USER'S GUIDE

TBL TOOL DOCUMENTATION: DESIGN, MEASURES, AND SCORING

THE TRIPLE BOTTOM LINE TOOL

Triple Bottom Line Tool For Economic Development:

User's Guide

Version 1.0

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The Triple Bottom Line Tool can be accessed at http://tbltool.org/. This User's Guide to the TBL Tool is a working document. Questions and comments about the TBL Tool or User's Guide can be directed to Dr. Hammer at info@tbltool.org.

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TBL Tool Overview

Welcome to the User's Guide for the Triple Bottom Line Tool V.1.0. The Triple Bottom Line Tool (TBL Tool) is a web-based platform that helps investors, decision-makers, and economic development professionals enhance and communicate investment performance across a broad array of economic, environmental, and social impacts of investment – what's referred to as the triple bottom line or TBL.[1]

Traditionally, economic development investment impact has been measured in jobs created and dollars leveraged. While important, these two measures do not provide a complete picture of the many significant impacts that investment can have. Investors and decision-makers are increasingly seeking ways to ensure that their economic development investments align with goals for environmental, social, and economic performance. Progress has been made on a number of fronts (e.g., GIIRS and LEED)[2]; however, there is no common standard or framework to assess economic development investments with respect to triple bottom line goals. Responding to this gap, the U.S. Economic Development Administration (EDA) funded the creation of an on-line tool to help optimize and describe investment alignment with triple bottom line goals.

The TBL Tool can be used to design projects for better outcomes, decide between projects, or communicate how a project is configured for triple bottom line performance. Use of the tool can facilitate more complete and robust accounting, enhance transparency, promote efficiency, and help ensure that investments support livability and sustainability. The TBL Tool is designed to be easy to use, and to respond to various sizes and types of communities and investments. The TBL Tool is useful to policymakers, investors, and economic development professionals and is relevant in the public, private, philanthropic, and non-profit sectors.

This document provides an overview of the TBL Tool's purpose, development process, content, and functionality. We begin with an overview of the development process and then explain how to use the tool, including logging on, generating reports, and appropriate use of scores. Next, details about the TBL Tool's measures and scoring are provided, including why specific measures were chosen, how they are defined and scored, and what alternatives were considered.

[1] The triple bottom line (TBL) is a term that originated in the corporate sector and refers to the economic, environmental, and social value of an investment. John Elkington, a business consultant and author, is credited with coining the term. Other phrases used to capture this concept include "people, planet profit" and sustainability.

[2] Companies may become certified Benefit (B) Corporations if they meet specific third party standards for social and environmental performance. In a number of states, companies may obtain legal status as a Benefit Corporation meaning they have certain obligations regarding purpose, accountability, and transparency. Benefit Corporations are not required to be third party certified. Leadership in Energy and Environmental Design (LEED) provides third party certification for the built environment ranging from individual buildings to neighborhoods and communities.

TBL Tool Development Process

The process for developing the TBL Tool has been rigorous, inclusive, transparent, and pragmatic. This section of the User's Guide provides an overview of the TBL Tool development process, introduces the core project team, highlights engagement efforts, and explains how we identified the TBL Tool performance areas and measures.

Development Team

Development of the TBL Tool was led by Dr. Janet Hammer from Portland State University, in collaboration with Maggie McCullough from PolicyMap, Dr. Gary Pivo from the University of Arizona/Harvard University Responsible Property Investing Center, and Dr. Ira Goldstein from The Reinvestment Fund. *Portland State University* is known for its leadership in sustainability issues and its commitment to the motto, "Let knowledge serve the city." *PolicyMap* is an award-winning on-line platform whose value is captured in their tag line – "Good Data, Smart Decisions." *The Reinvestment Fund* is one of the country's oldest and most successful Community Development Financial Institutions. The *Responsible Property Investing Center* has developed industry-responsive TBL metrics for the built environment.

The TBL Tool was developed in collaboration with many partners, including advisors from across the U.S. who provided review and feedback at strategic points during the project lifetime. Acknowledgements are provided in Appendix One.

Engagement

To ensure that the TBL Tool is relevant and user-friendly there have been a number of points of contact with economic development professionals and topic experts. Our engagement methods and objectives included the following:

Focus groups Seven focus groups were held between January and March 2011 with economic development professionals who are members of the International Economic Development Council (IEDC) or the National Association of Development Organizations (NADO) in order to learn more about current decision-making practices and hear feedback on the draft tool design.

Surveys An on-line survey of nearly 400 economic development practitioners was conducted in April and May of 2011 to identify current investment practices and priorities. More than 150 questionnaires assessing the value of the TBL Tool were completed by participants attending conference and webinar presentations regarding the TBL Tool.

Interviews Five interviews were held with EDA regional staff in March 2011 to better understand current practice regarding the triple bottom line in economic development.

Advisors Economic development practitioners and topic experts provided input on the TBL Tool development.

Testing Feedback on the beta version of the TBL Tool was collected via a user-friendly on-line survey, as well as through more extensive testing and collaborative discussion with a group of testing partners that represent diverse geographies and organizational type (e.g., public, private, and non-profit investors at local, regional, state, and national levels).

Defining TBL Economic Development

Triple bottom line economic development is defined as programs, policies, or activities designed to create or retain jobs and wealth in ways that contribute to community well-being and sustainability over time.[3] This type of economic development strives for qualitative and quantitative improvements in the lives of individuals and communities. It is distinct from economic growth, which may or may not contribute to overall community well-being (e.g., quality of life, fiscal balance, human and environmental health).

The TBL Tool is designed to help optimize economic development investments for triple bottom line performance. To define what that is we analyzed existing community priorities, current research, and leading edge practice:

- Thirty-one comprehensive community indicator programs from a range of urban and rural communities across the U.S. were analyzed to ensure that the TBL Tool *aligns with and supports common priorities defined at city, county, regional and state levels*.
- Twenty-one existing assessment tools were reviewed to *identify and ensure compatibility with common TBL themes across a range of related sectors* including business (e.g., GRI and GIIRS), land use and real estate (e.g., LEED-ND and Sustainability Checklist), and infrastructure (e.g., GreenLITES and Envision).
- An extensive literature review including more than 150 search term combinations was conducted to ensure that the TBL Tool measures are *consistent with current research*.

Synthesizing the findings from these three reviews, we identified key priorities that economic development investment should align with and support: economic vitality, good governance, healthy people, strong social fabric, natural resource stewardship, and quality built environments. We then worked with our project advisors and topic experts to translate these priorities into triple bottom line goals, performance areas, and measures that can be considered when assessing economic development investment. Draft measures were sent to national project advisors for review in June 2011 with subsequent input and vetting over the summer. A two-day work session with a subset of national advisors was held in October 3rd and 4th 2011 in Portland, Oregon to finalize measures and TBL Tool design decisions.

Measures were defined by considering availability and quality of data, as well as responsiveness to the unique features of particular communities and projects. We reviewed evidence pertinent to each performance area in order to ensure that measures are consistent with best available science. We also reviewed standards, certifications, and best practices for relevance to TBL Tool (e.g., green building certification programs).

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[3] Our definition draws from the International Economic Development Council (IEDC) (http://www.iedconline.org/?p=FAQS), as well as such scholarship as Edward Blakely and Nancey Green Leigh's *Planning Local Economic Development, Fourth Edition* (2010), Daphne Greenwood and Richard Holt's *Local Economic Development in the 21st Century: Quality of Life and Sustainability* (2010) and Kent Portney's *Taking Sustainable Cities Seriously: Economic Development, the Environment, and Quality of Life in American Cities (2003).* We use the term well-being to refer to overall health (e.g., physical, financial, emotional), and use the generally accepted definition of sustainability as meeting the needs of current generations without compromising future generations' ability to meet their needs.

In defining the TBL Tool performance areas and measures we aimed to balance parsimony and ease of use with comprehensiveness and accuracy. The goals, performance areas, and measures are summarized below in Table One and are detailed in the following sections. Additional information regarding the TBL Tool development process can be found in Appendix Two. Throughout the tool user's can access "information bubbles" that provide a summary of why a measure is important and how the measure is scored.

Eighteen cases were compiled to help illustrate triple bottom line economic development in practice and identify lessons learned. The cases include review tools, comprehensive economic development strategies, and projects that represent various types of economic development (e.g., business development, infrastructure, institutions and services, manufacturing and industry, mixed use development, and culture, recreation, and tourism). The case report, "*Putting Concepts Into Practice: Triple Bottom Line Economic Development*," can be accessed at tbltool.org.

TBL Tool Scoring

Effective application of the TBL Tool requires an understanding of its intended purpose and scoring framework. Design decisions were informed by input from the project core team, EDA staff, topic experts, and national advisors.

Intended Purpose

The current version of the TBL Tool is intended to help achieve and communicate investment alignment with TBL goals. The tool can be used to configure investments for strong TBL performance (*design tool*); winnow or compare projects (*decision tool*); and describe investment alignment with TBL goals and community priorities (*communication tool*). The tool's documentation and supporting information can also be used to build understanding about economic development processes and impacts (*education tool*).

The TBL Tool has a number of potential applications. For example, it can be used to review and improve a proposed project, prepare bid documents, or communicate with stakeholders. It can be used to compare one project on multiple sites, multiple projects on one site, or many different projects. Whatever the application, the TBL Tool supports strategic investing that contributes to quality of life and sustainability.

Scoring Framework

The TBL Tool applies a technique called multi-criteria decision analysis to assess how well an investment aligns with triple bottom line goals. Multi-criteria decision analysis (MCDA) allows items of interest that are measured in different ways to be considered together. For example, imagine you would like to select a product based on purchase price, maintenance costs, user interface, and environmental impact. Each of these criteria is measured in different ways. Multi-criteria decision analysis provides a way to sum up these "apples and oranges." The following is a brief overview of the multi-criteria scoring system used for the TBL Tool.

Selecting Criteria

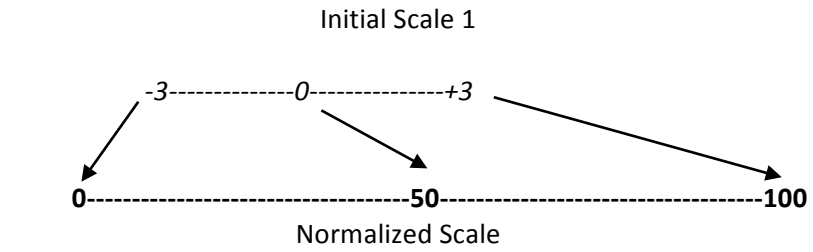
As described elsewhere, the criteria (measures) were selected based on their contribution to the concept of TBL economic development and availability of data. Following best practice for multi-

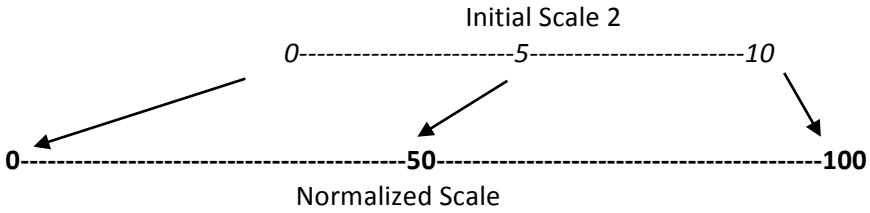
criteria decision analysis (MCDA), the following considerations were also made: a) minimize the number of criteria used without ignoring valid concerns, b) avoid highly correlated criteria/double counting and c) avoid overweighting one dimension by using a similar number of indicators for each dimension or subtotaling each separately before computing final score.

Scoring Criteria

Each of the triple bottom line goals (economic vitality, natural resource stewardship, and community well-being) is comprised of performance areas (outcomes that help us achieve our goal), and each performance area is comprised of measures (items that help deliver those outcomes).

In MCDA, there are a number of ways to grade or score criteria and the same approach does not need to be used for each. For example, one measure may be scored on a -3 to +3 scale and another on a 0 to 100 scale. When aggregating into a total score, however, the scores are converted or normalized into the same scale. A common method for doing so is to calculate relative distance from best to worst; for example, a score that is halfway between worst and best on any scale is reset to 50 on a scale of 0-100, putting all scores into "relative preference percent rank order." For example:





The TBL Tool normalizes all measures to a 0 to 100 scale. For example, a measure that considers the percent of employees with access to benefits will score on a continuous range of 0 to 100, a measure that considers implementation of green building practices will provide discrete score options of 0, 50, 75, 100 depending upon the rigor of documentation (e.g., third party certified), while a measure that offers a yes or no response (e.g., pro forma conducted) will provide a binary score option of 0 or 100.

In MCDA, weights may be assigned when clear preferences are known. For example, if there are three criteria (A, B, and C) and A is of greater importance to the decision-makers then criteria A may be weighted. Imagine there are two projects and Project One scored 8, 7, and 7 and Project Two scored 10, 6, 6 on criteria A, B, and C, respectively. If criteria A were weighted as two times more important, then the total scores for Projects One and Two would be 30 (16 + 7 + 7) and 32 (20 + 6 + 6), respectively, while unweighted they would both score 22.

The most compelling case for weighting with respect to the triple bottom line pertains to natural capital impacts (i.e., depletion of basic ecosystem services without which life cannot continue);

however, there is not sufficiently robust information with which to determine relative importance within the TBL Tool. Thus, no weights are assigned. While the tool does not explicitly weight measures, implicit weighting occurs because the relative weight of each measure varies depending upon how many measures are grouped in a performance area (e.g., a measure carries more "weight" if a performance area score is the average of three measures rather than ten measures). Users may wish to look more deeply at measures that are particularly important to their community or context.

Approaches to missing data in the TBL Tool vary depending upon what data is missing. In some cases, the goal and performance area scores are calculated without including the measure. For example, if a project's location is not covered by the tool's transit dataset the measure score is reported as NA for that project and its performance area score is calculated without the measure score. In other instances, missing data is not allowed and the TBL Tool will generate a partial report rather than a full report. This approach prevents someone from skipping questions and generating what appears to be a high score without addressing many of the measures necessary to provide a reasonable assessment.

The TBL Tool was designed to be responsive to differences in project type and other contextual features. In project scoring this manifests in the form of bonuses, NAs, and FYIs. For example, if average project wages will be 120% or greater than county average wages the project receives a *bonus* point while a project without high wages is not penalized. This is because, while jobs with good wages and benefits are an important part of the triple bottom line, we recognize that it is usually better to have some jobs than no jobs at all. If an item is not relevant to a specific project, it is not included in the score and is noted as *NA*. For example, if the project includes housing there is a question about affordability and if the project does not include housing that question is skipped and is not used in the calculation of the project score. Other items are not included in the score but are presented as an *FYI*. For example, dollars leveraged is not part of the TBL Tool score because there is no researched-based rationale for suggesting that the performance of a project is affected by the amount of leveraged dollars. At the same time, this is important information that many investors want to see, so it is provided but is not included in the project score.

Aggregating and Reporting Results

The score for each of the three goals (economic vitality, natural resource stewardship, and community vitality) is calculated by taking the average of the goal's performance area scores; each performance area score is calculated by taking the average of its measure scores. Results are reported for each goal, performance area, and measure. The project report displays the project information along with the project score. This provides a check on data entry and quality (e.g., response entered correctly, data set accurate), and provides an opportunity to explore areas of strength or weakness.

A four-color legend is provided to help the user identify how well the project appears to align with triple bottom line goals. A sample report is provided in Appendix Three. In addition, a due diligence report is generated noting items that should be confirmed or explored (e.g., certification claim, proximity to sensitive natural resource area).

Appropriate Use of the TBL Tool Scores

The TBL Tool generates a project report that includes the project information and the project scores. This is helpful both for confirming that information was accurately entered and for considering potential areas for improvement. The TBL Tool also generates a "Due Diligence" report that provides a list of items that have been identified as completed, due to be completed, or warranting further attention.

When reviewing project reports it is important to keep in mind that scores provide a general indication of how well a project aligns with TBL goals; two projects with the same score may differ in the type or magnitude of impact. We caution against directly comparing project scores for a number of reasons. First, the TBL Tool relies on user input and national data sets that require due diligence follow-up. This follow-up needs to be conducted before determining whether one project is indeed stronger than another. Second, as noted above, because a measure is scored NA when data is not available (e.g., if Walk Score does not cover the project location), one project might have a lower overall score than another simply because the first received a low score for a measure while the second received an NA (though might actually have a similar or worse performance for that measure). Third, for a number of measures, the TBL Tool identifies the presence of impact without attempting to arbitrate the magnitude or significance of the impact to the community. For example, a multi-million dollar cultural facility and an interpretive exhibit along a historic trail receive points for contribution to cultural or historic resources; the measure notes whether a positive, negative, or neutral impact is being made on historic or cultural resources and leaves it to the investor to determine the relative merit.

This version of the TBL Tool is most appropriately applied as a design, decision, and communication aid to help identify whether and how an investment supports goals for economic vitality, natural resource stewardship, and community vitality.

Current Limitations

Version 1 of the TBL Tool draws on location data, industry data, and user-defined project information to calculate a project score. Currently, the tool cannot assess investments that do not have a specific location or address (e.g., a citywide conservation program) because some measures are location based (e.g., proximity to sensitive natural resources, location in distressed area). The tool can be applied to both construction investments and non-construction investments (e.g., training program at a specific facility), as long as there is a project location. Application of the TBL Tool to investments that do not have a specific location or address is being considered for future versions.

The current version of the TBL Tool applies to all fifty states but cannot be applied to the U.S. Territories due to data limitations. This includes Puerto Rico, Guam, the Marianas, the U.S. Virgin Islands, and American Samoa. There is interest in creating a version of the TBL Tool that would apply in these areas, as well as in non-U.S. locations.

Some of the TBL Tool measures are based on the proposed investment's NAICS (industry) code. The current version of the TBL Tool can accommodate up to five NAICS (industry types) for a proposed investment (e.g., a project with office, retail, restaurant, gym, social service, library). We anticipate increasing the number of project NAICS that can be accommodated in future versions.

Areas We're Keeping an Eye On

Descriptions of each measure are provided in the following section, including information regarding why a measure was selected, alternatives considered, and potential caveats or limitations. Measure and scoring items we are paying close attention to include:

Wages – How often do users know the average wage for the direct jobs created and retained? Are county averages serving as a reasonable comparator for project average wages given that averages for labor shed/commute shed are not available by North American Industrial Classification System (NAICS)?

Benefits – How often do users know the benefit information for direct jobs created and retained? Is there a more accurate or reasonable alternative to assess this important component of job quality?

Location Accessibility – Transit accessibility is measured by using Transit Score, a national platform that rates how well a site is served by transit. Ideally, the location accessibility measure would note not only how well the site is served by transit (e.g., number and frequency of transit choices), but the percentage of workers in the area that can access the site by transit within a specific timeframe. While progress is being made to create such data sets, they were not available at the time of tool build-out.

Order of Magnitude – In order to respond to the unique context of a project and community, the TBL Tool does not attempt to determine the scale, quality, or value of an investment's contribution for a number of the measures. For example, the user identifies whether the project will impact cultural or historic resources but the TBL Tool does not arbitrate how significant the impacts are. The preservation of a cultural district can receive the same score as the installation of an art piece or historical marker. We will continue to consider whether there is a fair and reasonable way to differentiate order of magnitude for these types of measures.

Applicability of TBL Tool Across Project Type, Size, and Location – The TBL Tool was designed to be responsive to context. A great deal of consideration was given to the applicability of measures to a range of investment type (e.g., infrastructure, business development, culture and tourism), location (e.g., rural, urban), and size (e.g., dollars, acres). We are keeping an eye on how well the TBL Tool is performing in diverse conditions and what might be improved in that regard. Also, as noted above, we plan to release a version that can accommodate non-location based investments.

Weighting – Weights have not been assigned to any performance areas or measures, however, implicit weighting occurs when the number of measures in a performance area varies. Measures that belong to a performance area with few other measures carry more weight when the average for the performance area is calculated. For example, if one performance area has 3 measures and another has 6 measures, the impact of a measure in the second is less than the impact of a measure in the first because it is averaged with five other measures rather than two. Consider the impact of a measure score of 10 when the other performance area scores are 2: If there are three measures in the performance area the average score is 4.7 (10, 2, 2), and if there are six measures in the performance area then the average score is 3.3 (10, 2, 2, 2, 2, 2). We plan to monitor the validity of generated scores and also to consider whether it makes sense to retain the grouping of measures by performance areas for scoring purposes.

Capturing Interconnections – Economic, environmental, and social performance are inextricably linked, with most measures impacting more than one bottom line. For example, an investment in green building may result in energy cost savings, increased building value, higher occupant satisfaction and productivity, and fewer negative impacts on human and natural resource health. Thus, while the green building measure is located and scored in the natural resource goal area it actually impacts all three of the goal areas. These interconnections are not reflected in scoring frameworks that "bucket" various measures. We are considering whether scoring can be altered to

better reflect the contributions of specific measures to multiple bottom lines (e.g., provide a total project score and do not assign measures to specific goals and performance areas or provide a total score as well as goal scores)?

Validity of Scores – Are the scores providing a reasonable indication of how well a project aligns with TBL goals? We are looking for additional feedback from the field as to how well scores portray the "strength" or "weakness" of a project and what adjustments, if any, might improve the scoring framework.

Using the TBL Tool

The following section provides key information regarding how to use the TBL Tool website, including how to log on, generate and save files, and access reports.

Getting Started

Logging On

When you are ready to enter information for a project you will create an account by defining a user name and password. You will use this account to store information for all projects that you are scoring. You will use this user name and password any time that you log on to your account and work with project information. Account and project information cannot be viewed by the public.

Browser Requirements and Time Outs

The TBL Tool works on Mozilla Firefox, Google Chrome, and Internet Explorer 8 and above. You may need to upgrade your browser or download a free browser in order to have the optimal experience with the TBL Tool. Also, if your browser is left open but is not used for a while your session will "time out." You should be able to continue by logging out and then logging back in.

Collecting Your Project Information

The Data Document provides all of the TBL Tool questions, in the order they appear on the website, and facilitates data entry.

Entering Data

Identifying a Project

To begin entering data for a new project proceed to the *Calculate* area of the TBL Tool and click to create a new project. Open an existing project by selecting the project of interest from the pull-down menu in the *Specify Location* area of the navigation bar. The project will open and you can use the navigation bar to move to the section(s) of interest. Projects can be renamed or deleted by clicking on the corresponding button in this section.

Mapping Your Project Boundaries

The first step in entering data is to draw the boundaries of your project. This is done in the *Specify Location* area of the navigation bar. A help video is provided on the mapping page to facilitate successful mapping of your project boundaries. The TBL Tool covers the fifty United States at this time. The maximum project area is 5 square miles due to database requirements.

Navigating Through the Tool and Saving Project Information

The information required to score a project is grouped into six sections. You can move back and forth between sections and edit responses. Your work is saved as you proceed through the TBL Tool. If you change the response to a question for a project, that information will be saved and the project scores and report will recalibrate. Note – the *Construction and Operations* section includes questions that confirm sensitive resource map accuracy and impact. If you edit the project boundaries after you have completed this section you will need to return to these questions and update or change answers as appropriate. Throughout the tool, users can click on the blue "info bubbles" to learn more about a particular measure.

Comparing Different Versions of a Project

To compare different versions of a project (answers and scores) open an existing project and save it with a new name. To do this, proceed to the *Calculate Your TBL* section of the TBL Tool and select the project of interest from the pull-down menu on the *Specify Location* section of the navigation bar. You will then create a new version of the project by clicking on the "save as" button. You may now proceed through the tool, making the desired changes. Your work is saved as you proceed through the tool and a separate project report will be generated for the new version of the project. Creating a different project version with the "save as" feature is not the same as renaming a project.

Generating and Accessing TBL Scores

The TBL Tool generates both a summary and detailed project report. If the project information is incomplete the tool will generate a working report that displays the information entered thus far and scores for the corresponding measures where sufficient information has been entered. When project information is complete, the TBL Tool calculates a score for each of the three goals (economic vitality, natural resource stewardship, and community well-being), as well as for the 8 performance areas and 57 measures and sub-measures.

The online tool displays the summary report and the user can then "drill down" for greater detail by using the "+" signs. A color-coded legend gives an indication of how well a project seems to be configured for TBL performance. Results provide a general indication of a project's strengths and can be used in a number of ways including to explore options to improve a project, consider various alternatives, communicate with stakeholders, or track performance. Appropriate use of scores is discussed in the above section on scoring.

The project report includes "due diligence" items that have been identified as completed, due to be completed, or warranting further attention. This provides a master list of items that should be confirmed or explored. Check boxes are provided to assist you with tracking your review of due diligence items. Check boxes can be completed online and will be saved.
A PDF version of the project report is generated when the "print" button is selected. To access the PDF version of a project report proceed to the *Calculate Your TBL* section of the tool, select the project of interest from the dropdown menu on the Specify Location section of the navigation bar, and then click on the PDF icon to the right of the project name. To access the online version of a project report proceed to the *Calculate Your TBL* section of the tool, select the project of interest from the dropdown menu on the Specify Location section of the navigation bar, and then click Generate TBL or Access TBL Report. The data and report for a project are not publicly accessible; the user can save and forward the PDF of the project report should they wish to share the information.

TBL Tool Measures

The TBL Tool currently includes three goals, eight performance areas and fifty-seven measures. These are summarized in Table One. Many of the measures compliment EDA application requirements and should serve to assist potential applicants in compiling necessary information (Appendix Four). Measure scoring – including the use of bonus, FYI, and NA – is described in the Scoring Framework section above.

Table One: TBL Tool Goals, Performance Areas, Measures

GOAL: ECONOMIC VITALITY Investments promote regional economic strength and resilience, are fiscally sound, and provide access to good quality jobs.
1. Quality Jobs
Relative Impact on Employment Bonus for investments with relatively large or catalytic impact on employment in the area. Information on the number of direct jobs is provided but is not included in score because a) number of jobs does not capture relative scale (e.g., 10 jobs in a small town versus a big city) and b) absence of a suitable benchmark for scoring.
Direct Jobs Provides, FYI, the number of direct jobs created and/or retained.
Direct Jobs – Good Wages and Benefits Bonus if average annual wages for the project's direct non-construction jobs are 120% or greater than area average annual wages. Considers percentage of employees covered by benefits (e.g., health insurance, retirement contribution, paid vacation and sick time).
Direct Jobs – Career Access and Advancement Opportunities Considers presence of career training, hiring, and advancement programs for direct non-construction jobs.
Construction Jobs Provides, FYI, the number of construction jobs.
Construction Jobs – Good Wages and Benefits Considers presence of strategies that support provision of good wages and benefits for construction workers.
Construction Jobs – Career Access and Advancement Opportunities Considers presence of career training, hiring, and advancement programs for construction employment.
2. Sound Investment
Pro Forma Demonstrates Financial Viability of Project Considers whether pro forma demonstrating financial viability of project has been completed.
Fiscal Impact Analysis For relatively large investments, confirms that fiscal impact analysis has been conducted.
Consistency with Regional Economic Development Strategy Considers whether investment supports/aligns with regional ED strategy.
Support for Local Business Bonus if program or policy is in place to prioritize purchase of goods and services from businesses owned and operated in the metropolitan area, micropolitan area, or county when appropriate.
Ratio Private to Public Investment Provided FYI, not included in score.
Leveraged Investment Provided FYI, not included in score.

GOAL: NATURAL RESOURCE STEWARDSHIP Investments make efficient use of natural capital and ecosystem health is maintained or restored.
3. Industry Eco-efficiency of Production (resources consumed and emissions produced per job)
Fossil Fuel Energy Use Identifies sectors with relatively higher and lower energy use per job.
Water Use Identifies sectors with relatively higher and lower water use per job.
Solid Waste Identifies sectors with relatively higher and lower solid waste per job.
Ozone Depletion Identifies sectors with relatively higher and lower ozone depletion per job.
Acidification Identifies sectors with relatively higher and lower acidification impact per job.
Photochemical Smog Identifies sectors with relatively higher and lower photochemical smog impact per job.
Eutrophication Identifies sectors with relatively higher and lower eutrophication per job.
Ecotoxicity Identifies sectors with relatively higher and lower ecotoxic emissions per job.
Greenhouse Gases Identifies sectors with relatively higher and lower greenhouse gas emissions per job.
4. Green Design and Construction
Green Building/Construction Considers implementation of green standards, certifications, and practices.
Adaptive Reuse Bonus to projects that reuse existing structures.
Sustainable Site Design Considers implementation of sustainable site design standards, certifications, and practices.
Remediation, Restoration, or Conservation Bonus to projects that contribute to remediation, restoration, or conservation of existing site conditions.
Avoidance of Sensitive Natural Resources Considers presence of eight sensitive natural resources in the project area and measures to avoid or mitigate project impacts (floodplain, critical habitat, steep slopes, prime farmland, wetlands, water bodies, protected areas, forestland).
5. Green Operations
Energy from Renewable Sources Considers percentage of project energy derived from renewable energy sources.
Energy Management Considers whether facility performance is monitored through participation in Energy Star program.
Automobile Trip Reduction Strategies Considers implementation of automobile trip reduction strategies (e.g., telecommuting, passes, shuttles).
Tenant Environmental Incentives Considers incentivizing of tenant implementation of green operation and management practices.
Water Use Lower Than Industry Norms Bonus for conservation practices that lead to lower water use relative to industry.
Emissions Lower Than Industry Norms Bonus for practices that lead to lower toxic emissions relative to industry.
Industry Best Practices Bonus to projects that adopt industry best environmental standards and/or certifications.
Green Products and Services Bonus to projects with jobs created or retained that pertain to green products and services.

GOAL: COMMUNITY WELL-BEING Investments promote health and opportunity, preserve or enhance unique culture, and cultivate distinctive and well-functioning communities in which to work and live.
6. Placemaking and Accessibility
Cultural and Historic Resources Considers whether project preserves, enhances, or diminishes historically or culturally significant practices, structures, facilities, or districts.
Public Spaces Considers whether project creates, enhances, or diminishes public space.
Walkability of Project Location Considers walkability of project location.
Transit Accessibility of Project Location Considers transit accessibility of project location.
Project Increases Walking, Biking, or Transit Options Bonus to projects that increase walking, biking, or transit options in the area.
Location in High Need Areas Bonus to projects located in an area defined as distressed or severely distressed.
No Net Loss of Affordable Housing Where restricted affordable housing is present, considers one-for-one replacement of units.
Housing Affordability For projects that include housing, considers creation of affordable housing in excess of any one-for-one replacement.
7. Environmental Health
Toxic Exposure – Cancer Considers whether the industry is a higher or lower than average producer of emissions that are associated with chemicals associated with cancer effects.
Toxic Exposure – Non-cancer toxins Considers whether the industry is a higher or lower than average producer of emissions that are associated toxicological non-cancer effects.
Toxic Exposure – Criteria pollutants Considers whether the industry is a higher or lower than average producer of criteria pollutants associated with negative human health impacts.
8. Governance
Stakeholder Engagement Considers presence of an appropriate stakeholder engagement strategy.
Key Infrastructure Capacity Considers whether capacity for key infrastructure has been verified.
Accountability Considers whether accountability mechanisms are in place.
Relocation Planning and Collaboration Considers whether residents or businesses will be relocated as a result of the project and, if so, presence of an appropriate relocation strategy.
Prevention and Mitigation of Displacement Considers whether residents or businesses will be displaced as a result of the project and, if so, presence of an appropriate strategy to prevent and mitigate displacement.
Anti-poaching Considers whether project encourages relocation of existing jobs away from other communities.

The following section provides detailed scoring information for the performance areas and measures for each of the three TBL Tool goals (economic vitality, natural resource stewardship, community well-being). The information provided includes why a specific performance area is important, what measures were selected to operationalize the performance area, the measure formula and scoring, any data limits or caveats, and sources of additional information if appropriate.

Goal: Economic Vitality

Economic vitality refers to a system of production, distribution, and consumption that generates and retains wealth in a community and successfully weathers disruptions or changes to the system. In the TBL Tool, the Economic Vitality goal is comprised of two performance areas: Quality Jobs – which considers economic impact at the individual level (e.g., wages, benefits, and career opportunities), and Sound Investment – which considers economic impact at the project and community level (e.g., fiscal responsibility and support for regional economic strength and resilience). A project's score for the Economic Vitality goal is calculated by averaging its scores for the Quality Jobs and Sound Investment performance areas, as described below.

The following information details why each performance area is important, the measures selected to operationalize the performance area, the measure formulas and scoring, and any data limits or caveats.

Performance Area: Quality Jobs

Why Does This Matter?
In modern economies, most people must earn income to meet basic needs. Research demonstrates that health and well-being are strongly correlated with income. Further, well-paying jobs contribute to community economic vitality by stimulating the economy, generating tax revenues, and reducing the need for public assistance. Reward for work is a basic tenet of our society, with the expectation that full-time employment is sufficient to meet basic needs.

Along with good wages, employee benefits are an important aspect of job quality. Benefits such as health insurance, sick days and personal days, vacation days, and retirement contributions can foster workforce health and productivity, reduce financial burdens on taxpayers, and contribute to the attraction and retention of skilled workers. When access to employment opportunity is not available to members of society, the result is lost potential and added costs to individuals, families, businesses, and society. Thus, triple bottom line economic development aims to create and retain quality jobs that provide fair compensation for work and opportunities for employment access and advancement.

What Do We Want To Know?
- Is the impact on employment large or catalytic for the investment benefit area?
- Do the jobs created and retained pay well and provide benefits?
- Are pathways to opportunity being created (e.g., employment access and advancement)?

What Measures Were Selected to Operationalize This Performance Area?
The Quality Jobs performance area measures are as follows:
- Relative Impact on Employment
- Direct Jobs
- Direct Jobs – Good Wages and Benefits
- Direct Jobs – Career Access and Advancement Opportunities

- Construction Jobs
- Construction Jobs – Good Wages and Benefits
- Construction Jobs – Career Access and Advancement Opportunities

The Quality Jobs performance area score is calculated by averaging the scores for five measures: Relative Impact on Employment, Direct Jobs' Wages and Benefits, Direct Jobs' Career Access and Advancement Opportunities, Construction Jobs' Wages and Benefits, and Construction Jobs' Career Access and Advancement Opportunities. Two other measures – Direct Jobs and Construction Jobs – are reported but are not included in the score as explained below.

1. Relative Impact on Employment

This measure considers whether the project will have a relatively large or catalytic impact on employment in the area and, thus, whether job creation and retention priorities are being advanced. The TBL Tool asks whether the number of jobs created or retained will distinguish the project as a major employer in the area or have a particularly catalytic impact on employment in the area. A catalytic investment may create few direct jobs but play an essential role in the development or expansion of businesses that will. Examples of catalytic economic development investment include an infrastructure project that supports business expansion, refurbishment of a historic theater that spurs development of an entertainment district, creation of a technical assistance center that helps maintain and enhance the region's farm economy, or development of a maritime center that expands the customer base for maritime related businesses and tourism in the area.

This measure rewards projects that have a significant impact on job creation and retention but does not penalize projects that do not. The scoring accommodates diversity of context. For example, 10 jobs in a town of 5,000 may have a relatively large impact while 10 jobs in a city of 500,000 may not, or a catalytic investment may create few direct jobs but generate a significant number of jobs by expanding the customer base of related businesses. Additional information about this measure can be found in the TBL Tool User's Guide posted on the TBL Tool website.

Measure Formula and Scoring

If the response to this measure is *Yes* (relatively large or uniquely catalytic impact on employment), a bonus score of 100 is earned. If the response is *No* (not a large or uniquely catalytic impact on employment), no bonus score is earned. The measure is scored as a bonus so that projects with large relative impact are rewarded but other projects are not penalized.

The scoring for this measure recognizes that the relative impact of jobs created or retained varies with context. For example, the creation or retention of ten jobs in a small town of 500 people might have a significant impact on employment in the area while the creation or retention of ten jobs in a city of 500,000 people may have a small impact.

Caveats
Evidence to support the claim should be submitted.

Alternatives Considered

- Jobs created as a percent of investment benefit area unemployment (user estimate of direct non-construction jobs created and retained/current unemployment data) was not applied for a number of reasons: 1) potential correlation or redundancy with the measure regarding investment location in an area of high need (which considers unemployment), 2) inability to account for catalytic impact, 3) lack of a standard for scoring (e.g., is a "good" or "large" impact .2% of employment, 2%, or 20%?), and 4) data issues (lack of data for area of interest).
- Percent increase in jobs (direct non-construction jobs created and retained/current employment in the investment benefit area), was not applied for a number of reasons: 1) potential correlation or redundancy with the measure regarding investment location in an area of high need (which considers unemployment), 2) inability to account for catalytic impact, 3) lack of a standard for scoring (e.g., is a "good" or "large" impact measured as percent increase in jobs), and 4) data issues (lack of data for area of interest).
- Scoring based on whether the project creates more or less jobs than an average economic development project of that type and location was not applied because benchmark information is not available. In theory, it might be possible to identify average jobs created for economic development investments in rural communities and urban communities (infrastructure and non-infrastructure capital projects) and then score the proposed project based upon whether the direct jobs created are significantly above or below the average for the project type and location (rural or urban). Scoring could then be based on standard deviation from mean or percent greater than average. This information is not currently available and, thus, this alternative was not feasible.
- Scoring based on the estimated annual wage bill for the project as a percent of the total county wage bill was not selected because of data quality concerns as well as a lack of standard for scoring.

2. Direct Jobs

Information regarding direct job creation and retention is reported in order to provide a sense of expected impact. The information is not included in the project's TBL score because there is no standard for defining a "good" or "bad" number of jobs created and retained.

Measure Formula and Scoring

The number of direct jobs created and/or retained when the project is complete is entered for each of the project industries. Up to five industries may be identified for a project. If the project includes more than five industries, the top five with respect to job creation and retention should be entered. If the project is an infrastructure investment directly serving an economic development project (e.g., a road to a tech park, water treatment technology for a manufacturing facility) enter the industry or industries and jobs created and/or retained for the project that the infrastructure is designed to serve

The number of direct jobs created and/or retained includes part-time and seasonal employees and the figure is entered as FTE (full-time equivalents), which is based on a 40 hour per week workload (2,080 hours per year). An employee working 20 hours per week is considered .50 FTE, while two employees each working 20 hours per week equal 1.0 FTE. Jobs performed by independent contractors can be included in the jobs figure and should be noted in the documentation. For

retained jobs, information regarding the imminent threat should be provided in the documentation. Construction jobs are not entered here as they are counted elsewhere in the TBL Tool.

The number of jobs per sector is identified because some of the tool calculations consider impacts by industry. This information is used in calculations regarding wages, industry eco-efficiency, and environmental health. A pull-down menu of North American Industry Classification System (NAICS) codes is used to identify the project sectors. NAICS is the standard used for categorizing businesses by sector or industry (http://www.census.gov/eos/www/naics/). NAICS codes begin at the two-digit level, with further specification of sub-sectors provided up to the six-digit level. For example, 31 manufacturing, 311 food manufacturing, 3112 grain and oilseed milling, 31121 flour milling and malt manufacturing, and 311212 rice milling. For most industries, the user is asked to provide the three-digit level. Retail and wholesale stop at the two-digit level, while a few others go one or two levels deeper. The level of NAICS requested is determined based on the level of variation in environmental impact that occurs in the sector (i.e., more detailed information is only requested when impacts vary widely across the sub-sectors of an industry) and wage data availability (i.e., county level data is often not available below the three digit level).

Caveats

Job creation estimates require careful attention, as the figures may include overly optimistic projections and/or may include jobs that are merely relocated from another area and do not represent net job growth. Evidence to support the claim of jobs created and/or retained should be provided.

The selected timeframe for estimated number of jobs created and/or retained is at the time of project completion because longer time horizons are too uncertain and discounting would be problematic. Care should be given to ensure that the appropriate time horizon was used for the calculation.

Alternatives Considered

The following options were considered to provide a "check" on, or alternative to, user estimates of employment:

- Land Use Employment Intensity Benchmarks – Estimates of average employees per square foot per sector could be provided as a means to confirm whether the user's job estimate appears reasonable given industry averages (i.e., compare the number of employees per square foot for the project industry with the industry average). This option was not selected because the quality of the data is not sufficiently strong to use for scoring. Additional information regarding the use of nonresidential multipliers can be found in the following:
  - David Listokin, Ioan Voicu, William Dolphin, and Mathew Camp. 2006. *Who Lives in New Jersey Housing? New Jersey Demographic Multipliers: The Profile of Occupants of Residential and Nonresidential Development*. New Brunswick, NJ: Rutgers University, Center for Urban Policy Research.
  - Troy Mix and Xuan Jiang. 2009. *Demographic Multipliers in Delaware*. Newark, DE: Institute for Public Administration, University of Delaware.
  - Arthur C. Nelson. 2004. "Employment Land Use Needs." In *Planner's Estimating Guide: Projecting Land Use and Facility Needs,* 39-57. Chicago, IL: Planners Press.
- NAICS averages – The U.S. Census provides estimates of the number of employees by firm size by NAICS and state (i.e., percentage of firms with 20+, 100+, and 500+ employees). For example, in Oregon 27% of manufacturing firms have 20 or more employees, 10.7% have 100 or more, and

5.3% have 500 or more (http://www.census.gov/epcd/susb/latest/or/OR31.HTM). A comparison of the estimated number of jobs created and/or retained could be made to the industry average for the state. This option was not selected because the range is so large as to preclude meaningful comparison, though users may be interested in exploring whether the project estimate is on par with industry averages for the state.

- Jobs Per Dollar Invested – Calculating job creation and retention relative to the investment provides some perspective on the efficiency with which jobs are being created. For example, if one investment of $100,000 creates 10 jobs and another investment of $100,000 creates 5 jobs, the dollars invested per job would be $10k and $20k, respectively. All other things being equal, the first project could be favored because it is more efficiently creating jobs. By focusing on returns per dollar invested rather than total jobs created, projects of various sizes may be compared more equitably and effectively. At the same time, job creation that is relatively more expensive may be associated with an important feature such as higher paying jobs, catalytic investment, or creation of social and economic benefit through work with special populations (e.g., workforce training, prison re-entry, at risk youth). This option was not selected because there is not a reasonable standard for scoring a project based on the number of jobs created per dollar invested.
- Total Jobs – Total job creation and retention considers direct, indirect, and induced jobs. Direct jobs are those specifically tied to the project (e.g., employees at the manufacturing plant), indirect jobs are those that result from the business (e.g., suppliers to the manufacturing plant), and induced jobs are those that result from the spending attributable to the direct and indirect job creation (e.g., employees at both manufacturing plant and supplier spend money at grocery store). The total jobs figure is important to know, but is difficult to estimate. The primary options for incorporating multipliers into the TBL Tool were to use FedFit (a free fiscal impact tool developed by the Federal Reserve System) or fee-for-use impact tools such RIMS, IMPLAN, or Redyn.[4] FedFit uses conservative multipliers based on the area population (e.g., 1.05 for county populations 0 to 10,000, 1.35 for county populations 35,000 to 50,000, and 2.00 for county populations 200,000 and above). This option was not selected because the estimates were seen as too coarse for the TBL Tool and problematic given the relative advantage accorded to urban over rural projects. The commercially available options were not viable at this time (e.g., there is not a national data set covering a range of investment and community types that can quickly or inexpensively be integrated with the TBL Tool). Given the absence of a reasonable data source, a total jobs measure was not included in the current version of the TBL Tool. It is approximated in the measure that considers whether the impact on employment will be large or catalytic for the area.

3. Direct Jobs – Good Wages and Benefits

This measure considers whether the direct jobs created or retained provide good wages and benefits. Good wage jobs with benefits have positive impacts on workers, employers, and the community at large. Well-paying jobs contribute to community economic vitality by stimulating the

[4] The U.S. Department of Commerce Bureau of Economic Analysis (BEA) produces the Regional Input-Output Modeling System (RIMS). Information can be found at https://www.bea.gov/regional/rims/rimsii/. Implan and REDYN are commercially available economic impact assessment systems. Information can be found at http://implan.com/V4/Index.php and http://www.redyn.com/.

economy, generating tax revenues, and reducing the need for public assistance. Reward for work is a basic tenet of our society, with the expectation that full-time employment is sufficient to meet basic needs. Along with good wages, employee benefits are an important aspect of job quality. Benefits such as health insurance, sick days and personal days, vacation days, and retirement contributions foster workforce health and productivity, reduce financial burdens on taxpayers, and contribute to the attraction and retention of skilled workers.

Measure Formula and Scoring
This measure is comprised of three sub-measures: greater than average wages, provision of benefits, and incentives to tenants that provide employee benefits.

a) Average Project Wage 120% or Greater Than County Average Wage

This sub-measure compares the project average annual wages to county average annual wages and assigns a bonus point if the project wages are 120% or greater than county average. The calculation is made with the user defined average annual project wages or, if unavailable, the NAICS defined average project wage in the county. Average annual wages per NAICS are defined using the Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages 2012 data (http://data.bls.gov/pdq/querytool.jsp?survey=en). Multiple NAICS are handled with weighting. For example, if the project includes three industries (A, B, C) and the industries provide 25%, 25%, and 50% of the jobs created and retained, respectively, then the average wage calculation is weighted accordingly (.25*average wage in A + .25*average wage in B + .50*average wage in C). When county average annual wages are not available for a NAICS the information is displayed as NA and does not affect the score.

Bonus points are provided if the investment industry or industries pay higher than average wages for the area. There is no penalty if the project does not meet this standard because, in general, it is better to generate some wages than none (e.g., taking some lower paying tourism jobs over no jobs at all). Also, the measure score is based on county and industry averages that may be too broad to accurately describe the project. Thus, while the triple bottom line is defined as having good wages, projects do not lose points if the wages are not above average.

Caveats
One caveat to the county average wage approach is that if a project will provide higher than average wages for the investment area but those wages don't show up as higher than average for the county, then the benefit may be underrepresented. Imagine that the average wage in the county is $35,000 (tool data) and in the investment area is $25,000 (which the tool does not know) and a project is proposed that will pay at or close to its NAICS average county wage of $30,000. Using county averages, the TBL Tool will identify the proposed project as providing lower than average wages, yet in reality the project is providing higher than average wages in the benefit area. Counties are quite large in some rural areas and the county average may mask low wages where the project is located. However, since no negative points are assigned for below average scores the worst case scenario is that a bonus point is missed.

Another caveat pertains to the fact that the average wages per NAICS are defined using the U.S. Department of Labor Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages 2012 data (http://data.bls.gov/pdq/querytool.jsp?survey=en) and that data is not automatically updated in the TBL Tool. Though relative positions are not likely to change dramatically over time,

the accuracy of the estimate will be compromised if there are major shifts in the mix of industries and wages in the county or in average wages for the project industries. This data set should be updated periodically.

Alternatives Considered
Alternatives for operationalizing "good wages" included the following:

- The BLS Occupational Employment Statistics Query System's average wages for occupations by NAICS by area (state, county, metro/nonmetro) would provide more precise information than average wage per NAICS, however, use of this data would require the user to know how many jobs are being created in each occupation type for each NAICS and this was deemed to be an unreasonable expectation.
- Labor market areas (LMAs) or commute patterns were suggested as a preferred alternative for calculating the investment benefit area.[5] However, the data that the TBL Tool needs for these measures do not exist for LMAs or commute zones. While the Local Area Unemployment Statistics (LAUS) program provides monthly and annual estimates for employment, the information does not include average wage by NAICS (needed for the TBL Tool's calculations). Further, there may be data issues at small geographic areas where the figures are estimates and data currency can be lagging.
- The project average wage compared to family living wage for the area or percent of project jobs paying a living wage was considered but not applied due to concerns about user ability to know the project average wages, as well as concerns about data shelf life (e.g., will the data set be updated and, if so, how frequently). Information about the Living Wage Calculator can be found at http://www.livingwage.geog.psu.edu/. This calculator provides information at the county and place level by state.

b) Percent of Direct Jobs that Provide Good Quality Benefits to Employees

This sub-measure considers the percentage of direct employees of the completed project that are expected to receive good quality benefits. Good quality benefits refer to the type of benefits (e.g., health coverage for employee and family, sick days and personal days, vacation days, retirement), as well as the accessibility and affordability of the coverage (e.g., employee contributions, co-pays). The TBL Tool asks: What percent of the direct jobs created and/or retained do you anticipate will provide good quality employee benefits (e.g., contributions to affordable health insurance, sick days, vacation days, and retirement benefits)? The higher the percentage of covered employees the better the project's score.

Caveats
One caveat is that while benefits are an important part of job quality, benefit information may not be readily available during the planning phases of a project. We are monitoring this measure closely to determine whether modifications should be made in future versions of the tool.

[5] The Bureau of Labor Statistics' general definition for a labor market area (LMA) is an economically integrated area within which individuals can reside and find employment within a reasonable distance or can readily change jobs without changing their place of residence. LMAs include both the metropolitan and micropolitan areas and are redesignated after each decennial census. Currently there are 2,368 LMAs. LMAs exhaust the geography of the United States and Puerto Rico, with the exceptions of Kalawao County, Hawaii, and 18 isolated cities and towns in New England (http://www.bls.gov/lau/laufaq.htm#Q06).

Another caveat is that user's may provide overly generous estimates regarding the amount and/or quality of benefit provided. Evidence to support the claims regarding benefits should be provided. In particular, affordability and quality of benefits should be considered along with eligibility (e.g., employee may be eligible but elect not to enroll due to high premiums or co-pays, or plan may be have low coverage).

Finally, this measure may need to be revisited pending changes to the national system of health coverage.

Alternatives Considered
Background information regarding the current status of benefits programs was conducted to inform the design of this measure. Research reviewed includes the National Compensation Survey (NCS) produced by the U.S. Department of Labor's Bureau of Labor Statistics (http://www.bls.gov/ncs/); the Employer Health Benefits Survey conducted by the Kaiser Family Foundation and the Health Research and Educational Trust (http://ehbs.kff.org/); and the U.S. Department of Health and Human Services Medical Expenditure Panel Survey (http://meps.ahrq.gov/mepsweb/).

Initially, the TBL Tool was designed to consider the presence or absence of six types of benefits: percent of full time (FT) employees eligible for employer based health insurance, percent of part time (PT) employees eligible for employer based health insurance, percent of FT employees with eligibility for health insurance benefits for family members or domestic partners, percent of PT employees with eligibility for health insurance benefits for family members or domestic partners, health insurance plan quality, employer provision of paid sick days/personal days, employer provision of paid vacation and holiday days, employer contribution to retirement contribution plan/fund, and lease incentives for tenant provision of employee benefits. Scoring options considered included a) score equals percent of employees covered, b) score is based on performance relative to industry standard for the firm (e.g., national firm with thousands of employees will be subject to different expectations than a mom and pop shop, per national data on average benefits by firm size and type). These options were not implemented due to concerns about users' access to benefit information – particularly in the reconnaissance or scoping phase of projects and/or for mixed-use projects and multiple tenant projects. Other quality of life benefits such as employer assistance for childcare, subsidized commuting, and flex time were considered but were not incorporated at this time. Current rates of coverage are low (approximately 5% to 15% depending upon the benefit). These items could be incorporated as a bonus point in future versions.

c) Incentives for Tenant Provision of Employee Benefits

In many instances, direct permanent jobs are created by a tenant at the project location rather than directly by the facility owner (e.g., owner of office building or shopping center). In these instances, while the project owners do not control the amount or type of employee benefits provided, they may provide incentives to tenants to encourage the provision of quality benefit programs. A bonus score of 100 is provided to projects with tenants when incentives are provided for tenant provision of benefits. If tenant incentives are not offered or if this information is not known, there is no impact on the project score.

Caveats
Evidence to support the claims regarding benefits should be provided and the strength and effectiveness of the incentive program considered.

4. Direct Jobs – Career Access and Advancement Opportunities

This measure considers the presence of career access and advancement opportunities that support traditionally disadvantaged and underutilized members of society to build skills and contribute productively to society. The target population(s) will depend upon community context and may include people of color, veterans, disabled individuals, women, youth, or individuals re-entering society from the justice system. A number of strategies, if well designed and executed, can positively address barriers to employment entry and advancement.

Measure Formula and Scoring
This measure is comprised of four sub-measures that pertain to career access and advancement: hiring goals and performance monitoring; recruitment, training, and placement partnership; continuing education incentives; and partnership with underrepresented businesses. The score for this measure is calculated by taking the average of the four sub-measure scores, as described below.

a) Hiring Goals and Performance Monitoring

Hiring goals and performance monitoring can facilitate improvements in employment access and advancement by defining desired outcomes and tracking progress. Hiring goals should be defined with relevant community and agency input in order to ensure that the goals respond to the unique context of the place and project.

This sub-measure considers whether there will be agreements to collaborate with relevant workforce development and/or community-based organizations to **define** hiring targets appropriate to the area's population and **monitor** performance (i.e., tracking baseline information, effort, requests and considerations, and results). Depending upon community context, target populations could include low-income residents, women, people of color, veterans, disabled individuals, youth, or formerly incarcerated individuals. A range of strategies may be applied, including first source hiring agreements that provide target populations with effective notice of available positions along with exclusive consideration for a specific time period prior to open hiring. The parties to the agreement may vary with context and could include, for example, the developer and a community group or funder.

A project earns 100 points if binding agreements will be in place, 50 points if non-binding agreements will be in place, and 0 points if no agreement will be in place. Additional points are provided for the presence of binding agreements because they provide a higher degree of accountability.

Caveats
Evidence to support the claims regarding hiring goals and performance monitoring should be submitted and the likely effectiveness of the strategies considered.

b) Recruitment, Training, and Placement Partnership

Improvements in employment access and advancement are facilitated when appropriate recruitment, training, and placement activities are in place. Outreach, intake, screening, and referral are more likely to be effective if they are tailored to the target audience and delivered through an organization with a proven track record that demonstrates they have the trust and skills necessary to successfully work with the target population.

This sub-measure considers whether agreements will be in place to partner with relevant community-based and/or public organizations to conduct recruitment, training, and placement appropriate to the defined target populations (e.g., cultural competency, success training and placing traditionally disadvantaged or underutilized populations). A project earns 100 points if binding agreements will be in place, 50 points if non-binding agreements will be in place, and 0 points if no agreement will be in place. Additional points are provided for the presence of binding agreements because this provides a higher degree of accountability.

Caveats
Evidence to support the claims regarding recruitment, training, and placement partnership should be submitted and the likely effectiveness of the strategies considered.

c) Continuing Education Investments

Career development requires both access and advancement opportunities. Investments in continuing education help individuals build skills necessary for advancement while increasing their contribution to organizational productivity and competitiveness.

This sub-measure considers whether agreements will be in place to provide professional development and training to employees. Examples of continuing education investments include partnerships with higher education institutions to facilitate skills development, on-going skills training on the job, and contributions toward continuing education (e.g., workshops, seminars, courses). A project earns 100 points if binding agreements will be in place, 50 points if non-binding agreements will be in place, and 0 points if no agreement will be in place. Additional points are provided for the presence of binding agreements because this provides a higher degree of accountability.

Caveats
Evidence to support the claims regarding continuing education investment should be submitted and the likely effectiveness of the strategies considered.

d) Partnership with Underrepresented Businesses

The opportunity to start and grow a successful business may be limited by exclusion from networks and capital necessary to compete. This measure aims to ensure that entrepreneurial talent can thrive and that diverse community members can successfully compete for business. Expanding business opportunity to underrepresented populations requires more than posting a public notice. Successful strategies are tailored to the community while building on proven programs to utilize, mentor, contract with, or partner with underutilized businesses.

This sub-measure considers whether agreements will be in place to utilize, mentor, or partner with underutilized businesses. A project earns 100 points if binding agreements will be in place, 50 points if non-binding agreements will be in place, and 0 points if no agreement will be in place. Additional points are provided for the presence of binding agreements because this provides a higher degree of accountability.

Caveats
Evidence to support the claims regarding partnership with underrepresented businesses should be submitted and the likely effectiveness of the strategies considered.

5. Construction Jobs

Information regarding construction jobs is reported in order to provide a sense of expected impact. The information is not included in the project's TBL score because there is no standard for defining a "good" or "bad" number of jobs created and retained.

Measure Formula and Scoring
The number of direct construction labor hours is entered. Construction jobs reported as full-time equivalent (FTE) can be converted by multiplying the FTE by 2,080 (full time hours per year). For example, 50 FTE construction jobs that will last one year are equal to 104,000 construction hours.

Caveats
Evidence to support the claim should be available.

6. Construction Jobs – Good Wages and Benefits

This measure considers whether the project's construction jobs provide good wages and benefits. Investments with a strong triple bottom line not only create jobs, they create jobs that pay well and include benefits. Good wage jobs with benefits have positive impacts to workers, employers, and the community at large. Well-paying jobs contribute to community economic vitality by stimulating the economy, generating tax revenues, and reducing the need for public assistance. Reward for work is a basic tenet of our society, with the expectation that full-time employment is sufficient to meet basic needs. Along with good wages, employee benefits are an important aspect of job quality. Benefits such as health insurance, sick days and personal days, vacation days, and retirement contributions foster workforce health and productivity, reduce financial burdens on taxpayers, and contribute to the attraction and retention of skilled workers.

Measure Formula and Scoring
The score for this measure is computed by calculating the average of the six sub-measures described below: employee classification, wages, health insurance, retirement benefits, OSHA compliant training, and Project Labor Agreements.

a) Proper Classification and Availability of Certified Payroll Records

Proper classification of workers as employees promotes fair competition and ensures that payroll taxes, worker's compensation and other state- and federally-required funds are paid. When workers are misclassified as independent contractors rather than employees, contractors can unfairly compete by producing low bids achieved by passing costs on to workers and society at large. Making certified payroll records available is an important mechanism for demonstrating that workers are not misclassified as independent contractors or improperly paid.

This sub-measure considers whether construction trade workers on the project will be properly classified as employees and certified payroll records made available to a public entity or advisory body. The percentage of construction trade workers on the project that will be covered by a legally binding agreement to properly classify construction employees and make certified payroll records available to a public entity or advisory body is the score. Legally binding agreements are prioritized in order to foster accountability. This measure does not apply to the project score if there are no construction jobs/hours for the project.

Caveats
Evidence to support the claims classification and payroll records should be made available.

b) Prevailing Wages or Like Pay

Prevailing wage standards establish a baseline for wages and benefits in construction that are unique to specific geographic locations. Prevailing wage is typically determined by conducting a survey of contractors and is usually set as either the median or modal package of wages and benefits. Prevailing wage requirements help reduce unfair bidding based on undercutting of standard wage and benefit packages in the region.

This sub-measure considers whether construction employees on the project will be paid state-defined prevailing wage rates for the trade or, where appropriate, "like pay" for the trade in the benefit area. Like pay refers to the average pay for the trade in the project area and may be an appropriate substitute for prevailing wage if the survey area establishing prevailing wage does not adequately reflect the project context (e.g., a rural project with wages set at a metro level). The percentage of construction employees on the project that are covered by a legally binding agreement is the score. Legally binding agreements are prioritized in order to foster accountability. This sub-measure does not apply to the project score if there are no construction jobs/hours.

Caveats
Evidence to support the prevailing wage or like pay claims should be available.

c) Health Benefits

Health benefits may be delivered through direct coverage of the employee by the employer (e.g., health insurance), coverage of the employee through employer contribution to a trade association (e.g., payment into benefit program offered by trade association), or as a supplemental or discretionary benefit (e.g., payments to health savings account, extra pay in lieu of coverage).

This sub-measure considers whether there will be a legally binding agreement to provide health insurance benefit options to construction employees. The percent of employees covered is the score. Legally binding agreements are prioritized in order to foster accountability. This sub-measure does not apply to the project score if there are no construction jobs/hours.

Caveats
Evidence to support the health benefit claims should be made available.

d) Retirement Benefits

Retirement benefits may be delivered through direct coverage of the employee by the employer (e.g., retirement plan), coverage of the employee through employer contribution to a trade association (e.g., payment into benefit program offered by trade association), or as a supplemental or discretionary benefit (e.g., extra pay in lieu of coverage).

This sub-measure considers whether there will be a legally binding agreement to provide retirement benefits to the construction employees on the project. The percentage of construction employees on the project that are covered by a legally binding agreement is the score. Legally binding agreements are prioritized in order to foster accountability. This sub-measure does not apply to the project score if there are no construction jobs/hours.

Caveats
Evidence to support the retirement benefit claims should be made available.

e) Safety Training

Safety training in compliance with U.S. Department of Labor Occupational Health and Safety Administration (OSHA) is standard practice for a high-quality business. Workers who go through registered apprenticeship programs typically receive this training, which is designed to increase safety on the job and decrease work-related injuries and fatalities.

This sub-measure considers whether the project will include a legally binding agreement to ensure that all workers have participated in an OSHA compliant 10-hour safety training, and that supervisors have received OSHA compliant 30 hour training. The percentage of employees on the project covered by a legally binding agreement is the score. Legally binding agreements are prioritized in order to foster accountability. This sub-measure does not apply to the project score if there are no construction jobs/hours.

Caveats
Evidence to support the safety training claims should be made available.

f) Project Labor Agreement

Project labor agreements establish key labor and management terms for a specific project. In general, project labor agreements (PLAs) address wages, hours, working conditions and procedures for resolving disputes, including agreements that restrict strikes or lock-outs. PLAs create a comprehensive framework that sets the terms for a project and requires all contractors and sub-contractors on the project to comply with the standards. The PLA can be inclusive of union and non-union workers. Responsible contracting standards may address issues such as wages and benefits, however, that is not always the case. PLAs are distinctive because they are established and implemented in consultation with worker organizations. This helps to ensure that workers' perspectives are considered and provides standing to verify and enforce agreements. Executive Order 13502, signed in February 2009, encourages federal agencies to consider, on a case-by-case basis, whether to require a PLA on construction projects where the total cost to the federal government exceeds $25 million.

This sub-measure considers whether a project labor agreement will be in place. For projects whose total costs are $10 million or more, the percent of employees covered is the score. Bonus points are earned for projects whose total cost is less than $10 million. A project earns 75 bonus points if a project labor agreement will be in place that covers 25%-50% of the construction employees on the project and 100 bonus points if a project labor agreement will be in place that covers 51%-100% of the construction employees on the project. No bonus points are awarded if less than 25% of construction employees are covered. The scoring for bonus points aims to reward smaller projects for their efforts to improve practice without penalizing projects that do not have full coverage (e.g., if 25% of employees are covered, a sub-measure score of 25 that would pull the overall score in the direction of "weakly aligned" with TBL goals). This measure does not apply to the project score if there are no construction jobs/hours for the project.

Caveats
Evidence to support the claim should be made available. Consideration should be given to the representativeness of the stakeholders involved, the quality of the agreement, and the strength of implementation provisions. The appropriateness of the measure's $10 million threshold should be monitored and changes to scoring made in future versions, if appropriate.

Additional Information
Robust research regarding various types of PLAs and their impacts remains slim, however, the following resources may be useful:

Maria Figueroa, Jeff Grabelsky, and Ryan Lamare. 2011. *Community Workforce Provisions in Project Labor Agreements: A Tool for Building Middle-Class Careers*. Ithaca, NY: Cornell University IRL School. www.ilr.cornell.edu/news/upload/PLA-REPORT-10-6-2011_FINAL.pdf.

Gerald Mayer. *Project Labor Agreements*. 2010. [Electronic version] Washington, DC: Congressional Research Service. http://digitalcommons.ilr.cornell.edu/key_workplace/854/.

7. Construction Jobs – Career Access and Opportunity

This measure considers the availability of construction career access and advancement opportunities that allow traditionally disadvantaged and underutilized members of society to build skills and contribute productively to society. Depending upon the community, these populations may include people of color, veterans, disabled individuals, women, low income populations, or individuals re-entering society from the justice system. A number of strategies, if well designed and executed, can positively address barriers to employment entry and advancement.

Measure Formula and Scoring
The score for this measure is computed by calculating the average of the five sub-measures described below: registered apprentice or training program; apprentice utilization; non-apprentice hiring goals; apprentice hiring goals; and utilization of underrepresented business.

a) Registered Apprentice or Training Program

Apprenticeship programs are essential for building workforce skills and capacity. Registered apprenticeship programs are regulated by federal and state governments and are required to meet industry standards for graduating workers who can obtain employment in their field of training. Not all apprenticeship programs are registered, so contractors should provide documentation that they participate in a recognized program.

This sub-measure considers whether the contractor will be a registered apprentice program or training participant. A project earns 100 points if they will be and 0 points are earned if they will not be. The sub-measure is not applied if the investment does not include any construction activity.

Caveats
Evidence to support the claim should be made available.

b) Apprentice Utilization

Apprenticeship training programs typically require a combination of classroom and on-the-job training. Contractors need to hire apprentices so that apprentices receive the experience necessary to graduate and move into full employment. At the same time, apprentices are paid less than the

journeyman wage rate. In order to ensure quality performance and prevent labor abuses, federal and state regulations specify maximum apprentice utilization.

This sub-measure considers whether a binding agreement will be in place to utilize apprentices to the maximum ratios allowed by state or federal regulations. A project earns 100 points if there will be such an agreement and 0 points if there will not be. Legally binding agreements are prioritized in order to foster accountability. The sub-measure is not applied if an investment does not include any construction activity.

Caveats
Evidence to support the claim should be made available.

c) Equity and Opportunity Non-Apprentice Construction Hours

Hiring goals that are well defined and executed can facilitate access to construction trade employment by traditionally disadvantaged and underutilized populations. Hiring goals should be defined with relevant community and agency input in order to ensure that they respond to the unique context of the community and project. Outreach and recruitment efforts should be tailored to effectively reach the target population(s), and progress toward access and advancement goals monitored over time. Collaboration is important for ensuring that goals reflect the needs of the local community and that outreach and recruitment efforts are culturally appropriate and effectively reach the target population(s). Performance monitoring includes tracking baseline information, effort, requests and considerations, and results. Performance monitoring uses only aggregate data and personal information is not released. Community Workforce Agreements (CWAs) and Project Labor Agreements (PLAs) can be effective means for achieving equity and opportunity employment goals.

This sub-measure considers whether agreements are in place to have a minimum percent of non-apprentice construction employment hours performed by traditionally disadvantaged and underutilized populations as defined by appropriate community-based and public organizations (e.g., targeting low income populations, women, people of color, veterans, disabled individuals or formerly incarcerated individuals). A project earns 100, 75, 50, or 0 points depending upon the level of commitment: 100 points for a binding agreement to have a minimum of 30% of *non-apprentice construction employment* hours performed by traditionally disadvantaged and underutilized populations as defined by appropriate community-based and public organizations; 75 points if the binding agreement is for a minimum of 20% of non-apprentice construction employment hours; 50 points if the agreement is non-binding; and 0 points if no agreement will be made. Legally binding agreements are prioritized in order to foster accountability. The sub-measure does not apply if the investment does not include any construction activity.

Caveats
Evidence to support the claim should be made available. Consideration should be given to the representativeness of the stakeholders involved, the quality of the agreement, and the strength of implementation provisions.

d) Equity and Opportunity Construction Apprentice Goals

Commitments to hire apprentices from traditionally disadvantaged and underutilized populations help to facilitate access to construction trade employment. Hiring goals should be defined with

relevant community and agency input in order to ensure they respond to the unique context of the community and project. Collaboration is important for ensuring that goals reflect the needs of the local community and that recruitment efforts are culturally appropriate and effectively reach the target population(s). Performance monitoring includes tracking baseline information, effort, requests and considerations, and results. Performance monitoring uses only aggregate data and personal information is not released. Community Workforce Agreements (CWAs) and Project Labor Agreements (PLAs) can be effective means for achieving equity and opportunity employment goals.

This sub-measure considers whether an agreement will be in place to have a have a minimum percent of construction apprentice hours performed by traditionally disadvantaged and underutilized populations as defined by appropriate community-based and public organizations (e.g., targeting low income populations, women, persons of color, veterans, disabled individuals, youth, or formerly incarcerated individuals). A project earns bonus points depending upon the level of commitment to equity and opportunity apprentice hiring. The points are awarded as a bonus so that projects are not penalized if the pool of available apprentices does not include the target population. Projects earn 100 bonus points for a binding agreement to have a minimum of 30% of *apprentice construction employment* hours performed by traditionally disadvantaged and underutilized populations as defined by appropriate community-based and public organizations; 75 points if the binding agreement is for a minimum of 20% of apprentice construction employment hours; 50 points if the agreement is non-binding; and 0 points if no agreements will be made. Legally binding agreements are prioritized in order to foster accountability. The sub-measure is not applied if the investment does not include any construction activity.

Caveats
Evidence to support the claim should be made available. Consideration should be given to the representativeness of the stakeholders involved, the quality of the agreement, and the strength of implementation provisions.

e) Equity and Opportunity in Business Development

Inclusive strategies that support participation of under-represented businesses in project construction contracts include culturally competent outreach, as well as targeted assistance with barriers to participation (e.g., forms, bonding, insurance). Efforts should be tailored to effectively reach the target population(s), and progress toward access and advancement goals monitored over time. Collaboration is important for ensuring that goals reflect the needs of the local community and that efforts are culturally appropriate and effectively reach the target population(s). Performance monitoring includes tracking baseline information, effort, requests and considerations, and results. Performance monitoring uses only aggregate data and personal information is not released. Community Workforce Agreements (CWAs) and Project Labor Agreements (PLAs) can be effective means for achieving equity and opportunity goals.

This sub-measure considers whether an agreement will be in place to utilize, mentor, partner or otherwise support participation of under-represented businesses in project construction contracts. A project earns 100 points if a binding agreement will be in place, 50 points if a non-binding agreement will be in place, and 0 points if no agreement will be in place. Legally binding agreements are prioritized in order to foster accountability. The sub-measure is not applied if the investment does not include any construction activity.

Caveats
Evidence to support the claim should be made available. Consideration should be given to the representativeness of the stakeholders involved, the quality of the agreement, and the strength of implementation provisions.

Performance Area: Sound Investment

Why Does This Matter?
A sound investment is defined here as one that is fiscally responsible at the project and community level. Conservative estimates and sensitivity analysis (e.g., considering outcomes under various assumptions such as low, medium, and high) can help produce realistic estimates of financial viability. In addition, economic vitality and efficient deployment of capital may be facilitated when investments align with regional economic development goals and strategies, leverage additional resources, and retain dollars in the local economy.

What Do We Want To Know?
- Does the project appear to be financially viable for investors and taxpayers?
- Does the project align with regional economic development goals and strategies?
- Do other investors support the project?
- Is the project likely to retain dollars in the local economy?

What Measures Were Selected to Operationalize This Performance Area?
The Sound Investment performance area measures are:
- Pro Forma Completed
- Fiscal impact Analysis
- Consistency with Regional Economic Development Strategy
- Support for Local Business
- Ratio Private to Public Investment
- Leveraged Investment

The sound investment performance area is calculated by averaging the scores for four measures: pro forma completed, fiscal impact analysis, consistency with regional economic development strategy, and support for local business. Information regarding the amount of leveraged investment and the ratio of public to private investment is displayed, though is not calculated as part of the project score.

1. Pro Forma Completed

This measure considers whether a pro forma has been completed that demonstrates the financial viability of the proposed project. A pro forma provides financial projections for a project's expected revenues and expenses. Assumptions used in creating the projections should be disclosed and conservative estimates used. This important due diligence procedure is designed to assess profitability of the investment, a key component of triple bottom line performance.

Measure Formula and Scoring
A project earns 100 points if a pro forma has been completed by a qualified professional analyst and demonstrates financial viability of the proposed investment. No points are earned if a pro forma by a qualified professional analyst has not been conducted which demonstrates financial viability of the proposed investment.

Caveats
Evidence to support the claim should be made available and consideration given to the quality of the analysis.

2. Fiscal Impact Analysis

Fiscal impact analysis considers budgetary impacts associated with an investment. For example, will the investment lead to increased costs of services and, if so, is there a corollary revenue stream to cover those costs? Effective fiscal impact analyses account for full costs and revenues and clearly identify assumptions regarding impacts, timeframes, and expenses.

Measure Formula and Scoring
This measure applies if the project is considered to be relatively large for the community or region. Relatively large investments may be defined by considering the scale of the project, amount of investment, or other parameter appropriate to the project context. A project earns 100 points if a fiscal impact analysis has been completed and demonstrates net positive impact. No points are earned if a fiscal impact analysis has not been conducted for a relatively large investment or identifies a net negative impact. The score is not applicable (NA) if the project scale does not warrant a fiscal impact analysis or if the analysis identifies a net effect that is neutral.

Caveats
Evidence to support the claim should be made available and consideration given to the quality of the analysis. The quality of fiscal impact analysis can vary and attention should be given to the data used as well as assumptions regarding trends, time periods, and geographic boundaries (see resources below). The analysis should use conservative numbers and account for uncertainty by considering a range of scenarios (e.g., low, medium, high projections).

Consideration should be given as to whether future versions of the tool can link to or interface with leading impact tools.

Alternatives Considered
The option of integrating fiscal impact review into the TBL Tool was considered but determined not to be feasible at this time (e.g., data requirements to accommodate all jurisdictions and project types in the U.S.). A number of fiscal impact tools are available at varying levels of precision and cost. The Federal Reserve Fiscal Impact Tool (FedFit) may be particularly useful for small or resource-constrained communities (http://www.federalreserve.gov/forms/fiscalimpactrequest.aspx; http://www.knowledgeplex.org/download-doc.html?id=188306).

Additional Information
Mary M. Edwards and Jack R. Huddleston. 2010. "Prospects and Perils of Fiscal Impact Analysis" in *Journal of the American Planning Association* 76(1): 25-41.

Dan Gorin. 2005. "The Federal Reserve Fiscal Impact Tool." In *Research Review* 12(2): 66-70. http://www.icsc.org/srch/rsrch/researchquarterly/current/rr2005122/Federal%20Reserve%20Fiscal%20Impact.pdf.

Tim Kelsey. 1998. *Calculating a Cost of Community Services Ration for Your Pennsylvania Community* State College, PA: Penn State College of Agricultural Science and Cooperative Extension, 1998). http://pubs.cas.psu.edu/freepubs/pdfs/ua327.pdf.

Zenia Kotval and John Mullin. 2006. *Working Paper of Fiscal Impact Analysis: Methods, Cases, and Intellectual Debate*. Cambridge, MA: Lincoln Institute of Land Policy. http://www.lincolninst.edu/subcenters/teaching-fiscal-dimensions-of-planning/materials/kotval-mullin-fiscal-impact.pdf.

Jonathan Q. Morgan. 2010. "Analyzing the Benefits and Costs of Economic Development." *Community and Economic Development Bulletin*, *no. 7*. Chapel Hill, NC: UNC School of Government. The University of North Carolina at Chapel Hill. http://www.sog.unc.edu/pubs/electronicversions/pdfs/cedb7.pdf.

3. Consistency with Regional Economic Development Strategy

Although globally connected, economies cohere at a regional scale where businesses access talent, amenities, and infrastructure that span local political boundaries. Quality regional economic development strategies identify regional assets and prioritize investments that position the region for economic strength and resilience —the ability to generate and retain wealth in the community and successfully weather disruptions or changes to the economy. Aligning investment with high quality regional economic development strategies helps to ensure that scarce resources are used effectively and strategically.

Measure Formula and Scoring
This measure assigns 100 points if the investment aligns with and supports the region's economic development strategy. This may be a CEDS (Comprehensive Economic Development Strategy) or appropriate regional comprehensive plan with economic development element. No points are earned if the project does not align with the region's economic development strategy or if alignment has not been verified. If the project is located in an area that does not have a regional economic development strategy this measure is scored as "NA" and the score for the proposed investment is not affected.

Caveats
Evidence to support the claim should be made available including the portion of the economic development strategy that is supported by the proposed investment.

The quality and currency of economic development strategies varies. It is possible that a proposed investment could be an excellent fit for the community and region even though this is not reflected in the relevant economic development strategy. Feedback regarding this possibility should be monitored and potential accommodations explored if appropriate.

Alternatives Considered

A number of factors influence the economy, and there are no "magic formulas" with respect to creation and maintenance of economic strength and resilience. At the same time, there are strategies that in general work together to produce a more robust and resilient economy. These include creating and maintaining basic (export) industries that bring dollars into the economy, fostering sector and firm diversity to enhance cluster strengths and reduce vulnerability associated with dependence on specific companies or industries, building on assets and strengths, and plugging leakages in the local economy (keeping dollars local via import substitution). Current research suggests that clusters – geographic concentrations of interconnected companies, specialized suppliers, service providers, and associated institutions – can be important for producing employment growth, innovation, and high wages. The cluster concept is related to traditional measures of basic and non-basic industries (export and local servicing), however, it considers linkages and interconnections between industries that comprise a cluster rather than simply a sector on its own (i.e., location quotient (LQ) for grouping of sectors versus LQ for a sector).

The option of reviewing a proposed investment's fit with existing or emerging clusters and impact on regional economic diversity (e.g., number of types of industries or distribution of employment across industries) was considered, however, project advisors recommended against using these measures due to concerns regarding appropriate scoring frameworks (e.g., determining what is a good or bad level of diversification), concerns with data, and because the measure considering fit with regional economic development strategy was viewed as sufficiently capturing the intent behind these alternatives (i.e., will the project support economic vitality rather than does the project support diversification or cluster development). Should interest in a measure considering investment support with an existing or emerging cluster remain strong, advisors have recommended an option for the user to identify an appropriate cluster study for the area. Users may wish to explore clusters for their area, and potential fit with the proposed investment, by visiting the U.S. Cluster Mapping website led by the Institute for Strategy and Competitiveness at Harvard Business School and sponsored by a federal grant from the U.S. Department of Commerce, Economic Development Administration: http://clustermapping.us/home/

Additional Information

Joe Cortright. 2006. *Making Sense of Cluster*s: Regional Competitiveness and Economic Development. Washington, DC: The Brookings Institute. http://www.brookings.edu/research/reports/2006/03/cities-cortright.

Indiana Business Research Center. *Unlocking Rural Competitiveness: The Role of Regional Clusters.* http://www.ibrc.indiana.edu/innovation/clusters.html.

Institute for Strategy and Competitiveness, Harvard Business School. *U.S. Cluster Mapping Project*. http://clustermapping.us/index.html.

Regional Technology Strategies, Inc. *Generating Local Wealth, Opportunity, and Sustainability through Rural Clusters*, March 2009. http://rtsinc.org/publications/documents/RuralClusters09.pdf.

Regional Technology Strategies, Inc. *A Compendium of Clusters in Less Populated Places: Circumstances, Interventions, and Outcomes*, March 2009. http://rtsinc.org/publications/documents/compendium_final_forWeb_new.pdf.

4. Support for Local Business

Purchasing goods and services from locally owned and operated businesses can be an effective way to inject dollars into the local economy and thereby help to keep businesses open, people employed, and streetscapes vibrant. It can, however, ignore regional comparative advantages, increase the cost of inputs, lower overall efficiency and reduce aggregate growth at the national or global scale. Determining when to patronize locally owned and operated businesses will depend upon the context. For example, if the local option for a given good or service has significantly higher costs or lower quality, then impacts to competitiveness or satisfaction suggest that the non-local option may be preferable. This measure aims to support local economic vitality by encouraging consideration of local impacts of purchase decisions.

Measure Formula and Scoring
This measure assigns 100 bonus points if there is a program or policy in place to prioritize or encourage the purchase of goods and services from businesses that are owned and operated in the metropolitan area, micropolitan area, or county in which the project is located (i.e., supports retention of dollars in the local economy when appropriate). No bonus points are earned if there is not a program or policy in place.

Caveats
Evidence to support the claim should be made available.

5. Ratio of Private to Public Investment

In many instances, public-private financing partnership is essential to project viability. This is particularly the case when a project serves important public objectives but has low financial returns (e.g., infrastructure, affordable housing), or when there is a higher than average degree of risk or cost (e.g., regeneration area). At the same time, fiscal responsibility and stewardship of public dollars suggests that due diligence be given to ensure that the level of private investment is appropriate to the context.

Measure Formula and Scoring
No points are provided for this measure and the information is not included in the overall project score. While this information may be useful to an investor, it is not empirically tied to the bottom line: there is no definition of a "good" or "bad" mix of public/private investment. Thus, this information is not included in the score. The information provided in the project report includes the amount of private investment, the amount of public investment, and the ratio of the two (i.e., private dollars/public dollars).

Definitions of public investment, private investment, and funding request used in the TBL Tool are as follows:

- Public Investment

Public investment includes local, regional, state, and/or federal contributions to hard and/or soft project costs, excluding tax incentives. If this is an application for public resources, include the requested amount in this figure (e.g., if this request equals $100,000 and $400,000 of other public

funding is being contributed, then the total public investment figure that should be enter in the tool is $500,000). If there is no public investment, enter "0".

If the project funding includes tax credit financing (e.g. New Markets Tax Credit, Historic Tax Credit, Low Income Housing Tax Credit) the amount requested of the funder is included with the total private investment figure. The cost to society of foregone tax revenue is important to consider but is not counted here as a direct expenditure contributing to completion of the project. Similarly, tax reductions (e.g., capping increases in assessed value of property, tax credits) are not included in total project costs because they are not a direct outlay contributing to completion of the project. Tax incentives can significantly impact the triple bottom line and are accounted for in the tool in the fiscal impact measure (positive, neutral, or negative impact), and the accountability measure (agreements in place that link incentives or payments with performance).

- Private Investment

Private investment includes loans, grants, developer contributions, other private equity, and in-kind contributions from non-public sources. If this is an application for private funds, include the requested amount in this figure (e.g., if this request equals $100,000 and $400,000 of other private funding is being contributed, then the total private investment figure that you should enter in the Tool is $500,000). If there is no private investment, enter "0."

If the project funding includes tax credit financing (e.g. New Markets Tax Credit, Historic Tax Credit, Low Income Housing Tax Credit) the dollar amount of the funding request should be included here as part of the private investment share of total project costs. For example, if the project will receive $200,000 of tax credit financing from a Certified Development Entity (CDE) the $200,000 is included here.

- Funding Request

Enter the amount of investment (e.g., loan, equity, grant) that is being requested if a request is being made. If no funding is being requested (e.g., review or approval by a planning agency), enter "0". If the request is for tax credit financing (e.g., New Markets Tax Credit, Historic Tax Credit, Low Income Housing Tax Credit), the figure entered here is the loan/equity investment (e.g., gap financing) being requested of the funder. For example, a developer with a $10 million project that has secured $2 million of private equity, $5 million of commercial debt, and $1.5 million in TIF funding ($8.5 million of $10 million), might be requesting $1.5 million of tax credit financing to fill his or her gap. The requested tax credit financing is also included with the total amount of private investment listed above.

Caveats

Evidence to support claims should be made available.

6. Leveraged Investment

The presence of additional project funding is often requested by potential investors in order to assess project support and/or minimize risk.

Measure Formula and Scoring
No points are provided for this measure and the information is not included in the overall project score. While this information may be useful to an investor, it is not empirically tied to the bottom line: there is no definition of "good" or "bad" amounts of leverage. Thus, this information is provided but is not included in the score. The information provided includes the funding request, the total project cost, and the ratio between the two (i.e., 1: (Total project cost – Funding request)/Funding request).

Total project costs include hard and soft project costs of development including land, infrastructure directly contributing to the project, and land remediation or preparation. Land value is the purchase price or, if donated, the assessed value of land donated with zero as the minimum (i.e., no negative value if the site is a brownfield). Tax incentives that accrue as potential reductions in future government revenues rather than direct capital outlays are not included in total direct project costs. This important TBL element is addressed in the TBL Tool in the accountability and fiscal impact measures. Also, the TBL Tool can be used to assess the TBL of a proposed tax incentive investment, in which case the estimated contribution would appear as the funding request.

Caveats
Evidence to support claims should be made available.

Goal: Natural Resource Stewardship

Natural resources provide essential inputs to economic activity, contribute to quality of life and place-based economic development, and sustain life. Business leaders are increasingly recognizing that natural resources must be appropriately valued and maintained if business profitability and viability are to endure.[6]

In the TBL Tool, the natural resource stewardship goal is comprised of three performance areas: industry eco-efficiency, green design and construction, and green operations. An investment's natural resource stewardship score is calculated by averaging its scores for these three performance areas, as described below.

The following information details why each performance area is important, the measures selected to operationalize the performance area, the measure formulas and scoring, and any data limits or caveats.

[6] For example, the case was made for such an approach in *The New Business Imperative: Valuing Natural Capital* – a report produced by an invitation-only membership organization of senior level executives representing corporations such as Dow Chemical, Disneyland, Marriott, Kimberly-Clark, General Motors, and Unilever. http://www.corporateecoforum.com/valuingnaturalcapital/.

Performance Area: Industry Eco-Efficiency

Why Does This Matter?
Efficient use of scarce resources (factors of production) can contribute positively to the bottom line, while maintaining resource availability and quality for the future. This performance area considers the efficiency with which the project industry or industries employ natural resources to create or retain jobs. For example, if one investment creates 100 jobs and produces 10 tons of pollution in the process and another investment creates 100 jobs while emitting fewer tons of the same pollutants, all other things being equal, the second investment is a more eco-efficient generator of jobs.

What Do We Want To Know?
- Are natural resources being used efficiently to create and retain jobs?

What Measures Were Selected to Operationalize This Performance Area?
Resource use and environmental emissions per job created at the sector level are considered. Three measures consider the amount of resource use per job (i.e., water, land, fossil fuel use) and six consider the amount of environmental pollution created per job (i.e., air pollution, ozone depletion, greenhouse gases, ecotoxicity, eutrophication).

Measure Formula and Scoring[7]
This performance area score is calculated by averaging the project's scores on nine eco-efficiency measures: three that consider the amount of resource use per job (i.e., water, land, fossil fuel use) and six that consider the amount of environmental pollution created per job (i.e., air pollution, ozone depletion, greenhouse gases, ecotoxicity, eutrophication).

The environmental impact per job created and retained is determined based on the industry or industries in which the jobs are located. The environmental impact associated with a sector is calculated taking a "cradle to gate" lifecycle approach which includes all of the impacts from upstream supply-chain processes that are inputs to the sector through to the point of sales to end-consumers (i.e., household consumers, business consumers, government consumers and exports). The impact calculations are based on environmental life cycle assessment (LCA) – a technique that accounts for the environmental impacts associated with a product (goods and services). Environmental impacts (stressors) include the natural resources consumed and pollutants emitted across the life of the product – from acquisition of raw materials, to manufacturing, use, and waste management (disposal, reuse, or recycling). "Cradle to grave" analyses consider impacts through product end of life (waste management), while "cradle to gate" analyses consider impacts through factory gate (manufacturing). Social life cycle assessment and life cycle costing are important emerging fields within LCA, however, our attention here is restricted to environmental impacts.

Scoring is determined by whether a project's industry produces jobs with relatively more or less efficient use of resources. Because no standards exist for "environmental impact per job created" (e.g., no amount of water per job that is designated as good or bad), the scoring is based on best and worst performers overall (e.g., relatively better or worse than other industries on a normalized 0 to 100 scale). Industries or sectors are defined using the North American Industry Classification System

[7] Portions of this text were contributed by Dr. Sangwon Suh, University of California at Santa Barbara and Industrial Ecology Research Service, LLC.

(NAICS) (http://www.census.gov/eos/www/naics/) – the standard for categorizing businesses by sector or industry. The NAICS level requested in the TBL Tool depends upon the amount of variation within an industry; more detailed information is requested only where differences among the types of companies within a given NAICS level are significant. For most industries, the user is asked to identify the three-digit level NAICS (retail and wholesale stop at the two-digit level, while a few others go one or two levels deeper). The TBL Tool user identifies the industry codes (NAICS) using a pull-down menu on the website. When a project includes multiple industries or NAICS, a weighted average is used. For example, if the project includes three NAICS that scored 50, 60, and 80, and the project's relative portion of jobs for each of those NAICS is 20%, 30%, and 50%, then the score would be computed as (.20*50) + (.30*60) + (.50*80) = 68.

There are two main approaches to environmental LCA: "bottom up" LCA is based on site-specific information gathered across the life-cycle of a product, and "top-down" LCA is based on input-output tables that describe flows of goods and services between industries (sectors). The bottom-up (process-based) approach allows for precision and detail, but requires significant resources and can suffer from "truncation errors" associated with decisions regarding how far up the supply-chain to set boundaries for data inclusion. The top-down approach incorporates information about environmental stressors into industry input-output (I-O) tables, thus enabling analysis of environmental impacts at the sector level. Process-based LCA can misrepresent impacts by excluding important upstream processes, while I-O LCA can misrepresent impacts due to the coarseness of the data (i.e., if averages mask significant variation in a sector). However, while I-O LCA may not be suited to detailed comparisons at the product design level, it is generally suited to macro level policy decisions such as consideration of overall impacts of a system or comparing different options. By providing an indication of the relative environmental impact of various industries, IO-LCA provides valuable information to investors seeking to produce jobs with the least environmental impact.

The scores for this performance area are based on the Comprehensive Environmental Database Archive (CEDA) – an internationally recognized model that specifies environmental impact per dollar of final demand for each input-output (IO) sector. The Comprehensive Environmental Data Archive (CEDA) is an I-O LCA database that quantifies natural resource use and environmental emissions associated with a product's life cycle. CEDA has been used by federal agencies such as the U.S. Department of Commerce and U.S. Environmental Protection Agency (EPA) and was determined to be an appropriate input-output life cycle analysis database for this application given its prior use by federal agencies and reputation for robustness and accuracy.

The current version of the TBL Tool was built with the CEDA 4 database, which uses the most detailed U.S. input-output table compiled by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce (DOC) along with various environmental statistics and models. The results represent the national average cradle-to-gate environmental impact of each product distinguished in the input-output table. Cradle-to-gate is used synonymously with total (direct and indirect) environmental impact and includes impacts from all upstream supply-chain processes to the point of sales to end-consumers, i.e., household consumers, government consumers and exports. References to detailed information about CEDA data and methods can be found at the end of this section.

CEDA 4 evaluates each I-O sector on thirteen different environmental impact categories following mostly the Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI) Method developed and used by the U.S. EPA. The impact categories reflect best available science and societal consensus. Impact categories in Life Cycle Impact Assessment (LCIA) are

developed through a step called "characterization," which uses scientific findings to quantify the environmental impacts of various stressors to each environmental impact category, and to aggregate these into an equivalency of a single stressor, called a category indicator, for each impact category. The CEDA 4 impact categories and category indicators used for this performance area are presented below, along with a description of the potential environmental harm. References regarding the TRACI method can be found at the end of this section.

The input-output tables produced by the U.S. Department of Commerce Bureau of Economic Analysis (BEA) account for the flow of goods and services from industry to industry and to final users. The BEA I-O tables use an industry and product classification system derived from the North American Industry Classification System (NAICS). CEDA specifies environmental impact per dollar value of output[8] for each input-output (I-O) sector (see Suh 2005 for details on how this is calculated). This includes both direct and lifecycle environmental impact information by IO sector. Direct impacts are those produced by the sector itself whereas lifecycle impacts include impacts from across the product life cycle. As noted above, CEDA 4 uses the TRACI method to define environmental impact per dollar value of output.

Environmental impact per dollar of output by I-O sector was converted to environmental impact per lifecycle job for each sector in order to meet the needs of the TBL Tool. Environmental impact per lifecycle job was computed by dividing total impact per I-O sector by the sector's total lifecycle employment. Lifecycle jobs includes all of the direct jobs associated with upstream supply-chain processes that are inputs to the sector through to the point of sale to end-consumers (i.e., household consumers, business consumers, government consumers, and exports). Data for lifecycle employment per I-O sector was derived from the November 2004 Bureau of Labor Statistics (BLS) Occupational Employment Statistics (OES), listed by 5-digit, 4-digit, 3-digit, and 2-digit North American Industry Classification System (NAICS) codes (http://www.bls.gov/oes/oes_dl.htm). Because the BLS employment statistics for agricultural sectors was highly aggregated, data from the 2002 U.S. Department of Agriculture (USDA) Census was used for sectors that had available USDA data (http://www.agcensus.usda.gov/Publications/2002/USVolume104.pdf). BLS and USDA do not provide employment data for every IO sector. In these instances, direct employment was estimated by dividing the total compensation for that industry (which is available for every IO sector) by the average annual wage of a more aggregated industry category (available from BLS). For example, if there was no employment data for industry category 212210 (Iron Ore Mining), but there was for 212200 (Metal Ore Mining), then employment was estimated as the total worker compensation for Iron Ore Mining divided by the average annual wage for Metal Ore Mining. If Metal Ore Mining had no employment data either, the average annual wage for industry category 212000 (Mining, Except Oil and Gas) would be used, and so forth. Several of the I-O sector codes are a combination of more than one NAICS code. If employment data was available for each component NAICS code, then that employment data was summed to give the total direct employment for the IO sector. If employment data was missing for any of the component NAICS codes, then employment was estimated using the method described above.

The eco-efficiency measures helps identify whether the proposed project belongs to an industry that has greater or lesser environmental impact per lifecycle job relative to other industries. This information can be useful for identifying potential issues and engaging with developers to design the

[8] Dollar value of output is defined as producers price = consumers price minus transportation margin and wholesale and retail margin.

project for best possible outcomes. At the same time, a project may belong to an industry that is low performing relative to other industries but is expected to have strong environmental performance relative to other projects in the same industry (e.g., the project belongs to a high water use industry but will have innovative water reduction and recycling features). Projects with strong performance relative to their industry will be able to earn points for their leadership in the green operations performance area. The nine measures for the eco-efficiency performance area are displayed in the table below, along with their units of measurement and potential impacts.

Measure: Impact Category*	Unit	Why This Measure is a Concern
1. Energy	Thousand BTU	Potential to lead to reduced availability of low cost energy/fossil fuel supplies.
2. Water**	liter	Proxy indicator expressing potential for water shortages leading to deleterious agricultural, human, plant, and animal effects.
3. Solid Waste**	kg	Potential management issue with environmental and financial consequences.
4. Ozone Depletion	kg CFC-11-Eq	Potential to destroy ozone based on chemical's reactivity and lifetime. Possible consequences include skin cancer, cataracts, material damage, immune system suppression, crop damage, other plant and animal effects.
5. Acidification	moles of H+-Eq	Potential to cause wet or dry acid deposition. Possible consequences include plant, animal, and ecosystem effects, damage to buildings.
6. Photochemical Smog	kg NO_x-Eq	Potential to cause photochemical smog. Possible consequences include human mortality, asthma effects, and plant effects.
7. Eutrophication	kg N equivalent	Potential to cause eutrophication (water body receives excessive nutrients that can lead to depletion of oxygen in the water). Possible consequences include plant, animal and ecosystem effects, odors and recreational effects, human health impacts.
8. Greenhouse Gases	kg CO_2-Eq	Potential global warming based on chemical's radiative forcing and lifetime. Possible consequences include malaria, coastal area damage, agricultural effects, forest damage, plant and animal effects.
9. Ecotoxicity	kg 2,4-D-Eq	Potential of a chemical released into an evaluative environment to cause ecological harm. Possible consequences include plant, animal, and ecosystem effects.

Adapted from: Jane C. Bare, Gregory A. Norris, David W. Pennington, and Thomas McKone. 2003. "TRACI: The Tool for the Reduction and assessment of Chemical and other Environmental Impacts." *Journal of Industrial Ecology* 6(3-4): 49-78.
* Three human health measures (impact categories) are listed in the Environmental Health Performance Area of the Community Well-Being Goal.
** Impact categories that are not included in the original TRACI method but that are included in CEDA.

Caveats
Estimated impacts are limited to the data collected. Thus, while the data provide a good indication of relative environmental impact of various sectors, there is no consideration of impacts for which data is not collected (despite their potential significance). Also pertaining to significance of impact, while the results provide a sense of how sectors perform relative to each other, they do not provide a sense of performance with respect to a health or safety threshold (e.g., no thresholds are set for kilograms per lifecycle job created so the data cannot be used for scoring based on a threshold

beyond which a project is clearly problematic). Neither do they consider background conditions or simultaneous impacts and interactions. IO-LCA provides valuable information regarding environmental impacts but is not a substitute for risk assessment.

Because the environmental data and USDA employment data was from 2002 and the BLS employment data was from 2004, sectors whose environmental impacts or employment have changed dramatically in the last decade may not be as accurately represented by the data. For industries that have gone through rapid changes in terms of their production process, material intensity of production, environmental emission profiles and water and land use patterns since 2002, the result may not accurate reflect the current conditions. The Bureau of Economic Analysis produces Benchmark survey input-output tables once every five years (http://www.bea.gov/). The tables for the 2002 base year were the most recent data available at the time the TBL Tool was constructed. If an industry's position relative to others has changed significantly, the significantly this could impact scoring. Future versions of the TBL Tool should consider whether an investment should be made in updating the CEDA scores when more current information is available.

The environmental impacts are modeled based on U.S. average condition and, thus, provide a coarse estimate of industry impacts. Projects may be misrepresented by the CEDA results if their activities deviate substantially from industry averages, regional conditions are much different from the national average, or industry environmental impact or employment have changed dramatically relative to other industries since the CEDA 4 data was compiled. Consequently, the data produced for these measures should be viewed as rough estimates that provide guidance on the likely impact of a project relative to projects in other sectors. Where appropriate, more detailed project specific environmental assessments should be conducted.

Alternatives Considered
Environmental Input Output Lifecycle Analysis is an efficient method for estimating the direct and total environmental impacts associated with economic development without conducting detailed project specific environmental studies. CEDA is not the only database capable of supporting this approach, but it was deemed to be the most complete and accessible for this project.

Additional Information
Further reading regarding life cycle assessment, TRACI, and CEDA includes:

Jane C. Bare, Gregory A. Norris, David W. Pennington, and Thomas McKone. 2003. "TRACI: The Tool for the Reduction and Assessment of Chemical and other Environmental Impacts." *Journal of Industrial Ecology* 6(3-4): 49-78.

Goran Finnveden, Michael Z. Hauschild, Tomas Ekvall, Jeroen Guinée, Reinout Heijungs, Stefanie Hellweg, Annette Koehler, David Pennington, and Sangwon Suh. 2009. "Recent Developments in Life Cycle Assessment." *Journal of Environmental Management* 91(1): 1-21.

Jeroen B. Guinée, ed. 2002. *Handbook on Life Cycle Assessment: Operational Guide to the ISO Standards*. Dordrecht, The Netherlands: Kluwer Academic Publisher.

Lester B. Lave, Elisa Cobras–Flores, Chris T. Hendrickson, and Francis C. McMichael. 1995. "Using input–output analysis to estimate economy wide discharges." *Environmental Science and Technology* 29: 420–426.

Gerald Rebitzer, Tomas Ekvall, Rolf Frischknecht, David Hunkeler, Gregory Norris, Torbjorn Rydberg, W.-P. Schmidt, Sangwon Suh, Bo P. Weidema, and David W. Penington. 2004. "Life Cycle Assessment: Goal and Scope Definition, Inventory Analysis and Applications (Part 1)." *Environment International* 30 (5): 701 – 721.

Sangwon Suh. 2010. *CEDA 4.0 User's Guide*. IERS, LLC. http://www.pre-sustainability.com/download/manuals/CEDAUsersGuide.pdf.

Sangwon Suh. 2010. " Comprehensive Environmental Data Archive (CEDA)." In *The Sustainability Practitioner's Guide to Input-Output Analysis*, edited by Joy Murray and Richard Wood. Champaign, IL: Common Ground Publishing.

Sangwon Suh, Editor. 2009. *Handbook of Input-Output Economics in Industrial Ecology*. NY, NY: Springer.

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Sangwon Suh, Manfred Lenzen, Graham J. Treloar, Hiroki Hondo, Arpad Horvath, Gjalt Huppes, Olivier Jolliet, Uwe Klann, Wolfram Krewitt, Yuichi Moriguchi, Jesper Munksgaard, and Gregory Norris. 2004. "System Boundary Selection for Life Cycle Inventories Using Hybrid Approaches." *Environmental Science and Technology* 38 (3): 657 – 664.

Yi Zhang, Shweta Singh, and Bhavik R. Bakshi. 2010. "Accounting for Ecosystem Services in Life Cycle Assessment, Part I: A Critical Review." *Environmental Science and Technology* 44(7): 2232-2242.

Performance Area: Green Design and Construction

Why Does This Matter?
Buildings and infrastructure that are designed for efficiency and environmental quality can provide cost savings (e.g., lower energy and water consumption), add value (e.g., higher worker productivity and satisfaction, higher rents, or faster sales), and contribute to ecosystem health.

What Do We Want To Know?
- Does the project utilize best practices for green building/infrastructure construction, including adaptive reuse where appropriate?
- Does the site design follow best practices for low impact/sustainable site design?
- Does the project remediate, restore, or conserve natural resources?
- Are sensitive natural resource areas avoided?

What Measures Were Selected to Operationalize This Performance Area?
The Green Design and Construction performance area measures are:
- Green building and construction
- Adaptive reuse

- Sustainable site design
- Remediation, restoration, or conservation of natural resources
- Avoidance of sensitive natural resource areas.

The performance area score is calculated by averaging the project's scores for the five measures. As described below, the green design and construction performance area is calculated by averaging the project's scores for five measures: green building certification; adaptive reuse; sustainable site design; remediation, restoration, or conservation of natural resources; and avoidance of sensitive natural resource areas.

1. Green Building and Construction

Green building and construction practices can positively impact the triple bottom line through energy cost savings, increased building value, higher occupant satisfaction and productivity, and/or lower impacts to human and natural resource health.

Measure Formula and Scoring
This measure considers whether green building practices will be applied in new construction as well as in remodels or upgrades. A project earns 100, 75, 50, or 0 points depending upon the level of commitment to green building and construction. Maximum points are provided if the project will receive third party certification by a recognized international, national, or regional program for green construction (e.g., LEED, Living Building Challenge, Green Globes, EarthCraft, Earth Advantage, GreenLITES, or an official government program). Third party certification is valuable because it provides a common standard for accepting and verifying claims. At the same time, buildings and infrastructure can be green without certification. Seventy-five points are earned if the applicant can demonstrate that plans are in place to build to third party standards although without certification. Fifty points are provided if the project will employ some green building features such as water or energy conservation, but will not design and build to a recognized third party standard. No points are earned if there are not documented commitments to green building.

Some certification programs address green operation and maintenance along with green building or green site design. If the project will be certified by a program that addresses both or all three (green construction, sustainable site design, green operations and maintenance), the applicant simply answers appropriate to specific measure (i.e., not expected to secure three different certifications).

Caveats
Evidence to support claims should be made available.

Buildings and infrastructure can be green without certification or, conversely, can have certification without outstanding performance. While acknowledging these challenges, certification provides a common standard for accepting and verifying claims that is more helpful than having no standard at all. The scoring framework provides a mechanism to provide points for projects that employ green practices without certification but assigns the highest score when third party certification is present.

2. Adaptive Reuse

Reuse of existing facilities can provide a number of environmental benefits depending upon the type of project and materials used. Environmental benefits associated with rebuilding rather than razing facilities include savings in energy, material, land conversion, and carbon emissions.

Measure Formula and Scoring
This measure does not affect the project score when facility reuse is not an applicable or appropriate option. Where it does apply, this measure assigns a bonus score of 100 points to projects that make use of an existing structure.

Caveats
Evidence to support claims should be made available.

3. Sustainable Site Design

Site design exerts a powerful influence over economic, environmental, and social impacts of a project. These include, for example, groundwater recharge, flood control, habitat conservation, increased recreation opportunities, and reduced maintenance costs. Sustainable site design works with nature to ensure that beauty and accessibility are maximized, while long term costs associated with site development are minimized.

Measure Formula and Scoring
This measure considers whether the project aligns with recognized sustainable site design standards, certifications, or best practices. A project earns 100, 75, 50, or 0 points depending upon the level of commitment to sustainable site design. Maximum points are earned if the project will receive third party certification by a recognized international, national, or regional program (e.g., Sustainable Sites, LEED-ND, One Planet Communities). Third party certification is valuable because it provides a common standard for accepting and verifying claims. Seventy-five points are earned if the applicant can demonstrate that plans are in place to build to best practices or third party standards although without certification. Fifty points are provided if the project will incorporate low impact or sustainable site design features but will not be designed and built to the standards of a recognized international, national, or regional program.

If the project will receive certification by a program that addresses both site design and construction, simply answer the questions appropriate to the respective measure (i.e., a project is not expected to secure separate or redundant certifications).

Some certification programs address green operation and maintenance along with green building or green site design. If the project will be certified by a program that addresses both or all three (green construction, sustainable site design, green operations and maintenance), the applicant simply answers appropriate to specific measure (i.e., not expected to secure three different certifications).

Caveats
Evidence to support claims should be made available.

Site design can be green or sustainable without certification or, conversely, can have certification without outstanding performance. While acknowledging these challenges, certification provides a common standard for accepting and verifying claims that is more helpful than having no standard at all. The scoring framework provides a mechanism to provide points for projects that employ sustainable site design without certification but assigns the highest score when third party certification is present.

4. Remediation, Restoratation, or Conservation

The U.S. EPA estimates that there are more than 450,000 brownfields (abandoned, idled, or under-utilized industrial or commercial facilities) in American communities. Remediation of abandoned or contaminated sites can increase property values and tax revenues while reducing health costs. Restoration or conservation of natural resources (e.g., wetlands, forestlands, rivers, or farmlands) can deliver valuable ecosystem services such as flood control, wildlife habitat, and scenic amenities.

Measure Formula and Scoring
This measure provides 100 bonus points to projects that remediate, restore, or conserve resources. The site may or may not be classified as a brownfield, and restoration and remediation activities are defined broadly including farmland for food production, reforestation and afforestation, and de-paving. Projects that do not include remediation, restoration, or conservation are not penalized, as this is a bonus measure. The number of acres (rounded to the nearest ¼ acre) is provided as an FYI and does not affect scoring.

This measure addresses improvement of existing conditions, while the sensitive natural resource measure considers avoidance and mitigation of project impacts.

Caveats
Evidence to support claims should be made available.

Alternatives Considered
Scoring does not consider the order of magnitude of the remediation or restoration. There is no appropriate standard for a "good" or "bad" amount of restoration in total acres (e.g., 10), relative site portions (e.g., 10%), or acres per job created (e.g., .10 acres per job). A site may be small and/or may have no need or opportunity for remediation or restoration. Thus, this measure simply considers whether remediation or restoration occurs and, if so, provides a bonus point for the contribution.

5. Avoidance of Sensitive Natural Resources

Natural resources provide a variety of functions that have significant economic value. Referred to as ecosystem services, these functions include provisioning (resources are provided), regulation (resources provide safety or balance such as flood control or oxygen levels), and cultural (resources provide aesthetic, historic, and other cultural benefits). Protection of sensitive natural resources is important for ensuring that ecosystem services remain functional, that mitigation and repair costs associated with disrupted environmental systems are minimized, and that resource-based economies remain viable.

Measure Formula and Scoring

This measure considers eight sensitive natural resource areas: flood zones, critical habitat, steep slopes, wetlands, water bodies, protected areas, prime farmland, and forestland. Based on the project location provided, the TBL Tool calculates whether the proposed project area contains any of the eight sensitive natural resources or their buffer. The tool draws on national data sets that meet federal mapping standards but may have data gaps or may not align with the identified project boundaries at the local scale. To ensure accuracy of project scoring, users are asked to confirm presence or absence of sensitive natural resource areas and to identify whether avoidance or mitigation measures will be in place if the project contains a sensitive natural resource or its buffer.

Each sensitive resource is scored separately. Maximum points (100) for each sub-measure are earned if the project does not include the sensitive natural resource area or its buffer, or if full avoidance or mitigation will be achieved. The sub-measure score is 75 if nearly full avoidance or mitigation will be achieved, 50 if partial avoidance or mitigation will be achieved, and 0 if measures will not be in place to avoid, minimize, rectify, reduce or compensate for impact. The score for the sensitive natural resource measure is calculated by taking the average of the eight sensitive resource sub-measure scores.

This measure considers avoidance and mitigation of project impacts to sensitive natural resources. Improvement of existing conditions through restoration, remediation, or conservation of natural resource areas is addressed in a separate measure.

The sensitive natural resource area data and definitions are detailed below. Buffers were added where appropriate in order to provide a margin for inaccuracies in the mapping (e.g., precision of data or user defined boundaries) and to help protect sensitive lands from "edge effects" where noise, pollution or other pressures penetrate from the development into the core of the protected area. Data sets, buffers, and known data limitations are defined as follows:

- Flood Zone – Flood zones are geographic areas that the Federal Emergency Management Agency (FEMA) has defined according to varying levels of flood risk (http://www.msc.fema.gov/webapp/wcs/stores/servlet/info?storeId=10001&catalogId=10001&langId=-1&content=floodZones&title=FEMA%20Flood%20Zone%20Designations). High Risk areas (Zones A, V) are defined for the TBL Tool (100 year flood zones). The TBL Tool uses digitized FEMA designated flood zones; however, these maps do not currently have full coverage.

- Critical Habitat – The TBL Tool identifies critical habitat areas determined by the U.S. Fish and Wildlife Service to be essential to the conservation of threatened or endangered species under the U.S. Endangered Species Act.

  Users may be interested in the Information, Planning, and Conservation (IPaC) system developed by the U.S. Fish and Wildlife Service in partnership with Department of Homeland Security, U.S. Geological Survey (USGS), and Department of Transportation (DOT) http://ecos.fws.gov/ipac/. IPaC identifies areas where there are threatened or endangered species of concern including species that do have designated critical habitat. IPac was not available for integration into the TBL Tool at the time of build-out.

- Wetlands –The National Wetlands Inventory published by the U.S. Fish and Wildlife Service is used to identify wetlands including transitional areas between terrestrial and aquatic

systems where the water table is usually at or near the surface or the land is covered by shallow water. The wetlands dataset does not cover *Wisconsin*. The wetlands buffer is set at 300 feet. Scientific studies show that a 300' buffer is commonly sufficient to protect water quality and wildlife functions, though many ordinances require less and some scientific studies suggest more (up to 5,000' feet, depending on the species). Several ordinances set 500' as a distance for greater regulatory review but may only require non-disturbance nearer the wetland and restricted development up to 500' or more.

Additional Information

Birgita Hansen, Paul Reich, P. Sam Lake and Tim Cavagnaro. April 2010. *Minimum Width Requirements for Riparian Zones To Protect Flowing Waters and to Conserve Biodiversity: A Review and Recommendations.* Melbourne, Victoria: School of Biological Sciences, Monash University. http://www.ccmaknowledgebase.vic.gov.au/resources/RiparianBuffers_Report_Hansenetal2010.pdf.

Environmental Law Institute. March 2008. *Planners Guide to Wetland Buffers*. www.elistore.org/Data/products/d18_01.pdf.

Andy Ward, Jessica L. D'Ambrosio, Jonathan D. Witter, Anand D. Jayakaran, and Dan Mecklenburg. 2008. *Floodplains and Streamway Setbacks.* Ohio State University. ohioline.osu.edu/aex-fact/pdf/AEX44502FloodplainsandStreamwaySetbacks.pdf.

- Water Bodies – The U.S. Geological Survey (USGS) National Hydrologic Database is used to identify standing and flowing water bodies including stream/river, lake/pond, swamp/marsh, reservoir, playa, estuary, and ice mass. The water bodies buffer is set at 300 feet. Scientific studies show that a 300' buffer is commonly sufficient to protect water quality and wildlife functions, though many ordinances require less and some scientific studies suggest more (up to 5000' feet, depending on the species). Several ordinances set 500' as a distance for greater regulatory review but may only require non-disturbance nearer the water body and restricted development up to 500' or more.

  Additional Information

  Birgita Hansen, Paul Reich, P. Sam Lake and Tim Cavagnaro. April 2010. *Minimum Width Requirements for Riparian Zones To Protect Flowing Waters and to Conserve Biodiversity: A Review and Recommendations.* Melbourne, Victoria: School of Biological Sciences, Monash University. http://www.ccmaknowledgebase.vic.gov.au/resources/RiparianBuffers_Report_Hansenetal2010.pdf.

  Environmental Law Institute. March 2008. *Planners Guide to Wetland Buffers*. www.elistore.org/Data/products/d18_01.pdf.

  Andy Ward, Jessica L. D'Ambrosio, Jonathan D. Witter, Anand D. Jayakaran, and Dan Mecklenburg. 2008. *Floodplains and Streamway Setbacks.* Ohio State University. ohioline.osu.edu/aex-fact/pdf/AEX44502FloodplainsandStreamwaySetbacks.pdf.

- Prime Farmland – The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Soil Survey Geographic (SSURGO) Database is used to identify prime farmland – areas that have the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that are available for these uses. The prime farmland buffer is 150 feet. Buffers are intended to separate farmland from urban uses in order to reduce the conflicts between the uses, protect urban property values, and sustain agriculture. Conflicts can arise from dust, noise, chemical use, odors and other factors associated with farm operations. The prime farmland measure is based on soil quality and may not reflect whether the area is built up and, thus, may be appropriate for development at this time. The measure scoring provides an option to note this condition.

  Additional Information
  Elisa Paster. 2004. "Preservation of Agricultural Lands Through Land Use Planning Tools and Techniques." *Natural Resources Journal* 44: 283.

  Alvin D. Sokolow. 2004. *Optional Policies and Tools for Farmland and Open Space Protection in California*. Davis, CA: University of California Cooperative Extension. http://www.des.ucdavis.edu/faculty/handy/ESP171/POLICIES.pdf

  Alvin D. Sokolow. 2003. "California's Edge Problem: Urban Impacts on Agriculture." In *California Agriculture: Dimensions and Issues*, edited by Jerome Siebert, 289-304. Berkeley, CA: Giannini Foundation of Agricultural Economics, UC Berkeley. http://giannini.ucop.edu/CalAgBook/Chap12.pdf

- Forestland – The TBL Tool uses the U.S. Geologic Society (USGS) National Land Cover Database (NLCD) to identify forestland. The NLCD serves as the definitive Landsat-based, 30-meter resolution, land cover database for the Nation. The 2006 forestland data set does not cover Alaska or Hawaii. The next version of NLCD, entitled NLCD 2011, is currently in production and was scheduled for public release in December 2013 (http://pubs.usgs.gov/fs/2012/3020/). Updated information is recommended for future versions of the tool.

  The forestland buffer is 150 feet and is intended to separate protect conservation and/or forest operations (silviculture) from urban uses in order to reduce the conflicts between the uses, protect urban property values, and sustain forest industries. The forestland data may not reflect whether the area is built up and, thus, may be appropriate for development at this time. The measure scoring provides an option to note this condition.

- Protected Areas – The U.S. Geological Survey (USGS) Gap Analysis Program (GAP) Protected Areas Database (PAD-US) includes national parks and forests, public lands generally, wildlife preserves, state and local parks and reserves, lands held by non-profit organizations and many other areas. In the PAD-US, protected areas are lands held in fee ownership for permanent or very long term open space uses and include public land ownership, management and conservation lands nationally, and voluntarily provided privately protected areas.

The protected area buffer is ¼ mile. Conservation biologists recommend that core protected areas be surrounded with buffer zones in which human activities that are compatible with conservation may be allowed (e.g. education and recreation). Beyond that an additional transition zone is recommended with farms and settlements designed to be compatible with the healthy functioning of the conservation area. The width required depends on the impacts being mitigated. These can include reducing poaching/collecting, noise and visual impacts, natural disturbances, and invasive/predatory species. Unfortunately, clear standards for these buffers have not emerged. One example in practice comes from Pima County where a 1 mile buffer around the Saguaro National Park and other protected areas was established to ensure that land developments protects habitat outside the protected areas that may be important to protected area residents and is designed to be visually compatible with recreational uses inside the protected zone.

Additional Information

Ruth DeFries and Andrew Hansen. "Ecological Mechanisms Linking Protected Areas to Surrounding Lands." *Ecological Applications* 17(4): 974-988.

Diego Martino. 2001. "Buffer Zones Around Protected Areas: A Brief Literature Review." *Electronic Green Journal* 1(15): http://escholarship.org/uc/item/02n4v17n

Craig Shafer. 1999. "U.S. National Park Buffer Zones: Historic, Scientific, Social, and Legal Aspects." *Environmental Management* 23(1): 67-73.

Pima County Buffer Overlay Ordinance.
http://landuse.law.pace.edu/landuse/documents/laws/reg9/PimaCoAZBufOverlay.doc

- Steep Slopes – The TBL Tool uses the U.S. Soil Survey Geographic (SSURGO) Database, built by U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) from the National Cooperative Soil Survey, to identify whether the proposed project is in or near a map unit (i.e., an area or polygon) in which some or all of the land is sloped 25% or greater. Map units vary in size and some are rather large; thus, a project that does not include a steep slope or its buffer may be located within a mapping unit that does and, therefore, be identified as including a steep slope or its buffer. Recall that the scoring mechanism allows the user to note whether the map is incorrect and/or whether avoidance or mitigation plans will be in place.

  The steep slope buffer is set at 65 feet. Much of the scientific literature that discusses mitigation techniques for landslide hazard areas recommends setbacks or buffers from the toe and top of the hazard area. Although there is no empirical evidence to support recommendations for specific or standardized setback requirements, many local ordinances recommend a 50' buffer plus an additional 15' building setback, subject to specialized geotechnical study, in order to minimize the risk of damage resulting from land sliding and erosion of the steep slope caused by adjacent development. Regulation of development on steep slopes may address such concerns as human safety, natural resource protection, or scenic quality. Slopes between 15% and 25% are often regulated but without prohibition (i.e., caution must be exercised but they are buildable).

Additional Information

City of Lake Forest Park, WA. June 2011. "Steep Slope Hazard Areas." http://www.cityoflfp.com/DocumentView.aspx?DID=157.

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Robert Olshansky. 1996. *Planning for Hillside Development, Planning Advisory Service Report No. 466*. Chicago, IL: American Planning Association.

Robert L. Schuster and Lynn M. Highland. 2007. "The Third Hans Cloos Lecture. Urban Landslides: Socioeconomic Impacts and Overview of Mitigative Strategies." *Bulletin of Engineering Geology and the Environment* 66:1-27.

Thurston County, WA. July 2005. "Best Available Science/Guidance for Geologic Hazard Areas." July 2005. http://www.co.thurston.wa.us/PLANNING/critical_areas/Best_Science_Docs/BAS%20Draft%20-%20Geologic%20Hazard%20Areas%207-20-05.pdf.

Caveats

The TBL Tool draws on national data sets that meet federal mapping standards but may not align with the identified project boundaries or may otherwise have limitations when applied at a local scale. Each sub-measure provides an opportunity to confirm accuracy of the mapping information, as well as plans to avoid or mitigate potential negative impacts. Careful review should be given to the data sources used to confirm presence of sensitive natural resources as well as to the reasonableness and accountability regarding avoidance or mitigation claims.

Known limitations include the following:

- Coastal zones are a sensitive resource area, however, there is not a readily available mechanism to incorporate them into the TBL Tool at this time. Each state has its own coastal management zone. Activities that may impact the zone (environmentally, economically, or socially) may be subject to review by the state coastal zone management agency. Coastal zones and the areas subject to review for potential impact on coastal zones vary widely. There is not a database available that identifies location in or near a coastal zone. However, water bodies, wetlands, and critical habitat do address this resource to some degree. Future versions of the TBL Tool could include a question related to CZM official review for potential impact and appropriate mitigation.
- The precision of these maps varies. For example, the National Research Council recently found that only 21% of the U.S. population has flood maps that meet all the federal data quality standards and in one study region floodplains identified by more accurate methods differed in shape by 20% from those identified by traditional techniques. In another example, the Water Bodies maps are compiled in the continental U.S. from 1:100,000 scale topographic sheets to meet National Map Accuracy Standards. For horizontal accuracy, this standard is met if at least 90 percent of points tested are within 0.02 inch (at map scale) of their true positions. At 1:100,000 scale, 0.02 inch is approximately 167 feet. The standard for other maps compiled at 1:24,000 scale is 40 feet. This is the scale most commonly used for soil survey maps, for example, which we used as a source for the Prime Farmland and Steep Slopes data.

Alternatives Considered
A number of alternatives were considered for this measure, particularly with respect to scoring. For example, the team considered assigning scores based on the percent of the project that is in a sensitive area. One issue with this method is that portions of the project area may be appropriate to a sensitive resource area (e.g., a nature preserve on part of a corporate campus). Another issue is that the while the TBL Tool can identify the percent of a polygon that is in a sensitive area the eight sensitive resource areas cannot be summed as each draws upon a unique data set and there may be overlap (e.g., a polygon with 20% of the area identified as critical habitat and 20% identified as wetland does not necessarily have 40% of the area in sensitive resource areas as the critical habitat and wetlands areas may overlap partially or fully). Further, the amount of coverage (e.g., 20%) does not speak to the order of magnitude of the impact. For example, 20% of a 10 acre site (2 acres) is less than 20% of a 100 acre site (20 acres) so scoring would need to reflect total acres rather than percentages. However, "total acres" does not address the magnitude of impact, as some areas may be more sensitive (and less easily mitigated) than others.

Performance Area: Green Operations

Why Does This Matter?
Facility operations and maintenance have significant impacts over the lifetime of a project. Green operations and management strategies that are well designed and implemented may yield lower operating costs, lower risk, and/or healthier and more comfortable working environments. While many green design and construction measures contribute to these outcomes (e.g., energy efficient construction), this performance area considers activities specific to the on-going operations and maintenance associated with the project.

What Do We Want To Know?
- Are renewable resources contributing to the energy needs of the project?
- Is energy efficiency and conservation being employed to reduce the energy needs of the project?
- Are trip reduction strategies in place to reduce automobile dependence?
- Are tenants incentivized to adopt environmental stewardship in operations and maintenance?
- Does the project employ practices that produce better environmental outcomes than industry average?
- Do the products or services associated with the project contribute to a green economy?

What Measures Were Selected to Operationalize This Performance Area?
The Green Operations performance area measures are:
- Renewable energy
- Energy management
- Trip reduction strategies
- Tenant environmental incentives
- Lower than industry average water use
- Lower than industry average emissions use
- Industry best practices
- Green products and services.

The performance area score is calculated by averaging the project's scores for the eight measures.

1. Energy from Renewable Resources

Energy supplies that come from renewable sources (e.g., biomass, wind, solar, hydropower and geothermal) can contribute to the triple bottom line by creating jobs, keeping dollars local, and providing lower environmental impact energy choices.

Measure Formula and Scoring
This measure considers whether a portion of the project's energy will be derived from renewable energy sources. The measure score is calculated by averaging two sub-measure scores, as described below.

a) Project Renewable Energy Sources

A project earns 100 points if a portion of the project's energy supply will be derived from renewable resources including solar, wind, geothermal, biogas, biomass, and low impact hydroelectric sources either through utility purchase, renewable energy certificates, or on-site generation sources AND the project will participate in the U.S. Green Power Partnership Program (http://www.epa.gov/greenpower/). The portion of green power is defined as 3-20%, depending upon the size of organization. Eligible green power sources include solar, wind, geothermal, biogas, eligible biomass, and eligible low impact hydroelectric sources. Commitments can met with any combination of green power products (i.e., green power, renewable energy certificates, or on-site generation). A project earns 75 points if a portion of the project's energy supply will come from renewable energy resources but the project will not participate in the U.S. Green Power Partnership. No points are earned if no commitments to renewable energy will be made.

b) Tenant Incentives for Renewable Energy Sources

For projects with tenants, 100 points are earned if the owner will require tenants to participate in the U.S. Green Power Partnership Program, 75 points if the owner will incentivize tenants to participate in the U.S. Green Power Partnership Program, and 0 points if there will be no incentives or requirements to purchase energy from renewable sources. For projects without tenants, the sub-measure is not applicable and does not impact the project score.

Caveats
The scoring framework provides a mechanism to provide points for projects that employ renewable energy sources without participation in this program but assigns the highest score to participants in recognition of the higher degree of confirmation and yearly reporting required. The threshold for participation is low as the U.S. Green Power Partnership Program is a voluntary, no fee program.

2. Energy Management

Efficient use of energy resources can contribute to the triple bottom line by producing cost savings, conserving natural resources, and improving occupant comfort.

Measure Formula and Scoring
This measure considers whether an on-going strategy is in place to monitor and improve energy use. A project earns 100 points for participating in the Energy Star Energy Management Program, a no cost program that assists organizations to improve the energy performance of their facilities. A project does not earn points for this measure without participation in the Energy Star Energy

Management Program. An option to claim that the measure is not applicable is provided, however, an explanation must be provided. Information about the program can be found at http://www.energystar.gov/index.cfm?c=business.bus_commit.

3. Automobile Trip Reduction Strategies

Reductions in automobile trips associated with employee and/or customer commuting can improve air quality, while reducing fuel use and traffic congestions that have human and financial impacts. Further, active transportation options have the added benefit of improving health outcomes and reducing travel expenses.

Measure Formula and Scoring
This measure considers whether appropriate automobile trip reduction strategies are in place. A project earns 100 points if strategies will be in place to reduce automobile trips associated with employee and/or customer commuting (e.g., telecommuting, transit passes, shuttles, bicycle facilities and locker rooms). Appropriate strategies will depend upon the location and type of industry and may include options such as telecommuting, transit passes, shuttles, bicycle facilities and locker rooms. A project does not earn points for this measure if there will not be a trip reduction strategy in place.

Caveats
Evidence to support the claim should be made available. Consideration should be given to the quality of the strategy and the strength of implementation provisions.

4. Tenant Environmental Incentives

Building owners may not have full control over operations, though can encourage environmental stewardship in tenant operations and management in a number of ways. For example, lease incentives may be offered for things like reduced waste or green business certification, or occupancy agreements may establish protocols such as non-toxic cleaning and landscaping products. Incentives can be a powerful way to encourage preferred practices and may serve as an asset if the stewardship commitments differentiate the product in the marketplace.

Measure Formula and Scoring
For projects with tenants, 100 bonus points are earned if the owner will require, incentivize, or encourage tenants/occupants to meet best practices in green operations and management. For projects without tenants, this measure does not apply and the project score is not affected.

Caveats
Evidence to support the claim should be made available. Consideration should be given to the quality of the strategy and the strength of implementation provisions.

5. Water Use Lower than Industry Norms

Industrial processes that are designed to minimize water use may lower operating costs while conserving an essential non-renewable resource. Conservation can be particularly important in areas that are facing water shortages and/or in industries that have high water usage. This measure

rewards excellence in water conserving design. The focus of this measure is on industrial processes (e.g., water recycling in chip manufacturing) rather than building features (e.g., low-flow bathroom appliances), which are addressed in the green building measure.

Measure Formula and Scoring
Projects may earn 100 bonus points if strategies will be implemented that lead to lower water use than is the norm for the industry. While any project can benefit from this measure, it may be particularly helpful to projects whose industry or industries were identified as higher than average water users in the industry eco-efficiency measure.

Caveats
Evidence to support the claim should be made available. Consideration should be given to the quality of the strategy and the strength of implementation provisions.

6. Emissions Lower than Industry Norms

Industrial processes that are designed to minimize toxic emissions to air, land, or water may benefit human health and maintain essential ecosystem services. Economic benefit may also accrue through reduced costs and/or the development of valuable new products and processes.

Measure Formula and Scoring
Projects may earn 100 bonus points if strategies are implemented that lead to lower than average emissions for the project industry or industries. While any project can benefit from this measure, it may be particularly helpful to projects whose industry or industries were identified as generating higher than average emissions in the industry eco-efficiency measure. The focus of this measure is on industrial processes rather than building features (e.g. non-toxic building features such as low VOC paint are not addressed here since they are addressed in the green building measure above).

Caveats
Evidence to support the claim should be made available. Consideration should be given to the quality of the strategy and the strength of implementation provisions.

7. Industry Best Practices

A number of industries have developed certifications or best practices for environmental performance. When based on leading scientific evidence and stakeholder input, such standards can be an effective tool for improving industry performance.

Measure Formula and Scoring
Projects earn 100 bonus points if they demonstrate that the project will be compliant with best practices for their industry (e.g., forestry, information technology, tourism, sustainable agriculture and food production, infrastructure).

Caveats
Evidence to support the claim should be made available. Consideration should be given to the quality of the strategy and the strength of implementation provisions.

8. Green Products and Services

Goods and services that are designed to improve environmental quality, resource efficiency, and energy independence align job creation with natural resource stewardship in a unique way: not only are environmentally sensitive practices employed, the products themselves facilitate the transition to a more sustainable future.

Measure Formula and Scoring
Projects earn bonus points if some or all of the jobs created and/or retained pertain to one or more of the five green product and service categories defined by the U.S. Bureau of Labor Statistics (http://www.bls.gov/green/#definition). The project earns 100 bonus points if the percent of jobs pertaining to green goods or services is 76 to 100 and 75 bonus points if the percent of jobs is 1 to 75. The scoring system is designed to accommodate diversity of project scale (e.g., 50% of 10 jobs versus 10% of 500 jobs) and to ensure that the bonus points do not move a project out of the highest scoring quartile (i.e., 75 bonus points is the minimum). As this is a bonus point measure, projects that are not green job generators should not be and are not penalized.

Green products and services include:

- *Energy from renewable sources.* Electricity, heat, or fuel generated from renewable sources. These energy sources include wind, biomass, geothermal, solar, ocean, hydropower, and landfill gas and municipal solid waste.
- *Energy efficiency.* Products and services that improve energy efficiency. Included in this group are energy-efficient equipment, appliances, buildings, and vehicles, as well as products and services that improve the energy efficiency of buildings and the efficiency of energy storage and distribution, such as Smart Grid technologies.
- *Pollution reduction and removal, greenhouse gas reduction, and recycling and reuse*. These are products and services that:
  - Reduce or eliminate the creation or release of pollutants or toxic compounds, or remove pollutants or hazardous waste from the environment.
  - Reduce greenhouse gas emissions through methods other than renewable energy generation and energy efficiency, such as electricity generated from nuclear sources.
  - Reduce or eliminate the creation of waste materials; collect, reuse, remanufacture, recycle, or compost waste materials or wastewater.
- *Natural resources conservation.* Products and services that conserve natural resources. Included in this group are products and services related to organic agriculture and sustainable forestry; land management; soil, water, or wildlife conservation; and stormwater management.
- *Environmental compliance, education and training, and public awareness.* These are products and services that:
  - Enforce environmental regulations.
  - Provide education and training related to green technologies and practices.
  - Increase public awareness of environmental issues.

Caveats
Evidence to support the claim should be made available.

Alternatives Considered
Scoring this measure is a challenge because there is no threshold for a "good" or "bad" absolute or relative number of green jobs (e.g., a total of 10 jobs or 10% of overall jobs). Scoring by absolute number of green jobs could disadvantage smaller projects and scoring by relative number could skew results (e.g., 90% of 10 jobs (9 jobs) versus 20% of 100 jobs (20 jobs)). Further, there is no mechanism to account for order of magnitude of impact (e.g., how the green goods and services contribute to the environment and economy). The scoring framework provides more bonus points to projects with a larger percent of jobs categorized as related to green products and services, assuming that serves as an indicator of greater commitment and/or impact.

Goal: Community Well-being

Community well-being is both a goal and a facilitator of economic development. In the TBL Tool, the community well-being goal is comprised of three performance areas: placemaking and accessibility, environmental health, and governance. An investment's community well-being score is calculated by averaging its scores for these three performance areas, as described below. The following information details why each performance area is important, the measures selected to operationalize the performance area, measure formulas and scoring, and any data limits or caveats.

Performance Area: Placemaking and Accessibility

Why Does This Matter?
Placemaking creates inviting and distinctive spaces where people want to live, work and play. Placemaking can contribute to the financial bottom line through increased property value, tourism receipts, and firm recruitment and retention. Accessibility helps ensure that residents and visitors can find the housing, goods, services, and jobs they are looking for in ways that conserve energy and commuting costs, strengthen community fabric, and minimize pollution.

What Do We Want To Know?
- Are historic or cultural resources being created, conserved, enhanced, or lost?
- Are public spaces being created, enhanced, or diminished?
- How well is the site served by transportation choices (e.g., transit, walking, biking)?
- Does the project improve walkability, bikability, or transit access in the area?
- Does the investment create or retain jobs where there is high need?
- If the project includes new or existing housing, are affordable units available to a range of community residents?

What Measures Were Selected to Operationalize This Performance Area?
- Cultural and historic resources
- Public spaces
- Walkability of project location
- Transit accessibility of project location
- Location in high need area
- No net loss of affordable housing
- Housing affordability
- Increase in walking, biking, or transit options.

The performance area score is calculated by averaging the project's scores for the eight measures.

A bonus measure for contribution to community completeness and/or addition of key services or institutions (e.g., food and medical facilities) was considered; however, this measure was not added because facilities like libraries, civic centers, schools, banks, and farmers' markets can be addressed in the public space measure and/or increased accessibility measure.

1. Cultural and Historic Resources

Preserving and enhancing cultural and historic resources can contribute to economic vitality through increased property value, tourism receipts, preservation of tradition-based economies, and firm recruitment and retention. In addition, community well-being may be improved if these resources contribute to civic pride, a sense of identity and connection, and well-utilized public spaces.

Measure Formula and Scoring
The score for this measure is calculated by taking the average of three sub-measure scores pertaining to historically or culturally significant practices, programming, and structures, facilities or districts, as detailed below.

a) Culturally or Historically Significant Structures, Facilities, or Districts

Historically or culturally significant structures, facilities, or districts can be important for place-based economic development, as well as for fostering community identity and pride.

Investments that preserve or enhance historically or culturally significant structures, facilities, or districts AND meet criteria for inclusion on national, state, or local registry and/or have a letter supporting cultural or historical significance provided by an appropriate historical or cultural commission or agency earn a score of 100. A score of 80 is earned if the investment will preserve or enhance historically or culturally significant structures, facilities, or districts but will not meet criteria for inclusion on national, state, or local registry and/or have a letter supporting cultural or historical significance provided by an appropriate historical or cultural commission or agency. Investments that will have a negative impact earn a zero score. If the proposed investment has no impact on culturally or historically significant structures, facilities, or districts then this sub-measure is not applicable and the project score is not affected.

Caveats
This measure does not address magnitude of impact.
Evidence to support the claim should be made available.

b) Culturally or Historically Significant Practices

Historically or culturally significant practices include traditions, oldways, and unique culture of place. Conserving such practices can be important for place-based economic development, as well as for fostering community identity and pride.

This sub-measure is not applicable if the proposed investment has no impact on culturally or historically significant practices. Investments that have a positive impact earn the maximum score (100) and investments that have a negative impact earn the minimum score (0).

Caveats
This measure does not address magnitude of impact.
Evidence to support the claim should be made available. Consideration should be given to the quality of the strategy and the strength of implementation provisions.

c) Publicly Accessible Programming

Making historically and culturally significant resources accessible to a wide range of community members can contribute to a collective appreciation for heritage and context, build a shared sense of identity, and provide individuals and communities an opportunity to understand and interpret experiences.

If the proposed investment has no programming element such as performances or activities, this sub-measure is not applicable and the project score is not affected. Investments that include historically or culturally relevant programming earn 100 points if there is a component designed explicitly to serve the community (e.g., connection to schools, discount days). Investments that include programming but without any components designed to serve the community earn 80 points.

Caveats
This measure does not address magnitude of impact.
Evidence to support the claim should be made available. Consideration should be given to the quality of the strategy and the strength of implementation provisions.

2. Public Spaces

Well-designed and cared for public spaces are important to economic development because they can attract residents, workers, and visitors. They can add value in numerous ways, such as providing scenic beauty, recreational and gathering opportunities, and environmental benefit. Publicly accessible spaces take a variety of shapes and sizes, and may even be privately owned – from pocket parks and rooftop gardens, to plazas, scenic viewpoints, biking and walking trails. Public spaces may also include facilities like libraries, civic centers, schools, and farmers' markets.

Measure Formula and Scoring
If public space is not affected (i.e., neither created, enhanced, or diminished) this measure does not apply and the project score is not affected. Investments that create or enhance public space AND have a plan in place to promote productive public use and care of the space earn 100 points (e.g., interpretive signs, marketing campaign, stewardship partnership with neighbors or schools, integration into the surrounding area, uses and activities are designed to create vibrancy and use across day and seasons). Investments that create or enhance public space without a plan to promote productive public use and care of the space earn 80 points. Investments that diminish quality, quantity, or access to public space earn 0 points.

Caveats
This measure does not address magnitude of impact.
Evidence to support the claim should be made available. Consideration should be given to the quality of the strategy and the strength of implementation provisions.

3. Walkability

A walkable location is one where people can access goods and services without driving. Walkability provides a number of potential benefits including lower commute expenses, improved air quality, active living, and vibrant streetscapes.

Measure Formula and Scoring
The score for this measure is the project location's Walk Score – a number between 0 and 100 that is based on proximity to daily goods and services such as grocery stores, restaurants, shopping, coffee shops, banks, parks, schools, bookstores, and entertainment. Walk Score addresses proximity to amenities, but does not currently address quality of the walk (e.g., beauty, topography, safety, weather). If a project is located in an area that does not have a Walk Score, this measure is not applied and does not affect the project score. Investments that are designed to improve walkability can earn points in another measure.

The Walk Score algorithm awards points based on the distance to amenities in each category. Amenities within .25 miles receive maximum points and no points are awarded for amenities further than one mile. Categories include the following: grocery stores, restaurants, shopping, coffee shops, banks, parks, schools, bookstores, and entertainment. Walk Score uses a variety of data sources. Details of the methodology can be found at http://www.walkscore.com/professional/methodology.php and http://www.walkscore.com/how-it-works.shtml

The project score for this measure is its Walk Score. To help contextualize the meaning of the score, Walk Score defines walkability as follows:

90–100	Walker's Paradise — Daily errands do not require a car.
70–89	Very Walkable — Most errands can be accomplished on foot.
50–69	Somewhat Walkable — Some amenities within walking distance.
25–49	Car -Dependent — A few amenities within walking distance.
0 – 24	Car - Dependent— Almost all errands require a car.

Caveats
Walk Score is the best measure to date, though is not complete. Streetsmart is a stronger version but does not yet have as much coverage and is not available. Neither Walk Score nor Streetsmart reflects the quality of the walk (e.g., beauty, safety).

This measure does not speak to whether the investment is improving walkability. That is addressed in another measure.

Alternatives Considered
The Smart Location Database developed by the U.S. Environmental Protection Agency (EPA) provides information on a number of attributes related to location efficiency (e.g., accessibility, demographics, and design). The database can be accessed at: http://www.epa.gov/dced/smartlocationdatabase.htm. Integration of the TBL Tool with the Smart Location Database could be explored for future version upgrades.

4. Transit Accessibility

Transit accessible locations provide a number of potential benefits including lower commute expenses, improved air quality, and increased employment access – particularly for low-income populations.

Measure Formula and Scoring
The score for this measure is the project location's Transit Score – a number between 0 and 100 that is based upon how well a location is served by public transit, with service defined by frequency, type, and distance to nearest stop. If a project is located in an area that does not have a Transit Score, this measure is not applied and does not affect the project score. Investments that are designed to improve transit accessibility can earn points in another measure.

Transit Score is defined and calculated as follows, per the WalkScore website (http://www.walkscore.com/transit-score-methodology.shtml):

> Transit Score is a measure of how well a location is served by public transit. Transit Score is based on data released in a standard format by public transit agencies.
> To calculate a Transit Score, we assign a "usefulness" value to nearby transit routes based on the frequency, type of route (rail, bus, etc.), and distance to the nearest stop on the route. The "usefulness" of all nearby routes is summed and we normalize this to a score between 0 – 100).
> To calculate a raw Transit Score, we sum the value of all of the nearby routes. The value of a route is defined as the service level (frequency per week) multiplied by the mode weight (heavy/light rail is weighted 2X, ferry/cable car/other are 1.5X, and bus is 1X) multiplied by a distance penalty. The distance penalty calculates the distance to the nearest stop on a route and then uses the same distance decay function as the Walk Score algorithm. The weights reflect modes that have their own right of way (fewer delays, more reliability) and are associated with more real estate development (transit oriented development).
> Since any measure of transit infrastructure (number of stops, number of weekly trips, etc.) will have its own unique range, it is necessary to normalize the raw Transit Score to generate a Transit Score from 0 to 100: transit_score(location) = log(raw_transitscore(location)) / perfect_score.
> The amount of transit infrastructure can vary by several orders of magnitude. Scales for measuring things that have an extremely large range of normal values (sound volume, earthquake intensity, etc.) are typically logarithmic - a bus stop in a small town might see three trips a day, whereas downtown Manhattan might see tens of thousands. If Manhattan had a Transit Score of 100, then on a linear scale a small town's downtown might have a Transit Score of 0.01, whereas a logarithmic score might rate Manhattan as 100 and a small town as 10. The logarithmic score matches a rider's experience better: the added utility of one additional bus in a small town may exceed the addition of 10 new routes in downtown Manhattan.
> In order to normalize from 0 to 100, we need to pick a "perfect score" location. To do this, we averaged the Transit Score of the center of a five U.S. cities where we had full transit data (San Francisco, Chicago, Boston, Portland, and Washington, D.C.) to create a canonical 100 Transit Score. Transit Score works in any city where the transit agencies publish data in the General Transit Feed Specification (GTFS) format (http://www.walkscore.com/transit-score.php):

The project score for this measure is its Transit Score. To help contextualize the meaning of a score, Transit Score defines its range as follows:

Transit Score	
90–100	Rider's Paradise — World-class public transportation.
70–89	Excellent Transit — Transit is convenient for most trips.
50–69	Good Transit — Many nearby public transportation options.
25 – 49	Some Transit — A few nearby public transportation options.
0 – 24	Minimal Transit — It is possible to get on a bus.

As noted above, the Transit Score methodology adjusts for scale (big city, small town) and, only provides a score where data is available.

Caveat
Coverage is not complete in all areas. Where data is unavailable, the project score for this measure is NA.

This measure considers whether the investment is made in a location that is accessible by transit. All other things being equal, investments made in places that have good transit access are preferred to investments made in places that do not. Investments that improve transit accessibility are addressed in another measure.

The score tells if a site is well served by transit but not what percentage of the population can get to the project in x time. For example, a recent report by the Brookings Institution indicates that a large portion of the population cannot access jobs by transit within a 90 minute one way commute (http://www.brookings.edu/~/media/Files/Programs/Metro/jobs_transit/0512_jobs_transit.pdf). As this type of information becomes available this measure should be revisited (e.g., Transit Time Map is in Beta in four locations http://www.walkscore.com/transit-map.php).

Alternatives Considered
It would be useful to know whether and how the project contributes to or alleviates spatial mismatch or job-housing imbalance in the area. For example, considering the average project wage in relation to nearby housing prices would help determine whether an average worker could afford to live nearby. However, an easily accessible national data set is not available at this time so this alternative was not pursued. In addition, other factors influence housing location preference making accessibility of the site a preferred measure.

The Smart Location Database developed by the U.S. Environmental Protection Agency (EPA) provides information on a number of attributes related to location efficiency (e.g., accessibility, demographics, and design). The database can be accessed at: http://www.epa.gov/dced/smartlocationdatabase.htm. Integration of the TBL Tool with the Smart Location Database could be explored for future version upgrades.

5. Project Increases Walking, Biking, or Transit Options

Locations that are easy to access by walking, bicycling, or transit may accrue significant financial, health and environmental benefits.

Measure Formula and Scoring
This measure considers whether the investment is designed to improve walkability, bikability, and/or transit accessibility (e.g., a mixed use development that contributes to community completeness, provision of retail services within ¼ mile of housing, or addition of transit or bike lane to area). Projects that are designed to increase walking, biking, or transit options earn 100 bonus points. If the project does not, this bonus measure does not apply and the project score is not affected.

Caveats
This measure does not address magnitude of impact.
Evidence to support the claim should be made available. Consideration should be given to the quality of the strategy and the strength of implementation provisions.

6. Location in High Need Area

While jobs and wealth creation are important to all communities, the need is particularly great in areas that have experienced chronic disinvestment or economic disruption.

Measure Formula and Scoring
This measure considers whether the investment creates or retains jobs in areas with the greatest need. Investments that are located in a high need area receive 100 bonus points. The calculation is made based on the project address entered. Projects that are not located in a designated high need area are not penalized, as this is a bonus measure.

Note, location in a high need area does not necessarily translate to employment for those in need. The TBL Tool's career access and advancement measures consider whether the investment will serve traditionally disadvantaged and underutilized residents.

High need areas are defined in the TBL Tool as census tracts that:
1) have **EITHER** Median Family Income (MFI) at or below 80% of Area Median Income (AMI) in the period of 2006-2010 **OR** Poverty Rate of 20% or greater in the period of 2006-2010
AND
2) also have one or more of the following factors:
(a) MFI* at or below 60% of AMI in the period of 2006-2010;
(b) poverty rate at or above 30% in the period of 2006-2010;
(c) unemployment rate of at least 1.5 times the national unemployment rate in the period of 2006-2010;
(d) are in a county that is not part of a metropolitan statistical area.

The high need area definition is based on NMTC definitions of Eligibility and Primary Criteria for Severe Distress. The definitions were deemed appropriate for defining areas of high need because they represent expectations by government agencies regarding economic development.

* The MFI threshold for New Markets Tax Credits (NMTC) is: Census tracts, if located within a non-Metropolitan Area, with median family income at or below 60% of statewide median family income or, if located within a Metropolitan Area, median family income at or below 60% of the greater of the statewide median family income or the Metropolitan Area median family income.

Data Sources:

Census ACS 2006-2010, CDFI Census Download List.
Poverty is based on Census ACS 2006-2010 data. The Census ACS uses the federal government's official poverty definition. The Social Security Administration (SSA) developed the original poverty definition in 1964, which federal interagency committees subsequently revised in 1969 and 1980. The Office of Management and Budget's (OMB's) Directive 14 prescribes this definition as the official poverty measure for federal agencies to use in their statistical work. Area Median Income is based on Census ACS income data, as is Unemployment.

Caveats

Secondary Criteria for NMTC Severe Distress are not included in the tool due to data limitations. Secondary Criteria for NMTC Severely Distressed include: meeting NMTC Heavy Distress requirements; being located within: an SBA Designated HUB Zone, a Medically Underserved Area (MUA), a Census tract within which a Brownfield is located, a HOPE VI Redevelopment Area, a Federal Native Area, an Appalachian Regional Commission or Delta Regional Authority Area, a Colonias Area, a State or Local Economic Zone (such as TIF or KOZ), a FEMA Disaster Area, or a ERS/USDA Food Desert. Projects that meet NMTC Eligibility and Secondary Criteria for Severely Distressed will not receive bonus points for the location in a high need measure, though may merit consideration.

Alternatives Considered

Other options for defining areas of high need included the following:

- U.S. Treasury CDFI Fund Priority Points
  Beginning 2011, the CDFI Fund (U.S. Treasury) began rating applications based on the service county's priority points. This Distress Indicator is based on poverty rates (2008 Census Bureau), median household income (2008 Census Bureau), unemployment rates (2008 Bureau of Labor Statistics), home foreclosures (2007 Housing and Urban Development), and high-cost mortgages (2007 Housing and Urban Development). Points ranging from 0 (lowest distress) to 5 (highest distress) are assigned to each county. CDFI Priority Points was not selected because a) some areas are not included and b) the indicator selected is more specific to location (census tract rather than county level).
- High Unemployment Rate
  The US Bureau of Labor Statistics (BLS) unemployment rate and BLS Alternative Measures of Labor Underutilization were seen as less precise measures of distress and slightly redundant to the career access and opportunity measures (i.e., does the project create employment access and opportunity).
- US Economic Development Administration (EDA) Economic Distress indicator
  The EDA Economic Distress indicator considers regional rather than census tract-level distress, and was deemed less suitable to the purpose of the TBL Tool.

7. No Net Loss of Affordable Housing

Affordable housing provides workers of various income levels and family members in various life stages options to remain in the community. When affordable housing units are lost, individuals and families lose the stabilizing foundation of home that is important to thrive. Further, displacement may lead to longer commutes and associated negative impacts such as pollution, less time for family and community, reduced competitive disadvantage.

Measure Formula and Scoring
This measure only applies to projects where restricted affordable housing units exist on the project site. Restricted affordable housing units are those whose affordability is legally designated and limited; for example, subsidized housing, tax credit housing, low-income housing, public housing, Section 8 housing, or deed restricted housing.

This measure considers whether the project will result in the loss of restricted affordable housing units. A project earns 100 points if there will be a binding agreement to provide one-for-one replacement of all currently affordable housing units, with first right of refusal granted to existing residents and in-perpetuity affordability covenants. The score is 75 if affordability restrictions are long term (e.g., 30+ years) rather than in perpetuity. The score is 25 if there will be one-for-one replacement of affordable housing units but with no affordability restrictions in place. If no agreements are in place to provide one-for-one replacement housing the score is 0.

A project providing one-for-one replacement (no net loss) of affordable housing units receives these points, regardless of whether the provision is required by local, state, or national law. Higher points are provided for projects that ensure long-term affordability of the units. Legally binding agreements are prioritized in order to foster accountability.

Caveats
This measure does not address magnitude of impact.
Evidence to support the claim should be made available. Consideration should be given to the quality of the strategy and the strength of implementation provisions.

8. Housing Affordability

Housing costs are generally considered to be affordable when they do not exceed 30% of household income, though associated costs such as utility bills and transportation can significantly impact housing cost burden. An affordable housing supply is important for accommodating workers and families of various income levels and life stages. Housing affordability can impact recruitment and retention, as well as discretionary income to spend on local goods and services.

Measure Formula and Scoring
This measure considers whether new housing will include units that are affordable to households at or below 120% of Area Median Income (AMI) spending a maximum of 30% on housing costs. The measure only applies to projects that include housing in excess of one-for-one replacement of restricted affordable housing units. Scoring is based on percent of units made affordable (10% or more), eligibility (120% of AMI), and duration of affordability (e.g., in perpetuity, 30+ years).

A project that includes new housing units earns 100 points if there is a binding agreement ensuring that 10% or more of the housing units are affordable to households at or below 120% of Area Median Income (AMI) spending a maximum of 30% on housing costs, and that the affordability is assured in perpetuity through legal mechanisms such as recorded covenant or ground lease. The score is 75 if the affordability restrictions are long term (e.g., 30+ years) rather than in perpetuity. If less than 10% of the units are affordable to households with income at or below 120% of AMI then the measure score is 0.

A project providing affordable housing receives these points, regardless of whether the provision is required by state or local law. Higher points are provided for projects that ensure long-term affordability of the units.

Caveats
Evidence to support the claim should be made available.
This measure does not address magnitude of impact (e.g., number or percent of units, level of affordability).

Alternatives Considered
Definitions of low income and workforce vary by location and agency, generally based on area median income – Area Median Income (AMI). The U.S. Department of Housing and Urban Development (HUD) defines low income as follows: Extremely Low (30% of AMI), Very Low (50%) and Low (80%) (http://www.huduser.org/portal/datasets/il/il11/index.html). Moderate income is generally defined as 81% to 95% AMI and workforce housing is generally defined as 70 to 120% AMI.

An alternative method of scoring could be based on the fit between eligibility and community defined need (verify appropriate housing needs analysis).

Performance Area: Environmental Health

Why Does This Matter?
Job creation and retention strategies vary in their human health impacts. Industries that produce emissions known to negatively impact human health impose financial costs in the form of lost productivity and medical expenses, along with personal and social costs that cannot be monetized.

What Do We Want To Know?
- How well does the proposed investment support human health and safety?

What Measures Were Selected to Operationalize This Performance Area?
This performance area considers whether the jobs created and retained by an investment are in industries that produce relatively high levels of emissions known to have negative health effects. The score for this performance area is calculated by averaging the project's scores on three measures: exposure to cancer toxics, exposure to non-cancer toxics, and exposure to criteria pollutants. As described below, two other measures were considered but not adopted: project location in relation to known environmental risks and health and safety performance of the proposed industry.

Measure Formula and Scoring[9]

The environmental health impact per job created and retained is determined based on the industry or industries in which the jobs are located. The environmental impact associated with a sector is calculated taking a "cradle to gate" lifecycle approach which includes all of the impacts from upstream supply-chain processes that are inputs to the sector through to the point of sales to end-consumers (i.e., household consumers, business consumers, government consumers and exports). The impact calculations are based on environmental life cycle assessment (LCA) – a technique that accounts for the environmental impacts associated with a product (goods and services). Environmental impacts (stressors) include the natural resources consumed and pollutants emitted across the life of the product – from acquisition of raw materials, to manufacturing, use, and waste management (disposal, reuse, or recycling). "Cradle to grave" analyses consider impacts through product end of life (waste management), while "cradle to gate" analyses consider impacts through factory gate (manufacturing). Social life cycle assessment and life cycle costing are important emerging fields within LCA; however, our attention here is restricted to environmental impacts.

This measure helps identify whether the proposed project belongs to an industry that has greater or lesser environmental health impact per lifecycle job relative to other industries. This information can be useful for identifying potential issues and engaging with developers to design the project for best possible outcomes. At the same time, a project may belong to an industry that is low performing relative to other industries but is expected to have strong environmental performance relative to other projects in the same industry (e.g., the project belongs to a high emissions industry but will have innovative emissions reductions features). Projects with strong performance relative to their industry will be able to earn points for their leadership in the green operations performance area.

The following table displays the three measures for the environmental health performance area along with their unit of measure and potential environmental issues. Nine additional environmental impact categories (measures) are detailed in the Eco-efficiency Performance Area of the Natural Resource Stewardship Goal.

Measure (Impact Category)	Unit	Why This Measure is a Concern
1. **Human Health – Cancer**	kg benzene-Eq	Potential of a chemical released into an evaluative environment to cause human cancer effects. Possible consequences include a variety of specific human cancer effects.
2. **Human Health - Noncancer**	kg toluene-Eq	Potential of a chemical released into an evaluative environment to cause human noncancer effects. Possible consequences include a variety of specific human toxicological noncancer effects.
3. **Human Health – Criteria Pollutants**	kg PM2.5-Eq	Exposure to elevated particulate matter less than 2.5 µm. Possible consequences include toxicological human health effects.

Adapted from: Jane C. Bare, Gregory A. Norris, David W. Pennington, and Thomas McKone. 2003. "TRACI: The Tool for the Reduction and assessment of Chemical and other Environmental Impacts." *Journal of Industrial Ecology* 6(3-4): 49-78.

[9] Portions of this text were contributed by Dr. Sangwon Suh, University of California at Santa Barbara and Industrial Ecology Research Service, LLC.

Scoring is determined by whether a project's industry produces relatively more or less health impacting pollution per lifecycle job created. Because no standards exist for "environmental health impact per job created" (e.g., no amount of pollution per job or cancer per job that is designated as good or bad), the scoring is based on best and worst performers overall (e.g., relatively better or worse than other industries on a normalized 0 to 100 scale). Industries or sectors are defined using the North American Industry Classification System (NAICS) (http://www.census.gov/eos/www/naics/) – the standard for categorizing businesses by sector or industry. The NAICS level requested in the TBL Tool depends upon the amount of variation within an industry; more detailed information is requested only where differences among the types of companies within a given NAICS level are significant. For most industries, the user is asked to identify the three-digit level NAICS (retail and wholesale stop at the two-digit level, while a few others go one or two levels deeper). The TBL Tool user identifies the industry codes (NAICS) using a pull-down menu on the website. When a project includes multiple industries or NAICS, a weighted average is used. For example, if the project includes three NAICS that scored 50, 60, and 80, and the project's relative portion of jobs for each of those NAICS is 20%, 30%, and 50%, then the score would be computed as (.20*50) + (.30*60) + (.50*80) = 68.

There are two main approaches to environmental LCA: "bottom up" LCA is based on site-specific information gathered across the life-cycle of a product, and "top-down" LCA is based on input-output tables that describe flows of goods and services between industries (sectors). The bottom-up (process-based) approach allows for precision and detail, but requires significant resources and can suffer from "truncation errors" associated with decisions regarding how far up the supply-chain to set boundaries for data inclusion. The top-down approach incorporates information about environmental stressors into industry input-output (I-O) tables, thus enabling analysis of environmental impacts at the sector level. Process-based LCA can misrepresent impacts by excluding important upstream processes, while I-O LCA can misrepresent impacts due to the coarseness of the data (i.e., if averages mask significant variation in a sector). However, while I-O LCA may not be suited to detailed comparisons at the product design level, it is generally suited to macro level policy decisions such as consideration of overall impacts of a system or comparing different options. By providing an indication of the relative environmental impact of various industries, IO-LCA provides valuable information to investors seeking to produce jobs with the least environmental impact.

The scores for this performance area are based on the Comprehensive Environmental Database Archive (CEDA) – an internationally recognized model that specifies environmental impact per dollar of final demand for each input-output (IO) sector. The Comprehensive Environmental Data Archive (CEDA) is an I-O LCA database that quantifies natural resource use and environmental emissions associated with a product's life cycle. CEDA has been used by federal agencies such as the U.S. Department of Commerce and U.S. Environmental Protection Agency (EPA) and was determined to be an appropriate input-output life cycle analysis database for this application given its prior use by federal agencies and reputation for robustness and accuracy.

The TBL Tool was built with the CEDA 4 database, which uses the most detailed U.S. input-output table compiled by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce (DOC) along with various environmental statistics and models. The results represent the national average cradle-to-gate environmental impact of each product distinguished in the input-output table. Cradle-to-gate is used synonymously with total (direct and indirect) environmental impact and includes impacts from all upstream supply-chain processes to the point of sales to end-consumers, i.e., household consumers, government consumers and exports.

CEDA 4 evaluates each I-O sector on thirteen different environmental impact categories following mostly the Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI) method developed and used by the U.S. EPA. The impact categories reflect best available science and societal consensus. Impact categories in Life Cycle Impact Assessment (LCIA) are developed through a step called "characterization," which uses scientific findings to quantify the environmental impacts of various stressors to each environmental impact category, and to aggregate these into an equivalency of a single stressor, called a category indicator, for each impact category. The CEDA 4 impact categories and category indicators used for this performance area are presented above, along with a description of the potential environmental harm. References regarding the TRACI method can be found at the end of this section.

The input-output tables produced by the U.S. Department of Commerce Bureau of Economic Analysis (BEA) account for the flow of goods and services from industry to industry and to final users. The BEA I-O tables use an industry and product classification system derived from the North American Industry Classification System (NAICS). CEDA specifies environmental impact per dollar value of output[10] for each input-output (I-O) sector (see Suh 2005 for details on how this is calculated). This includes both direct and lifecycle environmental impact information by IO sector. Direct impacts are those produced by the sector itself whereas lifecycle impacts include impacts from across the product life cycle. As noted above, CEDA 4 uses the TRACI method to define environmental impact per dollar value of output.

Environmental impact per dollar of output by I-O sector was converted to environmental impact per lifecycle job for each sector in order to meet the needs of the TBL Tool. Environmental impact per lifecycle job was computed by dividing total impact per I-O sector by the sector's total lifecycle employment. Lifecycle jobs includes all of the direct jobs associated with upstream supply-chain processes that are inputs to the sector through to the point of sale to end-consumers (i.e., household consumers, business consumers, government consumers, and exports). Data for lifecycle employment per I-O sector was derived from the November 2004 Bureau of Labor Statistics (BLS) Occupational Employment Statistics (OES), listed by 5-digit, 4-digit, 3-digit, and 2-digit North American Industry Classification System (NAICS) codes (http://www.bls.gov/oes/oes_dl.htm). Because the BLS employment statistics for agricultural sectors was highly aggregated, data from the 2002 U.S. Department of Agriculture (USDA) Census was used for sectors that had available USDA data (http://www.agcensus.usda.gov/Publications/2002/USVolume104.pdf). BLS and USDA do not provide employment data for every IO sector. In these instances, direct employment was estimated by dividing the total compensation for that industry (which is available for every IO sector) by the average annual wage of a more aggregated industry category (available from BLS). For example, if there was no employment data for industry category 212210 (Iron Ore Mining), but there was for 212200 (Metal Ore Mining), then employment was estimated as the total worker compensation for Iron Ore Mining divided by the average annual wage for Metal Ore Mining. If Metal Ore Mining had no employment data either, the average annual wage for industry category 212000 (Mining, Except Oil and Gas) would be used, and so forth. Several of the I-O sector codes are a combination of more than one NAICS code. If employment data was available for each component NAICS code, then that employment data was summed to give the total direct employment for the IO sector. If employment data was missing for any of the component NAICS codes, then employment was estimated using the method described above.

[10] Dollar value of output is defined as producers price = consumers price minus transportation margin and wholesale and retail margin.

Caveats

Estimated impacts are limited to the data collected. Thus, while the data provide a good indication of relative environmental impact of various sectors, there is no consideration of impacts for which data is not collected (despite their potential significance). Also pertaining to significance of impact, while the results provide a sense of how sectors perform relative to each other, they do not provide a sense of performance with respect to a health or safety threshold (e.g., no thresholds are set for kilograms per job created so the data cannot be used for scoring based on a threshold beyond which a project is clearly problematic). Neither do they consider background conditions or simultaneous impacts and interactions. Input-Output Life Cycle Analysis (IO-LCA) provides valuable information regarding environmental impacts but is not a substitute for risk assessment.

Because the environmental data and USDA employment data was from 2002 and the BLS employment data was from 2004, sectors whose environmental impacts or employment have changed dramatically in the last decade may not be as accurately represented by the data. For industries that have gone through rapid changes in terms of their production process, material intensity of production, environmental emission profiles and water and land use patterns since 2002, the result may not accurate reflect the current conditions. The Bureau of Economic Analysis (BEA) produces Benchmark survey input-output tables once every five years (http://www.bea.gov/). The tables for the 2002 base year were the most recent data available at the time the TBL Tool was constructed. If an industry's position relative to others has changed significantly, the significantly this could impact scoring. Future versions of the TBL Tool should consider whether an investment should be made in updating the CEDA scores when more current information is available.

The environmental impacts are modeled based on U.S. average condition and, thus, provide a coarse estimate of industry impacts. Projects may be misrepresented by the CEDA results if their activities deviate substantially from industry averages, regional conditions are much different from the national average, or industry environmental impact or employment have changed dramatically relative to other industries since the CEDA data was compiled. Consequently, the data produced for these measures should be viewed as rough estimates that provide guidance on the likely impact of a project relative to projects in other sectors. Where appropriate, more detailed project specific environmental assessments should be conducted.

Alternatives Considered

Workers and residents of the proposed project may be exposed to toxins attributable to the location (site) of the project. The U.S. Environmental Protection Agency (EPA) maintains a database of exposure to a variety of pollutants (http://www.epa.gov/enviro/). These include, for example, superfund sites and facilities that use or release toxic chemicals. However, it is not feasible to map the proposed project in relation to EPA regulated facilities because the EPA database is constantly being updated and, thus, the TBL Tool information would be quickly out of date (http://iaspub.epa.gov/enviro/data_update_v2). We suggest that the environmental risks associated with the site be considered.

A measure to consider whether the investment is in an industry with higher than average expected rates of injury and illness was considered. In 2010, the U.S. Bureau of Labor Statistics estimated a total of 4,547 fatal work injuries (3.5 per 100,000 employees) and 3.2 million nonfatal injuries and illnesses. The impact of these injuries includes direct economic costs to workers (e.g. loss of earnings) and employers (e.g. payment of worker compensation benefits, loss of productivity and

competiveness) as well as social consequences of the effects on quality of life (e.g., family stress). Additionally, employer costs of occupational accidents include costs to hire and train replacement workers, lower productivity of coworkers, and administrative expenses. The Bureau of Labor Statistics (BLS) maintains data regarding worker safety by NAICS (http://bls.gov/iif/), however, the information is not well-suited to the TBL Tool because a) six digit level NAICS information would be required and many TBL Tool users are unlikely to have that level of detail for their project and b) the industries identified as "worse performers" include agriculture, health care, civil engineering construction, skiing, police and fire protection and it would be inappropriate to suggest that these industries be avoided or that they contribute to a weak bottom line.

The National Institute of Building Sciences Whole Building Design Guide includes security and safety objectives. Information to support occupant health and safety can be found at: http://www.wbdg.org/design/ensure_health.php.

Environmental Input Output Lifecycle Analysis is an efficient method for estimating the direct and total environmental impacts associated with economic development without conducting detailed project specific environmental studies. CEDA is not the only database capable of supporting this approach, but it was deemed to be the most complete and accessible for this project.

Additional Information
Resources regarding life cycle assessment, TRACI, and CEDA can be found above in the Eco-efficiency Performance Area section.

Performance Area: Governance

Why Does This Matter?
Governance or management systems that are fiscally responsible, accountable, and inclusive of relevant stakeholders contribute to triple bottom line performance. These strategies help to ensure that investments do not diminish service levels and quality of life, incentive agreements are fulfilled, and investments are supported by and well-suited to the community.

What Do We Want To Know?
- Have stakeholders been appropriately engaged?
- Is there sufficient capacity of key infrastructure to serve the proposed project?
- Are accountability mechanisms in place?
- Are jobs being created in one locality at the avoidable expense of another?
- Will existing residents or businesses be relocated or displaced and, if so, what measures are being taken to minimize negative impacts?

What Measures Were Selected to Operationalize This Performance Area?
The Governance performance area measures are:
- Stakeholder engagement
- Key infrastructure capacity
- Accountability mechanisms
- Anti-poaching
- Relocation planning and collaboration
- Prevention and mitigation of displacement.

The score for this performance area is calculated by taking the project's average score for the six measures. Fiscal impact is considered in the economic vitality section of the TBL Tool.

1. Stakeholder Engagement

Appropriate stakeholder engagement can help ensure that important information is taken into account in the project design and that the project is well suited to the community. Appropriate stakeholder engagement may also broaden project support, which can be essential for project viability and important for maintaining community cohesion.

Engagement can take a range of forms including informing (I'm letting you know/I'm keeping you posted), consulting (I'm asking you), collaborating (I'm working with you), and resolving (we're working things out). Determining what types of engagement are most appropriate for a given project depends upon contextual issues such as project type, likely impacts, past events, and stakeholder characteristics.

While engagement may be used for different purposes and take different forms, there are overarching principles of effective engagement that can be applied to most situations. These include defining individuals and organizations that may be affected by or who can affect the project, establishing clear expectations regarding the engagement process, following through in a timely manner, selecting the right format for the engagement objectives, and being honest and accountable. Stakeholders may include agencies, funders, developers, users, adjacent neighborhoods or jurisdictions, and specific populations or groups. Appropriate engagement strategies may range from newsletters to town halls to social media, and may include translation, childcare, transit assistance, or culturally sensitive meeting spaces.

When considering what engagement strategy best fits the circumstances it is helpful to consider such issues as level of controversy, significance of the decision, cultural norms (e.g., it may be appropriate to approach a community elder first, or meet in certain locations), and capacity (e.g., skills and time). It is also important to consider and help balance power differentials that may inhibit fair outcomes.

This measure considers whether diverse stakeholders have been appropriately engaged in project development and whether they support the proposed project.

Measure Formula and Scoring
This measure considers whether there is a commitment to 1) identify and work with diverse stakeholders that may affect or be affected by the project in order to 2) develop and implement an appropriate engagement strategy that includes tasks, timelines, and responsibilities. An appropriate engagement strategy will depend upon the context, and diverse stakeholders may include people of different age, ethnicity, or income as well as different agencies, jurisdictions, disciplines, and businesses. A score of 100 is earned if there will be a program or policy to identify and work with diverse stakeholders that may affect or be affected by the project in order to develop and implement an *appropriate* engagement strategy that includes tasks, timelines, and responsibilities. A score of 0 is earned if a program or policy will not be in place.

Caveats
Evidence to support the claim should be made available. Consideration should be given to the quality of the strategy and the strength of implementation provisions.

2. Key Infrastructure Capacity

Sufficient capacity for key infrastructure such as water, sewer, transportation, and utilities must be in place to maintain competitiveness and quality of life. This measure considers whether the capacity of key infrastructure to serve the project has been confirmed and the levels are adequate.

Measure Formula and Scoring
Sufficient capacity is defined as service levels for the intended use (e.g., ten ton road to service the project), rather than overall indirect or induced use. Indirect or induced demand should be addressed in the fiscal impact and stakeholder engagement measures in order to ensure that fiscal resources are not strained, levels of service do not decline, and quality of life is not diminished (including school impacts if appropriate).

The measure score is 100 if existing infrastructure capacity has been evaluated and is or will be sufficient to accommodate the proposed project without exceeding adopted or appropriate service standards. The measure score is 0 if capacity has not been confirmed or if capacity has been evaluated and is not sufficient to serve the project without exceeding adopted or appropriate level of service standards.

The following template may be useful for securing agency input regarding key infrastructure capacity:

> The following serves to note that the [Jurisdiction, Agency] [e.g., City of Midvale Department of Engineering] has identified adequate sewer capacity to handle the [Name of Project] at the estimated capacity of [e.g., gallons per day]. This communication in no way serves as an endorsement or approval regarding the proposed project. Rather, it provides confirmation that infrastructure capacity has been considered and appears to sufficient to serve the proposed project.

Alternatives
This measure relies on user-defined information as there is no readily available national source of data regarding infrastructure capacity.

Caveats
Evidence to support the claim should be made available.

3. Accountability Mechanisms in Place

Accountability mechanisms are useful for ensuring that investments align with priorities, commitments are fulfilled, and investment dollars are accounted for.

Measure Formula and Scoring
The score for this measure is calculated by averaging the project's scores on four sub-measures, as defined below: incentives linked to performance, transparency of public funding, responsible contracting, triple bottom line business certification.

a) Incentives Linked to Performance

Incentives are often provided in exchange for commitments to specific deliverables such as job creation. Linking incentives to performance is an important component of fiscal responsibility and accountability.

This measure only applies when incentives or payments apply to the proposed investment. The sub-measure score is 100 if legally binding provisions are in place to verify performance and withhold, recapture, or recalibrate incentives if performance goals are not met. The sub-measure score is 0 if no legally binding accountability provisions for incentives or payments are in place.

Caveats
Evidence to support the claim should be made available. Consideration should be given to the quality of the strategy and the strength of implementation provisions.

b) Transparency of Public Funding

The use of public funds should be transparent with respect to key details such as funding amounts, recipients, agreements, conditions, risks, and performance. To be useful, this information needs to be easily accessible to the public (e.g., available on-line).

This measure only applies if the project will be receiving public funds. The score earned for this sub-measure is 100 if subsidy and performance information is easily accessible to the public and 0 if subsidy and performance information is not easily accessible to the public.

Caveats
Evidence to support the claim should be made available. Consideration should be given to the quality of the strategy and the strength of implementation provisions.

c) Responsible Contracting

Responsible contractor programs establish basic requirements that a contractor must meet in order to be eligible to bid on a project. Responsible Contractor Standards (RCSs) may focus narrowly on past performance (e.g., prior violations of law, project completion) or inclusively to address criteria such as project wages and benefits for workers. Well-designed comprehensive responsible contractor standards are useful for ensuring that investment dollars are stewarded and maximum value achieved.

The score for this sub-measure is 100 if the project will have responsible contractor standards specifying the basic requirements that a contractor must meet in order to be eligible to bid on work associated with the investment. At a minimum the standards should address quality, history, and performance. Wages and benefits may be addressed in the quality construction jobs measure. The score for this sub-measure is 0 if no responsible contractor standards are defined. If the project does not include construction, the measure does not apply.

Caveats
Evidence to support the claim should be made available. Consideration should be given to the quality of the strategy and the strength of implementation provisions.

d) Triple Bottom Line Business

Benefit Corporations are businesses whose state conferred legal status requires consideration of social and environmental factors, and heightened transparency and accountability. Not all Benefit Corporations receive third party certification regarding social and environmental performance. Businesses that have received third party certification of their sustainability performance demonstrate strong alignment with TBL goals and deserve recognition for their commitments.

If the applicant is a certified B Corporation and/or provides incentives that favor B certified companies as tenants or project beneficiaries 100 bonus points are earned. The sub-measure is a bonus and is not included in the project score if there is no certification.

Caveats
Evidence to support the claim should be made available.
A number of reporting systems exist to help businesses and their stakeholders assess sustainability issues, however, B Lab is currently the only third party certifier of triple bottom line businesses (http://www.bcorporation.net/). This measure can accommodate additional certifications if appropriate.

4. Anti-Poaching

Economic development that is based on recruitment and relocation of existing businesses may generate jobs in one community while leaving another worse off. In some cases, relocation may be occurring because a facility has exceeded its capacity, needs an upgrade, or requires a workforce with different skills. In these circumstances, efforts should be made to meet these needs without dislocating jobs in the current location if feasible and/or mitigate negative impacts on the existing community.

This measure considers whether the jobs "created" by this project are the result of avoidable job loss in another jurisdiction. If the project does not involve relocation of an existing business from another location, this measure does not apply and the project score is unaffected. A neutral score (NA) is earned if the project involves the relocation of an existing business but the jurisdiction gaining the jobs cooperates with the jurisdiction losing the jobs to try and keep the company in the existing jurisdiction and/or to mitigate impacts on the existing jurisdiction. Documentation should address why the jobs need to be relocated, expected impacts on the communities losing the jobs, and efforts to avoid or mitigate impacts on the communities losing jobs. A score of 0 is earned if the project provides incentives or otherwise encourages the relocation of existing jobs from another jurisdiction.

Caveats
Evidence to support the claim should be made available. Consideration should be given to the quality of the strategy and the strength of implementation provisions.

5. Relocation Planning and Collaboration

Businesses or residents that are temporarily or permanently relocated due to an investment may experience higher rents, longer or more expensive commutes, and a loss of important community ties. Impacts of relocation to existing residents and businesses must be carefully considered and appropriate plans made to ensure that relocation does not negatively affect this population. Further,

because the burdens of relocation often accrue disproportionately to disadvantaged and underrepresented populations, focused attention needs to be given to these residents and businesses.

Measure Formula and Scoring
This measure applies if temporary or permanent relocation will occur as part of this project. The measure score is calculated by averaging the scores for sub-measures b and c scores described below. The maximum measure score of 100 is earned when a relocation plan appropriate to the needs and interests of existing residents and businesses is developed with meaningful engagement of the affected parties. A measure score of 50 is earned when a reasonable relocation plan is developed but without meaningful engagement of affected parties. Zero points are earned if an appropriate relocation plan is not created. This measure does not apply if there is no temporary or permanent relocation of residents or businesses associated with the investment.

a) Resident and/or Business Relocation

This question is for informational purposes and identifies whether any residents and/or businesses will be temporarily or permanently relocated as part of the project. This sub-measure has no scoring.

b) Relocation Plan Appropriate to the Needs of Existing Residents and Businesses

This sub-measure considers whether a relocation plan appropriate to the needs and interests of residents and businesses before, during, and after relocation will be developed. Details of the relocation plan may include counseling and support services, financial assistance to navigate the costs associated with relocation, opportunities to return, and clear specification of tasks, timelines, responsibilities, performance monitoring, and recourse/consequence. If a relocation plan appropriate to the needs and interests of the community will be in place, the score is 100. If a relocation plan appropriate to the needs and interests of the community will not be in place the score is 0. This measure does not apply if residents and/or businesses will not be temporarily or permanently relocated as part of the project.

c) Collaboration to Create Relocation Plan

This sub-measure considers how the affected businesses and/or residents are involved in the development of the relocation plan. If there is or will be a plan to meaningfully engage diverse residents and businesses in the area in creating the relocation plan, with a particular focus on underrepresented and disadvantaged populations, the sub-measure score is 100. If a meaningful plan is not in place, the score is 0. This sub-measure is not applied if residents and/or businesses will not be temporarily or permanently relocated as part of the project.

Caveats
Evidence to support the claim should be made available. Consideration should be given to the quality of the strategy and the strength of implementation provisions.

6. Prevention and Mitigation of Displacement

Voluntary displacement occurs when individuals or businesses choose to move from the project area because they perceive that the move will leave them better off. Involuntary or indirect displacement occurs when residents or businesses move because they can no longer afford to stay in the area. This type of dislocation is similar to the displacement that occurs when residents and businesses are

temporarily or permanently relocated as part of the site development and construction, though there are differences in cause and remedy.

Displacement can weaken the triple bottom line in a number of ways. For example, residents and businesses that are displaced may experience higher rents, longer or more expensive commutes, and a loss of important community ties. The potential for involuntary or indirect displacement of existing residents and businesses in the project area must be carefully considered and appropriate prevention and mitigation plans implemented.

Measure Formula and Scoring
This measure applies if the cost of living or doing business in the neighborhood surrounding the project is likely to increase as a result of this project. The measure score is calculated by taking the average of the scores for sub-measures b and c described below. The maximum score of 100 is earned when a strategy to prevent and mitigate potential displacement is developed in collaboration with affected parties. A score of 50 is earned when an anti-displacement strategy is developed but without meaningful engagement of affected parties. Zero points are earned if an anti-displacement strategy is not created. This measure does not apply if residents and/or businesses are not likely to be priced out of the neighborhood or involuntary displaced due to the project.

a) Cost of Living or Doing Business

This question is for informational purposes and identifies whether the cost of living or doing business in the neighborhood is likely to increase as a result of this project leading to residents and/or businesses being involuntarily or indirectly displaced. This sub-measure has no scoring.

b) Anti-displacement Strategy

This sub-measure considers whether an anti-displacement strategy appropriate to the needs and interests of residents and businesses will be developed. The strategy could include things like assistance with purchasing units, affordability agreements, tax relief, and counseling and skill-building to identify and successfully pursue suitable options. If an appropriate anti-displacement strategy will be in place, the sub-measure score is 100. If an anti-displacement strategy appropriate to the needs and interests of the community will not be in place, the score is zero. This sub-measure is not applied if the project is not expected to contribute to involuntary or indirect displacement.

c) Anti-displacement Strategy Collaboration

This sub-measure considers whether there is a plan to meaningfully engage diverse residents and businesses in the area in creating the anti-displacement strategy, with a particular focus on underrepresented and disadvantaged populations. If a plan will be in place, the sub-measure score is 100. If an anti-displacement strategy appropriate to the needs and interests of the community will not be in place, then the score is zero. This sub-measure is not applied if the project is not expected to contribute to involuntary or indirect displacement.

Caveat
Evidence to support the claim should be made available. Consideration should be given to the quality of the strategy and the strength of implementation provisions.

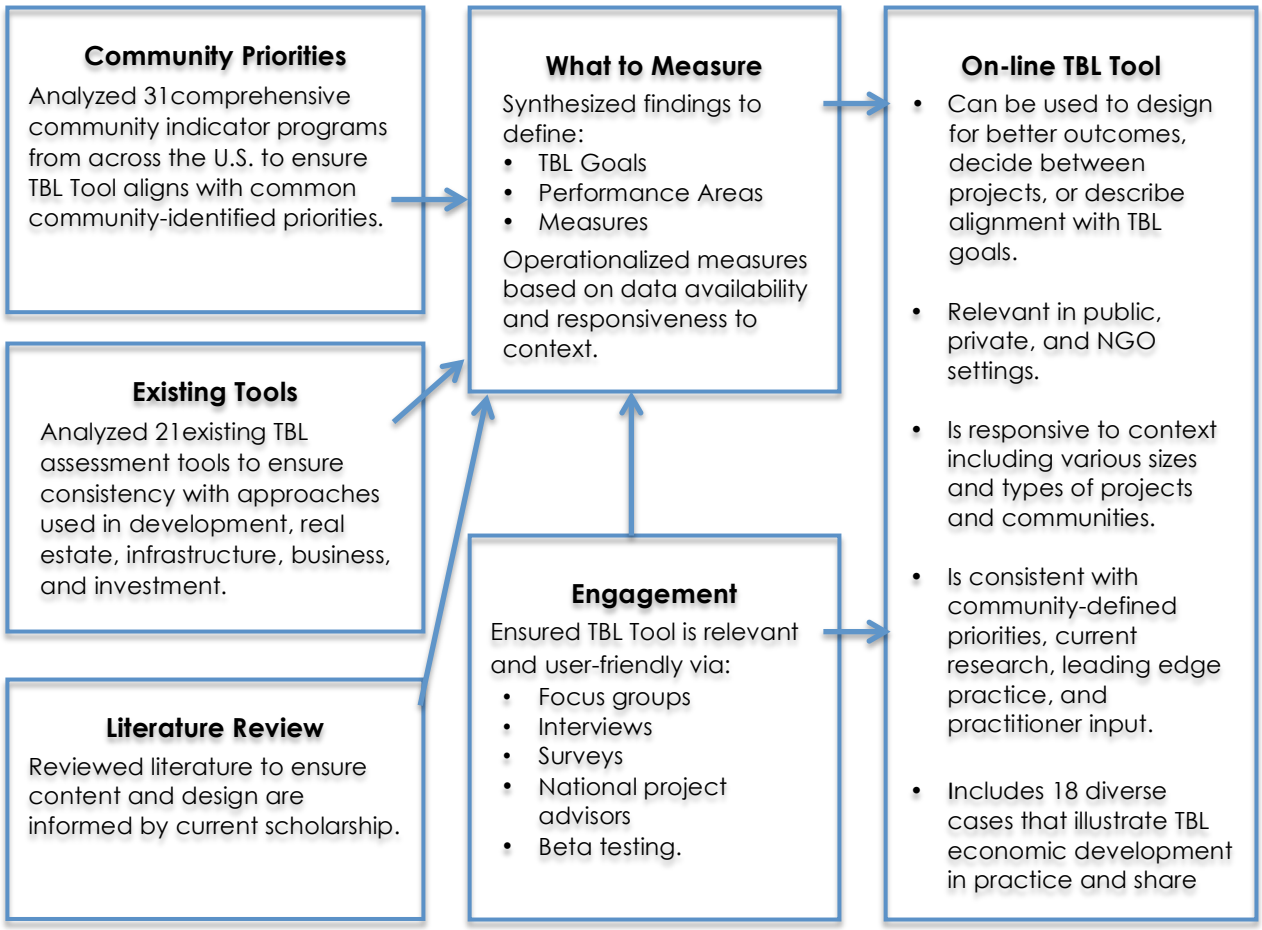
Appendix One: National Advisors

We would like to express our gratitude to the numerous individuals from across the U.S. who provided valuable insights and suggestions regarding the TBL Tool. In addition, we would like to acknowledge the extra effort and contribution made by the following individuals for their participation in a two-day work session held in October, 2011 to finalize the TBL Tool measures and design parameters and/or their extensive feedback during tool development and beta testing. The following represents our expression of thanks and does not imply an endorsement of the TBL Tool by these individuals or their organizations (affiliations at the time of participation).

- Richard Berndt - EDA Seattle Office, Regional EDR
- Keith Bisson – Coastal Enterprises, Inc., Senior Vice President
- Darrell Brown –School of Business, Portland State University, Professor of Accounting,
- Matt Chase – National Association of Regional Development Organizations, Executive Director
- Abe Farkas – ECONorthwest, Development Services Director
- Dan Gundersen – Baltimore County Maryland Economic Development Department, Executive Director; IEDC Board Member
- Darrene Hackler – George Mason University, Professor of Government and Politics
- Lisa Hagerman – Double Bottom Line Ventures, Director of Programs
- Megan Henderson – Heart of Texas Council of Government, Director of Regional Services
- Cheryal Lee Hills – Minnesota Region Five Development Commission, Executive Director
- Chris Hoene – National League of Cities, Director of Research and Innovation
- Terry Holzheimer – City of Arlington, Virginia Economic Development, Director
- Betty Huskins – North Carolina Association of Regional Councils of Government, Executive Director
- Marcy Jaffe – MJC, Director
- Mike Krajovic – Fay-Penn Economic Development Council, President and CEO
- Rene Loveland – Gerding Edlen Development Company, Manager
- Deb Markley – Rural Policy Research Institute, Managing Director RUPRI Center for Rural Entrepreneurship
- Lang Marsh – National Policy Consensus Institute, Fellow
- Kathy Nothstine – National Association of Regional Development Organizations, Program Manager
- Alan Okagaki – Craft3, Strategic Advisor
- David Porter – EDA Portland Office, Economic Development Representative
- John Provo – Virginia Tech Office of Economic Development, Director
- Colin Rowan – Principal, United Fund Advisors
- Vivek Shandas – School of Urban Studies and Planning, Professor, Portland State University
- Liz Thorstensen – International Economic Development Council, VP Knowledge Management & Economic Development Practice
- Adam Zimmerman – Craft3, Senior Vice President

Appendix Two: Review of Tools, Literature, and Community Priorities

The approach to developing the TBL Tool was rigorous, inclusive, transparent, and pragmatic. The TBL Tool is informed by community-identified priorities, leading edge practice, current research, and end-user feedback.



Our approach to defining triple bottom line economic development is summarized below.

1. Review of TBL Assessment Tools

Tools[11] that are designed to assess the triple bottom line vary based on their purpose (e.g., assess, evaluate), focus (e.g., business, real estate, infrastructure), and approach (e.g., impact, targets,

[11] The term tool, framework, and process are used interchangeably in the literature.

alignment). Our search for TBL assessment tools built upon prior work[12] and included a review of the literature, web based search, and a survey of economic development professionals (see below). Our review included an analysis of twenty-one TBL assessment tools in the related domains of real estate, infrastructure, business and investment. The analysis informed both the design and implementation of the TBL Tool. Tools reviewed, organized by primary object of assessment, include:

Business	***Investment Opportunity***
City of Austin Economic Development Agreements	Boston Sustainable Return on Investment Model
CDFI Assessment and Rating System (CARS™)	Craft3 Investment Review
Corporate Social Responsibility Ratings (CSRHUB)	EDA Model for Pre-assessment of Economic Development Investment
Global Impact Investing Rating System (GIIRS)	New Resource Bank Client Sustainability Assessment
Global Reporting Initiative Sustainability Reporting Guidelines (GRI)	
RobecoSAM Dow Jones Sustainability Indices	
Real Estate/Land Use	***Infrastructure***
BREEAM Communities	California Infrastructure State Revolving Fund Program Review (I-Bank)
EcoDistricts Assessment Toolkit	Envision Rating System for Sustainable Infrastructure
Healthy Development Checklist	Green Leadership in Transportation and Environmental Sustainability (GreenLITES)
Leadership in Energy and Environmental Design for Neighborhood Development (LEED-ND)	Sustainable Transportation Analysis and Rating System (STARS)
One Planet Communities	
Sustainable Sites Initiative	
VicUrban Sustainable Community Rating	

2. Review of Literature

An extensive literature review was conducted to inform our definition of triple bottom line economic development, identify examples of TBL economic development in practice, and design an assessment tool that is both theoretically sound and practical in the field. Our review included more than 150 search terms in multiple databases including Academic Search Premier, ULI Development Case Studies, Urban Studies Sage, PAIS, Web of Science, and Google Scholar.

3. Review of Comprehensive Community Indicator Programs

To ensure that the TBL Tool aligns with community priorities, we reviewed a sample of community-defined goals from across the six EDA regions. Comprehensive indicator programs were selected as

[12] a) Janet Hammer. 2009. *Development that Adds Up: Accounting for the Social Bottom Line of Triple Bottom Line Investment.* Portland, OR: Portland State University.
b) Janet Hammer. 2009. *Accounting for Development: Assessing Social and Triple Bottom Line Results of Public Development Investments*. Portland, OR: Portland State University.
c) Gary Pivo. 2010. *Responsible Property Investing: Metrics for Performance Measurement.* Geneva, Switzerland: United Nations Environment Programme Finance Initiative (UNEPFI). http://www.unepfi.org/fileadmin/documents/responsible_property_toolkit2.pdf

the unit of analysis because they address the broad range of priorities held by a jurisdiction and have been identified as relevant to economic development.[13]

The indicator programs reviewed were identified by searching the Community Indicators Consortium[14] website, as well as literature and websites on the topic. We sought to identify at least one comprehensive indicator program at the municipal, county or region,[15] and state level for each EDA region. We selected programs of regional and rural-urban diversity in order to determine whether core community priorities can be identified across context and, if so, what those are. The community indicator programs reviewed include the following:

Location	**Program Name**
Alabama	Governor's Priorities
Albuquerque, NM	Albuquerque Progress Report
Arkansas	Aspire Arkansas
Boston, MA	Boston Indicators Project
Boulder, CO	Boulder County Trends
Dakota Co., MN	Dakota County Community Indicators Report
Dallas, TX	Dallas Indicators
DC Metro	Region Forward
Fond du Lac County, WI	Local Indicators for Excellence Report (L.I.F.E. Report)
Glendale, CA	Quality of Life Indicators
Grand Rapids, MI	Community Triple Bottom Line Indicator Report
Greenville, SC	Greenville Indicators
Jacksonville/ NE Florida	Quality of Life Progress Report
Kansas City Region, MO/KS	Metro Outlook
King County, WA	Annual Indicators and Measures (AIMS High)
Long Island, NY	Long Island Index
Maine	Measures of Growth
Minnesota	Minnesota Compass
Onandaga County, NY	Onandaga County Community Indicators Report
Oregon	Oregon Benchmarks
Santa Monica, CA	Sustainability Report Card
Savannah Metro/Chatham County, GA	Community Indicators Report
Silicon Valley, CA	Index of Silicon Valley
Spartansburg, SC	Spartansburg Community Indicators
Topeka-Shawnee County, KS	Shawnee County Progress Report
Truckee Meadows, CA	Truckee Meadows Tomorrow Quality of Life Indicators
Tucson, AZ	Greater Tuscon Region Indicators Report
Vancouver, WA	Strategic Indictors
Virginia	Virginia Performs
Washtenaw, MI	Sustainable Washentaw Indicators Report
Yampa Valley, CO	Yampa Valley Data Partners Community Indicators Project

[13] Rhonda Phillips. 2005. *Community Indicators Measuring Systems*. Gainesville: Ashgate.

[14] The Community Indicators Consortium (http://www.communityindicators.net/) is an online network of worldwide community indicator practices. An online database provides general information and links to current indicator projects.

[15] Inter-state or intra-state.

While comprehensive indicator programs vary in their formats, terms, emphases, and applications, there are some common structural elements. Typically, an indicator program defines headline categories or themes and indicators are clustered in those categories, often as part of a sub-category. Our review was designed to identify core themes – the visions, goals, or objectives a community cares about. These findings help inform the types of community impacts to consider when assessing potential economic development investments.

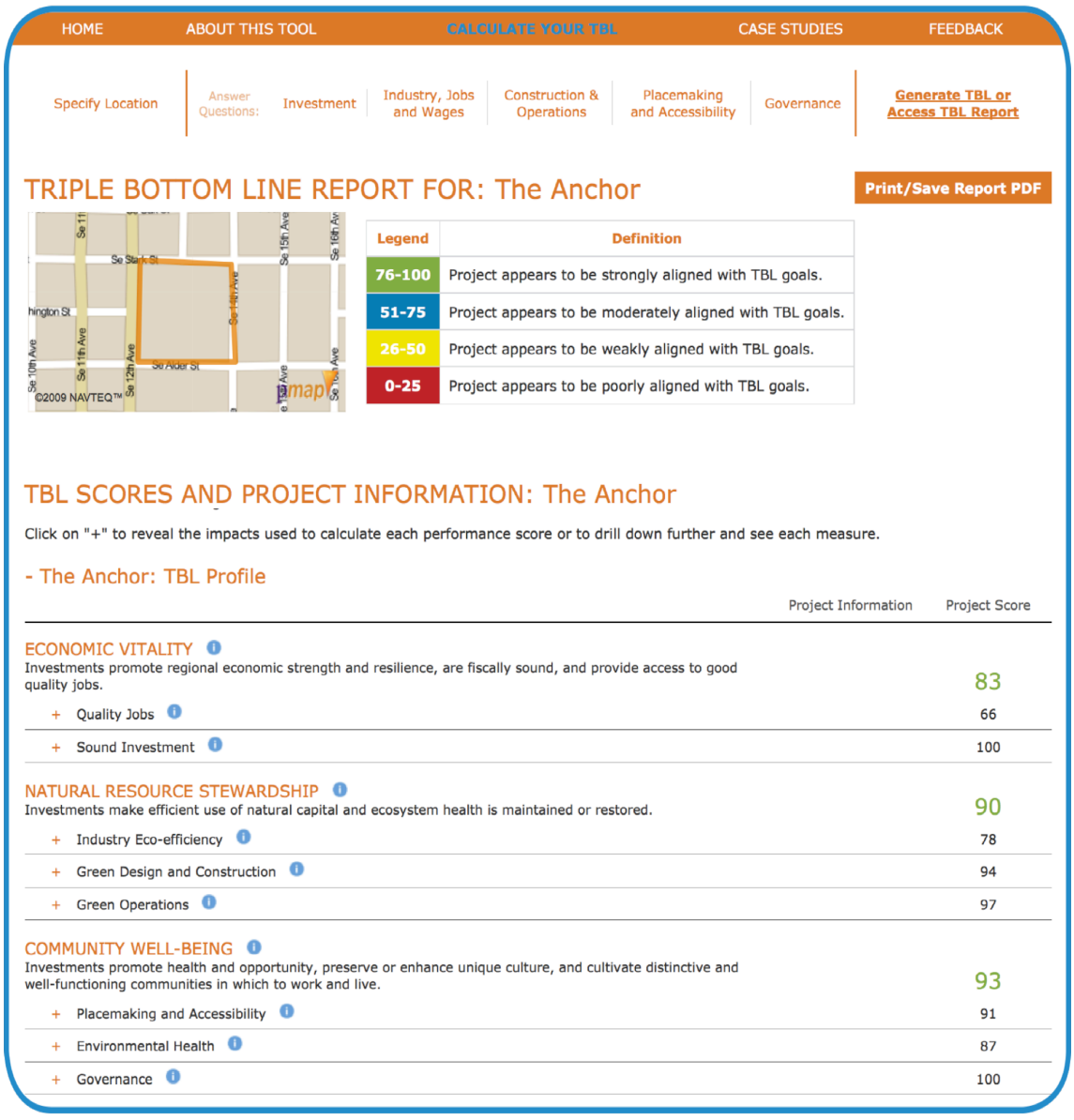
Our review indicates that communities large and small, rural and urban, have many of the same aspirations. All thirty-one of the indicator programs have goals pertaining to the natural environment, transportation and mobility, human health and safety, economic vitality, and education. Twenty-one of the jurisdictions have goals around housing, and half of the jurisdictions have articulated priorities regarding the built environment. Civic engagement, good governance, arts and culture, and diversity or inclusion are addressed by approximately one-third of the indicator programs.

This review is indicative and not conclusive, and does not reflect the quality of the indicator programs. What it does tell us is whether jurisdictions with comprehensive indicator programs articulate common community goals and, if so, what those are.

The common goals identified are consistent with literature regarding factors supportive of economic development (e.g., educated workforce, quality place to live). The TBL Tool can help communities make more strategic investments by better aligning economic development investments with community priorities.

Appendix Three: Sample Report

The following is a screen shot for a sample TBL project report. The project is fictitious and is presented solely to illustrate the report format. This image is of an on-line report, where the "+" signs are used to "drill down" and display additional details. The PDF version includes the summary report as well as the detailed report.



HOME | ABOUT THIS TOOL | CALCULATE YOUR TBL | CASE STUDIES | FEEDBACK

Specify Location | Answer Questions: | Investment | Industry, Jobs and Wages | Construction & Operations | Placemaking and Accessibility | Governance | Generate TBL or Access TBL Report

TRIPLE BOTTOM LINE REPORT FOR: The Anchor

Print/Save Report PDF

Legend	Definition
76-100	Project appears to be strongly aligned with TBL goals.
51-75	Project appears to be moderately aligned with TBL goals.
26-50	Project appears to be weakly aligned with TBL goals.
0-25	Project appears to be poorly aligned with TBL goals.

TBL SCORES AND PROJECT INFORMATION: The Anchor

Click on "+" to reveal the impacts used to calculate each performance score or to drill down further and see each measure.

- The Anchor: TBL Profile

	Project Information	Project Score
ECONOMIC VITALITY Investments promote regional economic strength and resilience, are fiscally sound, and provide access to good quality jobs.		83
+ Quality Jobs		66
+ Sound Investment		100
NATURAL RESOURCE STEWARDSHIP Investments make efficient use of natural capital and ecosystem health is maintained or restored.		90
+ Industry Eco-efficiency		78
+ Green Design and Construction		94
+ Green Operations		97
COMMUNITY WELL-BEING Investments promote health and opportunity, preserve or enhance unique culture, and cultivate distinctive and well-functioning communities in which to work and live.		93
+ Placemaking and Accessibility		91
+ Environmental Health		87
+ Governance		100

Appendix Four: Alignment with EDA Application Requirements

The TBL Tool aligns with EDA 900 application requirements current at the time the tool was created:

A3 CEDS – Tool asks whether project aligns with regional economic development strategy.
A8 budget – Tool asks for total project costs.
A9 leverage – Tool calculates leveraged dollars.
A13.3 distress – Tool identifies high need areas, though uses a different measure.
A13.5 Beneficiaries – Tool identifies industry by NAICS, jobs created and retained.
M.1- some fit with metropolitan review in question regarding adequate capacity of key infrastructure.
M.6. Operation and maintenance measure would provide some information that may be helpful here as well as fit with strategic priorities.
M.7 Tool has question regarding relocation and displacement
M.8 Environmental Requirements Tool identifies presence of eight sensitive natural resources on site and proximity to TRI facility. Also requests information on historic and cultural features and notes if project involves remediation.

Environmental Narrative
The TBL Tool will help determine if an environmental narrative is warranted. That is, it identifies whether the project is located in area that has wetlands, floodplains, critical habitat, protected areas, endangered species, and identifies whether the industry has higher than average waste, toxics, and water use. The TBL Tool also identifies whether adequate water and sewer capacity is in place to serve the project, and whether historic and cultural resources are impacted. These are all items on the environmental narrative form. Focus group participants noted that it would be valuable to have a tool that helps them identify this information.

Non-attainment is not included at this time because that data is at a county level. We could add that to the TBL Tool as an FYI item (not part of score) and this would tell the reviewer whether extra scrutiny may be warranted.

For a rating version of the TBL Tool, if an environmental narrative is produced, the information from the narrative will be useful for completing a number of TBL Tool measures (e.g., any avoidance or mitigation where sensitive lands have been identified).