1%	7,700	1%
1986	9,700	1%	18,400	2%
1987	9,400	1%	8,900	1%
1988	22,600	2%	21,300	2%
1989	21,800	2%	21,400	2%
1990	32,791	3%	21,000	2%
1991	43,518	4%	32,400	3%
1992	30,066	2%	28,400	3%
1993	29,977	2%	24,500	2%
1994	24,470	2%	18,000	2%
1995	26,552	2%	26,200	2%
1996	31,378	2%	24,700	2%
1997	26,841	2%	20,400	2%
1998	22,250	2%	22,400	2%
1999	19,890	1%	26,300	2%
2000	14,986	1%	28,474	2%
2001	32,569	2%	29,442	2%
2002	23,039	2%	20,828	2%
2003	14,917	1%	13,485	1%

**Reduce amount of raw data, show summary information**

Another way to improve readability is to reduce the amount of raw data and show summary information instead. Presenting data as percentages is one way to summarize information. Another approach is to layer information, starting with a summary overview in the main body of the report, providing supplemental layers of increasing detail that readers can access according to their individual needs and assets.

Table 1.10 in the 2004 report, “Employment by County – Percentage Change 1995-2002” provides an example:

Table 1.10: Employment by County – Percentage Change 1995-2002

	1995	1996	% change	1997	% change	1998	% change	1999	% change	2000	% change	2001	% change	2002	% change
Clark	97,400	101,900	5%	106,700	5%	110,300	3%	113,000	2%	114,300	1%	114,700	0%	114,400	0%
Clackamas	112,300	116,200	3%	123,100	6%	126,700	3%	130,700	3%	133,600	2%	133,900	0%	134,100	0%
Multnomah	419,800	432,000	3%	444,800	4%	446,300	0%	446,800	0%	455,300	2%	444,200	-2%	429,300	-3%
Washington	175,200	192,000	10%	204,400	6%	211,100	3%	215,800	2%	225,000	4%	228,400	2%	221,700	-3%

The same information is summarized here:

<b>Percentage Change in Employment by County, 1995-2002*</b>		
<u>COUNTY</u>	<u>1995-2000</u>	<u>2000-2002</u>
Clark	17.3%	0%
Clackamas	19.0%	.4%
Multnomah	8.5%	-5.7%
Washington	28.4%	-1.5%

\* Percentage change by year can be found at page XX.  
 Percentage change plus employee county by year can be found at [www.hypotheticaldata.gov](http://www.hypotheticaldata.gov).

This summarized version paints a rather vivid picture which is obscured by the details in the original table. Trends are clearly distinguishable. The reader knows where to find addition details. Changes in earlier years can be aggregated as was done here for the years 1995-2000. Sometimes separately reporting data for a period that included significant events or dramatic changes in policy or investments more clearly indicates the related impact. Here, separately reporting the data from 2000-2000 gives an idea of how the different counties weathered the high unemployment rates experienced by Oregon as a whole during the severe economic downturn and post-9/11 period.

**Show summary data only** The following chart (reduced from the full-page version) in the 2004 performance measures report shows the number of households by jurisdiction that fall into different economic rankings. The percentages reflect the proportions of households within the jurisdiction (not region as indicated on the table) falling into the different groups.

	<=30%	%Region Total	31%-50%	% Region Total	51%-80%	% Region Total	80%-120%	% Region Total	>120%	% Region Total	Total Households	% Jurisdictional Total
Inside Metro	60,282	12%	57,721	11%	95,272	18%	106,633	21%	195,517	38%	515,425	100%
King City	264	19%	317	23%	296	21%	318	23%	191	14%	1,386	100%
Johnson City	27	9%	55	19%	85	30%	66	23%	53	19%	286	100%
Forest Grove	1,087	17%	806	13%	1,185	19%	1,440	23%	1,792	28%	6,310	100%
Portland	35,298	16%	28,998	13%	44,622	20%	45,299	20%	69,770	31%	223,987	100%
Fairview	378	13%	310	11%	638	22%	626	22%	892	31%	2,844	100%
Milwaukie	896	10%	1,052	12%	1,866	22%	1,994	23%	2,840	33%	8,648	100%
Gresham	4,168	12%	4,207	13%	6,382	19%	7,316	22%	11,334	34%	33,407	100%
Oregon City	1,096	12%	998	11%	1,814	19%	2,323	24%	3,262	34%	9,493	100%
Cornelius	308	11%	346	12%	449	16%	782	27%	1,000	35%	2,885	100%
Gladstone	512	12%	492	12%	670	16%	1,016	25%	1,455	35%	4,145	100%
Beaverton	2,683	9%	3,374	11%	6,162	20%	6,225	20%	12,389	40%	30,833	100%
Hillsboro	2,195	9%	2,314	8%	4,216	17%	5,664	23%	10,639	43%	25,028	100%
Tigard	1,401	8%	1,847	11%	2,781	17%	3,359	20%	7,111	43%	16,499	100%
Durham	72	14%	78	15%	60	12%	74	14%	233	45%	517	100%
Wilsonville	441	7%	614	10%	1,020	17%	1,103	19%	2,749	46%	5,927	100%
Wood Village	66	7%	111	11%	241	24%	295	29%	298	29%	1,011	100%
Maywood Park	3	1%	17	6%	31	11%	105	36%	138	47%	294	100%
Troutdale	254	5%	391	8%	628	14%	1,163	25%	2,196	47%	4,632	100%
Tualatin	544	6%	638	7%	1,517	18%	1,814	21%	4,104	48%	8,617	100%
Sherwood	239	6%	304	7%	547	13%	918	21%	2,332	54%	4,340	100%
Lake Oswego	836	6%	921	6%	1,981	13%	2,422	16%	8,664	58%	14,824	100%
West Linn	364	4%	563	7%	932	11%	1,342	16%	4,953	61%	8,154	100%
Rivergrove	3	3%	4	4%	14	13%	18	16%	73	65%	112	100%
Happy Valley	17	1%	69	5%	85	6%	239	16%	1,113	73%	1,523	100%
Clackamas County*	2,836	8%	3,586	10%	6,877	19%	7,806	22%	14,953	41%	36,058	100%
Multnomah County*	462	7%	395	6%	825	12%	1,156	17%	3,907	58%	6,745	100%
Washington County*	3,834	7%	4,916	9%	9,352	16%	11,748	21%	27,070	48%	56,920	100%

Source: U.S. Census: Metro Data Resource Center  
\* Unincorporated County Inside Metro Boundary  
Based on Regional Household Median Family Income of \$48,848

The amount of detail in this chart makes it hard to read. The same information can be presented in summary format.

HOUSEHOLDS BY INCOME GROUP (1999)						
Household income	Up to \$14,654	\$14,655-\$24,424	\$24,425-\$39,078	\$39,079-\$58,617	>\$58,618	Total households
<b>County</b>						
Clackamas	13%	16%	18%	19%	23%	19%
Multnomah	67%	60%	56%	52%	45%	53%
Washington	20%	24%	26%	29%	32%	28%
<b>TOTAL REGION</b>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>

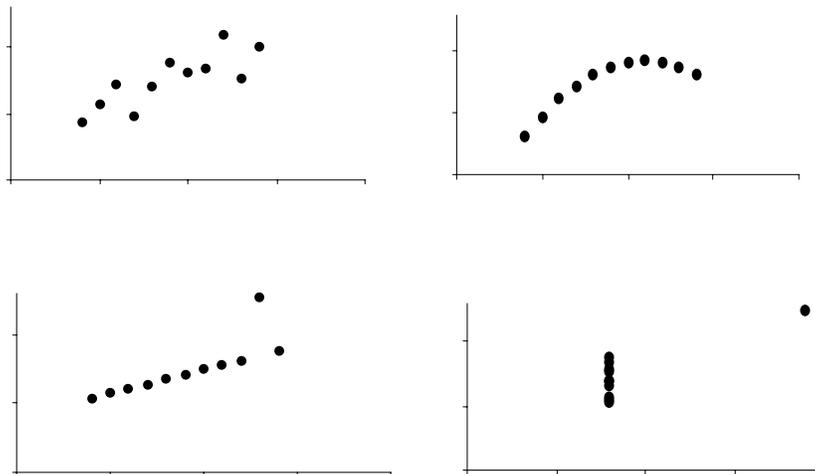
The smaller table presents summarized data by county. A few calculations yield percentages of households within each county. This simplified presentation shows that Multnomah County contains 53% of Metro’s households, but has a much higher percentage of households in the lowest income brackets. Washington and Clackamas Counties have a higher percentage of higher income households. This quick snapshot may be all the information some readers want or need. If access to more detailed data is important for others, it can be included in addenda and/or made available electronically. Sorting the cities by county or by income level would provide some organization to the larger chart.

The more important question, “Why is this information important to the reader?” remains to be answered. The answer to that question will influence which data to highlight, summarize or exclude.

**Use charts or graphs** The following charts<sup>31</sup> demonstrate how scatter plots can present data much more effectively than columns of numbers.

I		II		III		IV	
x	y	x	y	x	y	x	y
10.0	8.04	10.0	9.14	10.0	7.46	8.0	6.58
8.0	6.95	8.0	8.14	8.0	6.77	8.0	5.76
13.0	7.58	13.0	8.74	13.0	12.74	8.0	7.71
9.0	8.81	9.0	8.77	9.0	7.11	8.0	8.84
11.0	8.33	11.0	9.26	11.0	7.81	8.0	8.47
14.0	9.96	14.0	8.10	14.0	8.84	8.0	7.04
6.0	7.24	6.0	6.13	6.0	6.08	8.0	5.25
4.0	4.26	4.0	3.10	4.0	5.39	19.0	12.5
12.0	10.84	12.0	9.13	12.0	8.15	8.0	5.56
7.0	4.82	7.0	7.26	7.0	6.42	8.0	7.91
5.0	5.68	5.0	4.74	5.0	5.73	8.0	6.89

N = 11  
 mean of X's = 9.0  
 mean of Y's = 7.5  
 equation of regression line:  $Y = 3 + 0.5X$   
 standard error of estimate slope = 0.118  
 $t = 4.24$   
 sum of squares  $X - X = 110.0$   
 regression sum of squares = 27.50  
 residual sum of squares of Y = 13.75  
 correlation coefficient = .82  
 $r^2 = .67$



These graphs are reproduced by Edward Tufte in his book *The Visual Display of Quantitative Information*. Tufte, Professor Emeritus at Yale University, has specialized in effective visual presentation of complex data. He has taught courses in statistical evidence, information design and interface design. His several books analyzing and differentiating excellent from poorly designed graphics are informative, unique, though-provoking and visually compelling. The books include many specific examples of “before and after” graphs, demonstrating the application of Tufte’s principles and guidelines.

Metro’s performance reports could be improved by reducing the amount of data included, and improving the presentation of data that is considered important and relevant. Tufte’s books might prove valuable resources in accomplishing this.

## Endnotes

---

- <sup>1</sup> Preamble, Metro Charter .
- <sup>2</sup> Metro Charter, Chapter II, Section 5(1)(a).
- <sup>3</sup> Metro Charter, Chapter II, Section 5(2)(a).
- <sup>4</sup> Future Vision Report, March 1995.
- <sup>5</sup> Metro Charter, Chapter II, Section 5(4)(a).
- <sup>6</sup> Future Vision report, pg. 15.
- <sup>7</sup> Future Vision report, pg. 18.
- <sup>8</sup> Council Growth Management Committee, Metro Committee for Citizen Involvement, Metro Technical Advisory Committee, Metro Policy Advisory Committee, Transportation Policy Advisory Committee.
- <sup>9</sup> The measures were included as part of the Urban Growth Management Functional Plan which was included in Section 3.07 of the Metro Code.
- <sup>10</sup> Metro staff report, January 17, 2003.
- <sup>11</sup> Resolution No. 99-2859.
- <sup>12</sup> Metro Code 3.07.910 provides that the intent of the performance measures is to report on expected outcomes. Section 3.07.920 states that “where appropriate, performance measures shall include goals for the measures, and shall be accompanied by policies for adjusting the regional plans based on actual performance.”
- <sup>13</sup> Metro staff report prepared in consideration of Resolution No. 04-3513, November 16, 2004.
- <sup>14</sup> Metro staff report, November 16, 2004.
- <sup>15</sup> 2004 Performance Measures Report, Preface.
- <sup>16</sup> Future Vision report, pp. 18-19.
- <sup>17</sup> Future Vision report, pg. 16.
- <sup>18</sup> Future Vision report, pg. 16.
- <sup>19</sup> [www.un.org/esa/sustdev/natlinfo/indicators/isd.htm](http://www.un.org/esa/sustdev/natlinfo/indicators/isd.htm).
- <sup>20</sup> Metro Council goals and objectives, [www.metro-region.org](http://www.metro-region.org).
- <sup>21</sup> For example, the Multnomah Portland Progress Board has tracked certain indicators in Portland and Multnomah County for several years, modeling its effort on the Oregon Progress Board state benchmarks.
- <sup>22</sup> See Appendix A for an example of how data can be summarized to present a more compelling and informative picture.
- <sup>23</sup> See Appendix A for specific suggestions to improve charts contained in Metro's performance measures reports.
- <sup>24</sup> [www.edwardtufte.com](http://www.edwardtufte.com).
- <sup>25</sup> [www.edwardtufte.com](http://www.edwardtufte.com)
- <sup>26</sup> Best in Show and Best of Category, 2001, American Congress on Surveying and Mapping.
- <sup>27</sup> Sightline Institute, the sustainability think-tank previously known as Northwest Environmental Watch, publishes the annual Cascadia Scorecard, a performance measurement report for northwest North America. See Resources.
- <sup>28</sup> See examples in Appendix A.
- <sup>29</sup> GPRA is the acronym for Government Performance and Results Act, which requires many federal agencies to establish performance measurement systems and prepare annual assessment reports.
- <sup>30</sup> Metro's 2004 Performance Measures Report, pg. 10.
- <sup>31</sup> J.F. Anscombe, “Graphs in Statistical Analysis,” *American Statistician*, 27 (February 1973), pp. 17-21. Reproduced by Edward Tufte, *The Visual Display of Quantitative Information*.

# **Response to the Report**

Metro Chief Operating Officer Michael Jordan

---



METRO

December 28, 2006

The Honorable Alexis Dow  
Metro Auditor  
600 NE Grand Avenue  
Portland, OR 97232

RE: Chief Operating Officer's Response to *Performance Measures – Best Practices*

Dear Ms. Dow:

Thank you for your report relating to Metro's performance measures. I appreciate the effort you have made to publish this report by the end of the year. While I was unable to review the report's recommendations with Planning Department staff due to time limitations, I do plan to discuss your suggestions with them, as I believe they would strengthen Metro's performance measurement process, making it more meaningful and effective.

Sincerely,



Michael Jordan  
Chief Operating Officer



# Metro Auditor Report Evaluation Form

**Fax... Write... Call...  
Help Us Serve Metro Better**

Our mission at the Office of the Metro Auditor is to assist and advise Metro in achieving honest, efficient management and full accountability to the public. We strive to provide Metro with accurate information, unbiased analysis and objective recommendations on how best to use public resources in support of the region's well-being.

Your feedback helps us do a better job. If you would please take a few minutes to fill out the following information for us, it will help us assess and improve our work.



**Name of Audit Report:** 2040 Performance Measures – Best Practices  
December 2006

Please rate the following elements of this report by checking the appropriate box.

	<b>Too Little</b>	<b>Just Right</b>	<b>Too Much</b>
Background Information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Details	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Length of Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clarity of Writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Potential Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Suggestions for our report format: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Suggestions for future studies: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Other comments, ideas, thoughts: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name (optional): \_\_\_\_\_

**Thanks for taking the time to help us.**

Fax: 503.797.1831  
Mail: Metro Auditor, 600 NE Grand Avenue, Portland, OR 97232-2736  
Call: Alexis Dow, CPA, Metro Auditor, 503.797.1891  
Email: [dowa@metro.dst.or.us](mailto:dowa@metro.dst.or.us)

**Suggestion Hotline:** 503.230.0600, [MetroAuditor@metro.dst.or.us](mailto:MetroAuditor@metro.dst.or.us)