

Using Triple Bottom Line as a Framework for
Open Space Infrastructure Planning

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Chapter 1: Introduction

Providing adequate open space is one of the most important and longstanding services a local government provides. A well-connected and protected open space infrastructure does more than

“At some point, conservation objectives must be considered in relation to economic and social objectives, which may require trade-offs and compromises.” – Porter 2008

provide an aesthetic environment for development; it brings important sustainability benefits to the community. Sustainability is often described as a three-legged stool that balances the “three P’s” (Profit, People, and Planet) or the “Three E’s” (Economics, Equity, and Environment). The three-legged stool is also commonly known as the triple bottom line (TBL). Open space benefits communities on each count.

Local governments can realize open space’s benefits when they use TBL as more than a theory or a sustainability lens. Government bodies can operationalize TBL by using it as a decision-making framework. Recent research shows that a TBL framework could create comprehensive analysis and durable decisions, particularly for transportation planning. TBL could do the same for open space.

In Oregon, the Statewide Planning Program greatly influences general land use planning goals and open space management. Because these goals are so comprehensive, it was unclear whether a TBL framework would add to the process or create a duplicative administrative burden. This research was designed to evaluate whether TBL could be used as a framework for open space decision-making in Oregon. This report analyzes the potential effectiveness of using a TBL decision-making framework for open space infrastructure planning. The research question is: how can a local government such as

Medford, Oregon use Triple Bottom Line Theory to effectively prioritize and protect lands for open space infrastructure provision?

Chapter 2: Literature Review

2.1 Introduction to Open Space Regulation

Open space is an important part of any city. Adequate open space infrastructure by any definition creates benefits that reach multiple levels of the community. Government agencies can use open space to direct growth and development (American Planning Association 2010). Protecting natural-state open space, particularly in larger swaths and as part of an interconnected network, can provide ecological benefits, such as species preservation and stormwater management (Bolund and Hunhammar 1999). Community members benefit from access to recreational opportunities, active transportation corridors, and beauty (American Planning Association 2010). Finally, a robust open space infrastructure system can create economic benefits by attracting tourism and increasing property values for nearby landowners (Song 2011). In fact, recent research suggests that preserved land as a percentage of total land is positively associated with high incomes, high housing values, and population growth (Poor and Brule 2007). Government agencies can capitalize on these benefits with effective open space regulation, particularly by preserving open space on the urban fringe and providing adequate intra-city open space infrastructure (Gomez-Baggethun and Barton 2012).

In the United States, governments regulate open spaces and natural resources in relatively large quantities. For example, the 30th Congress created the Department of the Interior in 1849, an agency that manages 500 million acres of public surface lands, which is

approximately one-fifth of the land in the United States (United States Department of the Interior(a) and (b) 2014).

In Oregon, local governments regulate land use according to a complicated regulatory scheme, known as the Statewide Planning Program. As part of this program, local governments must complete comprehensive plans and adopt regulations to implement those plans. Plans must comply with 19 Statewide Planning Goals (OAR 660-015). As Oregon local governments plan for open space, they have a great deal of flexibility because of the way the State defines open space. Under Oregon law, open space means:

Statewide Planning Goals

1. Citizen Involvement
2. Land Use Planning
3. Agricultural Lands
4. Forest Lands
5. Natural Resources
6. Air, Water and Land Quality
7. Natural Hazards
8. Recreational Needs
9. Economic Development
10. Housing
11. Public Facilities
12. Transportation
13. Energy Conservation
14. Urbanization
15. Willamette Greenway
16. Estuarine Resources
17. Coastal Shore Lands
18. Beaches and Dunes
19. Ocean Resources

“(a) Any land area so designated by an official comprehensive land use plan adopted by any city or county; **or**

(b) Any land area, the preservation of which in its present use would:

- (A) Conserve and enhance natural or scenic resources;
- (B) Protect air or streams or water supply;
- (C) Promote conservation of soils, wetlands, beaches or tidal marshes;
- (D) Conserve landscaped areas, such as public or private golf courses, which reduce air pollution and enhance the value of abutting or neighboring property;
- (E) Enhance the value to the public of abutting or neighboring parks, forests, wildlife preserves, nature reservations or sanctuaries or other open space;
- (F) Enhance recreation opportunities;
- (G) Preserve historic sites;
- (H) Promote orderly urban or suburban development; **or**
- (I) Retain in their natural state tracts of land, on such conditions as may be reasonably required by the legislative body granting the open space classification” (ORS § 308A.300(1)).

Oregon local governments can protect open spaces in a variety of ways. Typically, open space protection falls into one of three broad action categories: acquiring, regulating, or incentivizing. First, governments can acquire land through exercising eminent domain power (in a condemnation process), fee simple or easement purchase or donation from voluntary sellers or donors, purchase of development rights programs, or land banking. Second, the relatively broad police power to protect public health, safety, and welfare grants regulatory authority for approaches such as zoning, exactions, conservation designations in comprehensive plans, transfer of development rights programs, or covenants and servitudes. Third, governments can incentivize conservation through tools like preferential assessment and taxation, homeowners associations rules, planned unit development requirements, or density bonuses. To use a protection tool, Oregon local governments complete the comprehensive planning process and implement regulations in compliance with the 19 Statewide Planning Goals, one of which relates to open space protection (OAR 660-015).

Statewide Planning Goal 5 governs open space protection expectations in Oregon's counties and cities. Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces, does not define open space, but the procedures and requirements for complying with Goal 5 state that it includes parks, forests, wildlife preserves, nature reservations or sanctuaries, and public or private golf courses (OAR 660-015-0000(5) and OAR 660-023-0220(1)). Counties and cities comply with Goal 5 by protecting open space outside of UGBs and inside, respectively. By complying with Goal 5, Oregon local governments can meet state regulations, protect and provide open space for their residents and visitors, and encourage sustainable development in open space infrastructure planning.

2.2 Sustainability

Sustainability is an amorphous, politicized word. One commonly accepted definition of sustainable development is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland 1987). In practice in the United States, sustainable development often encourages government bodies to think holistically when analyzing negative and positive impacts by considering a decision’s impacts from multiple and competing perspectives. In other words, “sustainable development seeks to reconcile the conflicts among economic development, ecological preservation, and intergenerational equity...” (Godschalk 2004). As applied to open space, holistic thinking means recognizing the multitude of services open space provides – often called “ecosystem services” – which range from facilitating human recreation to cleaning water (Rosenbaum 2008). Literature often explains these myriad benefits by recognizing that sustainable development is an exercise in attempting to meet a triple bottom line.

2.3 Triple Bottom Line Theory

Triple bottom line (TBL) theory expands on the traditional notion of meeting “the” bottom line. John Elkington first introduced TBL in 1994 as a private sector theory wherein companies meet the “traditional” bottom line (economic/profit) as well as social and environmental responsibility measures (Moore and Zako 2013). In shorthand, TBL is called the “three E’s” of economy, [social] equity, and environment as well as the “three P’s” of profit, people, and planet (Moore and Zako 2013). Using the “three P” measures, a company – or government body – would analyze alternatives based on their ability to meet a profitability measure (including all economic benefits, not just the bottom line), enhance

wellbeing (particularly for historically disenfranchised groups or at-risk groups), and safeguard the health of the natural environment (Hindle 2009). To illustrate the “three P’s,” Vanderbilt University (2013) created a sustainability Venn Diagram:

Diagram: Sustainability Venn Diagram

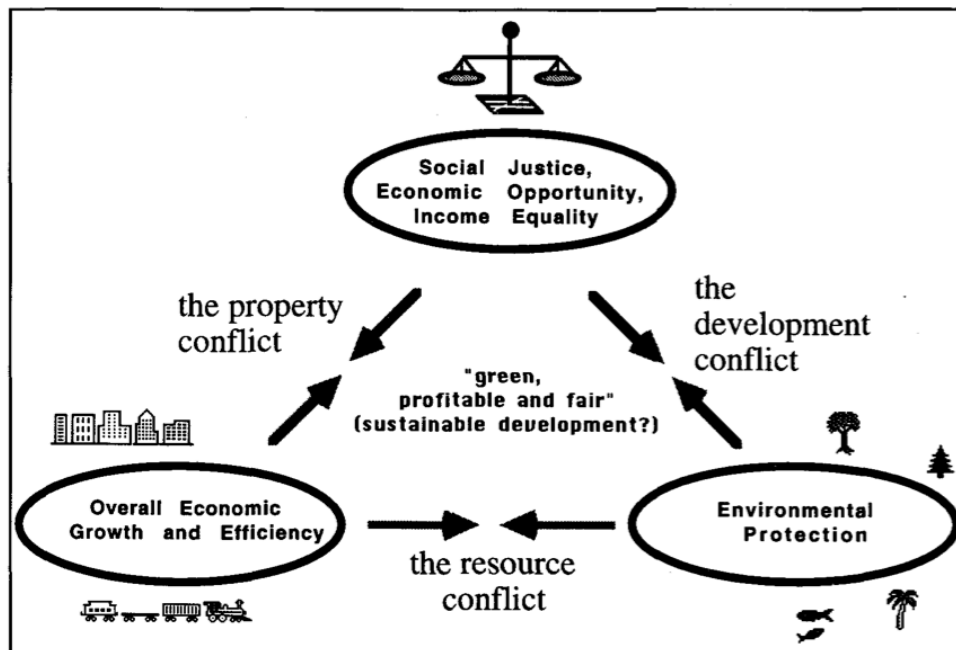
The Three Spheres of Sustainability



Source: Vanderbilt University, 2013

In addition to how the three P’s interact, the literature in this field also explores conflicts. For example, Campbell (1996) described the types of conflicts that arise when a government body weighs competing P’s as lines along a triangle:

Diagram: The “Three E’s” Triangle



Source: Campbell 1996

As local governments attempt to protect and provide open space infrastructure, TBL theory and its conflicts can help create more robust discussions and decisions. While it is useful to consider each “P” as a concept, understanding how each will weigh against the others is key to making decisions that optimize tradeoffs. In other words, putting TBL theory to work as a decision-making framework is the most effective way for a local government to use the theory.

2.4 Triple Bottom Line as a Decision-Making Framework

While spheres and triangles are conceptually helpful, they gain more effect when put into practice. Recent research suggests that TBL should not be thought of as a sustainability tool, but rather as a decision-making framework (Moore and Zako 2013). In other words, in practice, government bodies can transition from thinking of sustainability

and TBL as a concept to incorporating TBL into processes that expose tensions and reach a more effective implementation decision. Using this model, a local government would select infrastructure and development alternatives in a way consistent with sustainability principles. This approach diverges from typical policy evaluation.

A common policy analysis will identify and measure costs and benefits, discuss alternatives and their impacts, and select a policy or project (Moore and Zako 2013). While Moore and Zako (2013) do not suggest diverging from the traditional process of using a framework, measuring what matters, and making a decision, they urge government bodies to use TBL as the framework for data and evaluation. Analyzing public action in this manner would create a more comprehensive and sustainable process and decision. Of the various impact aggregation techniques,¹ TBL is most like a Benefit-Cost Analysis, but goes above and beyond by assessing more than just the economic bottom line.

In practice, Moore and Zako (2013) suggest that local governments use TBL as a decision-making framework to evaluate return on investment. In order to complete this multi-dimensional calculation, a government body should follow eight guiding principles:

Table: Recommended General Principles

- | |
|---|
| <ol style="list-style-type: none">1. Reflect values, goals and objectives2. Quantify direct costs and benefits3. Identify other major costs and benefits4. Identify who benefits and who pays5. Develop rough estimates, but highlight uncertainties6. Help policymakers to balance priorities7. Integrate TBL methods into decision-making8. Monitor outcomes |
|---|

Source: Moore and Zako 2013.

¹ See Appendix for a list of impact aggregation techniques.

The TBL framework can bring many positive impacts. Recent research shows that benefits can include “better decisions, greater transparency, improved coordination between departments or units, and increased understanding about what sustainability means and how to operationalize the concept” (Hammer et al. 2010). Some drivers of these benefits are better recommendations, providing councilors with more information, following a process that flagged issues, stimulating learning, creating habits of thinking and doing, building capacity, and shifting culture (Hammer et al. 2010). Retaining flexibility for a shifting culture is particularly important in Oregon cities as populations change over time in size and composition. For example, from 2000-2010 in Medford, Oregon, the Latino population grew more than twice as fast as the total population and over three times faster than the white population (Sandoval 2013). These shifting demographics demand a flexible decision-making framework. But positive impacts from using a TBL framework are not limited to governmental process improvement.

The TBL framework can create community buy-in. The “three P’s” are easy-to-explain concepts and can help government bodies facilitate agreement among all participating parties. However, agreement among all participating parties is a lofty goal. Moore and Zako (2013) argue that TBL can, if not create complete agreement, create agreement among participants around important ideas related to infrastructure provision. For example, when using a TBL framework, participants will probably at least agree that: (1) public investment decisions have multiple impacts; (2) the process must identify and measure impacts, (3) decision-makers must compare alternatives based on measurements, and (4) community members will have strong and diverging opinions. With these foundational agreements, it will be easier to create community buy-in and support for the

more specific infrastructure provision project or decision. However, this framework is not a silver bullet to overcome age-old problems. For example, all multi-criterion decision-making stumbles over identifying the relative importance of positive and negative impacts of each alternative (Moore and Zako 2013). In other words, any process that uses multiple criteria will find it difficult to weigh categories against each other. How does a decision-maker weigh economic impacts against social equity? Some jurisdictions assign scores to create weights, others allow for a public vote on alternatives, and others avoid discussing how to weigh impacts altogether (Moore and Zako 2013). Ultimately, weighing impacts against each other is a difficult task, but local governments can use TBL to begin creating agreement among decision-making participants.

2.5 Takeaways for Practice and Need for Future TBL Research

Government bodies can use triple bottom line (TBL) as a decision-making framework to create comprehensive analytical processes that align with basic sustainability principles. One strong point of viewing TBL as a framework rather than a theory is that it can scale to any issue. TBL as a theory is limited to merely viewing an issue through multiple lenses. When used as a decision-making framework, TBL can expand its scope to influence decision processes from creating alternatives to selecting a course of action. In other words, a TBL framework generates a more robust discussion and requires a final decision that meets the theoretical goals (three bottom lines rather than one). Local governments can take advantage of scaling TBL by tailoring the framework to local culture and need. For example, the local government can select a wide scope and use a TBL framework to inform all government functions as an overarching policy, or it can select a

narrow scope and apply the framework for decision-making only to processes to regulate specific natural resources.

Government bodies could scale the TBL framework for open space infrastructure decision-making processes. A local government could adopt a TBL framework for open space decisions to overcome the problem that most open space infrastructure conversations and decisions fall back to economic considerations.

Operationalizing a TBL framework for open space infrastructure is limited because current commercial methods for TBL analysis are not resource-specific. Most TBL modeling tools analyze an entire city's infrastructure or transportation system, or construction projects in particular.² Modeling software or spreadsheets for open space are far more rare, particularly ones that include all types of open space, such as parks, riparian areas, and natural-state open space. However, requiring TBL-based discussion in open space planning processes could be an effective and cutting-edge step with or without commercial software or spreadsheets.

In addition to creating a more robust discussion, TBL decision-making encourages open space protection that is targeted and strategic. One challenge in open space protection is that it is often opportunistic – residents voluntarily approach local governments to offer sale or donation of land and the local government merely assesses whether it can afford to purchase and/or maintain the land. TBL creates a discussion that moves away from “can we afford it” in favor of “will acquiring this land meet multiple goals?” In other words, by analyzing open space decision-making in a targeted way and through the lenses of profit, people, and planet, a local government could more

² See Moore and Zako (2013) for a discussion and comparison of TBL modeling and analysis tools.

comprehensively decide whether public funds and actions are impacting the community in a holistic way.³

³ See, for example, Maryland's Rural Legacy Program, which "provides funding to preserve large, contiguous tracts of land and to enhance natural resource, agricultural, forestry and environmental protection while supporting a sustainable land base for natural resource based industries. The program creates public-private partnerships and allows those who know the landscape best – land trusts and local governments – to determine the best way to protect the landscapes that are critical to our economy, environment and quality of life" (Maryland Department of Natural Resources 2014).

Chapter 3: Methods

3.1 Overview

As global and local debates rage on about sustainability, open space decision-makers need practical solutions to analyze infrastructure and implement selected alternatives. In this search, local governments must choose between a “race to the bottom,” with a focus on profitability, or a “race to the top,” with a focus on quality of life (Hammer et al. 2010). For open space, a race to the bottom (i.e. a focus on short-term economic impacts) encourages cities to look at their parks system as a resource that requires funding and can generate funding, if run well. A race to the top would shift that focus, encouraging a city to view its open space infrastructure as an asset for residents’ wellbeing and a source of ecosystem services. In other words, triple bottom line theory (TBL), when used as a framework, could add balance, long-term thinking, and a focus on the public good to the decision-making framework.

In Oregon, the Statewide Planning Program greatly influences general land use planning goals. Cities and counties must complete comprehensive plans and those plans must comply with the 19 planning goals. Among the goals are requirements regarding environmental protection and citizen involvement. As a result, it was unclear whether a TBL framework would add to the process or create a duplicative administrative burden. This research evaluated whether TBL could be used as a framework for open space decision-making in Oregon.

3.2 Study Area

This analysis explored TBL for open space decision-making by rigorously applying it to one case study: Medford, Oregon. I analyzed TBL theory requirements and assessed effective open space preservation within the legal framework of Oregon's statewide land use planning system. Restricting the study to Medford is a limited approach because findings may not apply to communities that differ from Medford in characteristics like size, political climate, or location; however, this approach shed light on the lack of TBL as applied to open space protection as compared to dominant frameworks, like economic considerations, that do not reflect the same holistic principles.

3.3 Data

I analyzed open space preservation techniques that could be effective as applied to Medford, Oregon by using both primary and secondary data (staff interviews and city documents, respectively). I identified core issues, such as key obstacles like financing and administrative structure, through an extensive literature review and analyzed secondary data sources that included city and state documents, such as comprehensive plans and open space requirements. I conducted eleven in-depth, semi-structured interviews with key players in Medford and exemplary open space protection programs and organizations.⁴ These interviews informed the city's past practices, current obstacles, and concerns about the future.

I coded interview transcripts using both predetermined and emergent categories. Predetermined categories arose from the literature review and included, for example,

⁴ See appendices for a list of interviewees.

property rights challenges, financing, and the opportunistic nature of open space acquisition. Emergent categories arose in the interviewing process, and included, for example, the comprehensive requirements of the statewide planning program, the local conservative culture, and the bias that often arises in community forums from an active and vocal minority. After grouping comments by topic, I analyzed them for themes and key lessons. I also included public documents and internet material in the information archive to compare against interview findings.

3.3.1 Limitations

This research contained some limitations. First, using one case study limits applicability to other Oregon cities because findings may not apply in other contexts. Second, staff had substantively dissimilar roles in the city and very different levels of knowledge about current open space planning. As a result, there was a wide range of opinions on what would or would not be effective. It may have been more effective to analyze the staff's organizational culture and the feasibility of a more general culture shift toward sustainability and TBL.

3.4 Expected Outcome

This project involved a range of analytical outputs. In a separate report,⁵ I analyzed Oregon's legal framework for open space protection, created a menu of legal and planning options and strategies for Medford to choose from, provided a list of recommendations based on the menu items, and detailed suggestions for next steps and future work. This report explores one of the planning menu items: implementing a policy that requires a TBL

⁵ See McFerson, KC. "Open Space Planning in Medford, Oregon: A Menu of Legal and Planning Strategies." (2014).

framework for open space decision-making processes. I expect that TBL would enhance Medford's open space infrastructure planning by creating consistent dialogue topics, helping conversation participants understand that decisions have multiple impacts, determining how to measure and compare alternatives, and airing diverse community member and staff opinions.

Chapter 4: Analysis

4.1 Context

Medford's open space planning process is both comprehensive and effective. It is also ripe for review. In order to improve open space infrastructure planning, I determined that the most important analysis would focus on obstacles the City needs to overcome. With this understanding, this research analyzed whether a triple bottom line (TBL) framework would create an open space planning process that more effectively protects Medford's natural resources.

4.1.1 Medford's Open Space Planning

Typically, the definition of the term "open space" is ambiguous, and may include many types of land. More than natural-state open space, the term can include active and passive parks, pocket parks, riparian areas, golf courses, farmland, forestland, and wilderness. Currently, Medford defines open space in the Leisure Services Plan (LSP). In this plan, the five park classifications include neighborhood parks, community parks, special use areas, linear parks, and natural open space/greenways. Open space parks are defined, in pertinent part, as "...undeveloped land primarily left in its natural form and secondarily managed for recreational use" (City of Medford 2006). Defining open space as a subset of parks is a legally defensible route for Medford.⁶ However, using the broader definition gives management authority to more departments than the parks department by granting authority to any department that manages types of open space.

⁶ See Footnote 1, *infra*.

Despite the narrow definition of open space, Medford’s current open space planning process has a number of strengths. One strength of the LSP process is generating public input. City staff identified “incredible” public participation as a focus and cornerstone of the parks planning process. Through this tool, citizens feel ownership over the process and ultimate plan. Second, Medford plans for open space through a regional planning process. Regional planning is a strength because open spaces bring the most benefit when the entire resource is protected and resources often do not end at jurisdictional lines. Therefore, working to protect shared resources is an effective approach. Finally, Oregon’s Statewide Planning Goals require planners to make findings on Goal 1 (public engagement), Goal 5 (environmental), and Goal 9 (economic), which means that staff consider the “three P’s” (profit, people, and planet) in research and recommendations to the Council.

4.1.2. Obstacles in the Open Space Planning Process

<u>Key Obstacles</u>
<ol style="list-style-type: none"> 1. Financing 2. Focus on parks over open space 3. Squeaky wheel problem 4. Opportunistic nature 5. Conservative culture 6. Property rights 7. State requirements 8. Wild lands not required within UGB
<ul style="list-style-type: none"> • City Operation-Based • Nature of Open Space Planning • Community-Based • State-Based

Medford staff identified eight key obstacles to open space infrastructure planning that break down into four main categories. First, city operations inhibit open space provision. Key obstacles include lack of funding (System Development Charges⁷ fail to cover acquisition and maintenance costs), that city staff and departments often focus on parks and

⁷ System Development Charges are one-time fees that Oregon local governments assess for new development in order to compensate for new wear and tear on existing infrastructure caused by the development (City of Medford 2014).

(particularly) recreation rather than open space, and that special interests often prevail in parks planning through the public input process (squeaky wheel problem). Second, the nature of open space protection is opportunistic. As a result, Medford often acquires land through purchase or donation, which leaves little room for strategic planning. Third, the local community can create obstacles for effective open space provision. Key obstacles include the conservative culture, which makes it hard to argue that open space preservation will benefit the community, given that it potentially affects private property rights, which leads to decision-making based on threat of lawsuit. Finally, Oregon's Statewide Planning Program can create obstacles. For example, State requirements, such as planning pursuant to state-determined goals, can feel like forced action because the local government must regulate pursuant to state requirements rather than local preference. In addition, the State does not value or require wild lands within an urban growth boundary, which discourages local governments from taking this action on their own.

4.2 TBL Implementation Potential

The potential to implement TBL depends on a local government's open space planning context and how that context relates to the "three P's." Medford's planning context uses the "three P's" to some extent, but without using that formal title.

4.2.1 TBL Context

Within its current open space planning process, Medford considers the "three P's" in various ways. While it is not labeled "TBL," the City does analyze open space planning based on the Statewide Planning Goals (which require findings on public engagement and

environmental concerns) and uses the ESEE⁸ analysis for riparian decision-making. City staff identified profit as the “P” that the City considers most in open space planning. As a result, the City places more importance on using the parks system to generate revenue from recreation programs. In addition, the City’s financial ability to acquire lands holds more weight in decisions than equitable distribution of type or protecting environmentally beneficial natural resources. However, key findings show that certain facets of the City’s planning process might lead to an easier adoption of a TBL framework.

4.2.2 TBL Adoptability

Medford is already using effective and progressive planning processes and tools that could lead to easier TBL adoption. As previously mentioned, Medford uses the ESEE analysis process for riparian areas, which means that the City is used to considering negative and positive consequences for the economy, environment, and community. In addition, the Parks and Recreation Department uses the Proximity Principle⁹ to show the economic benefit of parks. The Proximity Principle would be a relatively easy transition to TBL because it links open space provision to economic benefits. Medford could find ways to measure and link open space provision to environmental and social benefits in order to make creative arguments for open space based on quantifiable links and benefits. Adding a TBL decision-making framework could avoid reactive decision-making (an identified issue) and reduce the opportunistic nature of open space acquisition. In interviews, some staff

⁸ ESEE analysis means identifying “positive and negative economic, social, environmental, and energy (ESEE) consequences that could result from a decision to allow, limit, or prohibit a conflicting use” OAR 660-023-0010(2).

⁹ The Proximity Principle is a way of monetizing the benefits to property values that flow from close proximity to open space.

noted that adding TBL to the mix could raise people’s consciousness and create more durable, comprehensive decisions.

In practice, City staff could implement a TBL framework by using a worksheet based on a predetermined TBL criteria list. Because applying TBL as a decision-making framework to open space infrastructure planning is new, there are no preexisting criteria lists or worksheets. However, Medford could develop a worksheet based on existing resources. For example, as part of the 2013-2017 Oregon Statewide Comprehensive Outdoor Recreation Plan, Gallagher Consulting created a sustainable parks criteria list that assigns points to parks that meet sustainability criteria (Gallagher 2013). If the City lacks capacity to create this list, it could contract with the University of Oregon Community Service Center for a graduate student team to create a worksheet and operating procedures.¹⁰

4.2.3 Potential Drawbacks

If implemented, the TBL framework could bring benefits but also drawbacks. First, implementing the TBL framework requires a discussion of the various factors, but not necessarily a decision that meets all “three P’s.” Second, while existing analyses (ESEE and Proximity Principle) could make adoption easier, it could also seem like an unnecessary administrative burden. In addition to these general drawbacks, staff identified obstacles and drawbacks for each “P,” discussed below.

¹⁰ See <http://csc.uoregon.edu>.

4.2.3(A) Profit

In interviews, Medford staff identified two key findings regarding Profit in open space provision. First, staff identified that planning processes consider profit more than the other “P’s.” Second, since the Parks and Recreation Department already uses the Proximity Principle to justify park expenditures, this could be an easier transition to a TBL framework.

4.2.3(B) Planet

In interviews, Medford staff identified two key findings regarding Planet. First, one interviewee pointed to Portland, Oregon as an example of a potential justification for protecting open space on Planet grounds. In Portland, the city put a dollar figure on its trees to justify environmental protection. As a result, the City can more easily compare costs and benefits of open space protection against competing interests. Second, staff identified some difficulty in working with citizens with less exposure to environmental benefits of open space and in helping to raise their awareness.

4.2.3(C) People

People can often be the most difficult “P” to both analyze and meet. Much of the difficulty comes from the other indicator word for People: Equity. Equity is a notoriously difficult word to define, but is often the largest opportunity for growth.

In interviews, Medford staff most frequently identified People as a TBL growth opportunity area. First, staff often identified an east/west division in the city, with more affluent citizens in the east and lower-income in the west. Providing services equitably

becomes an issue because these sides of town often have differing values. Staff identified that the affluent residents push for natural play areas (trails, natural-state open space, etc.) and lower income residents push for amenities (play structures, basketball hoops, etc.). This reality weighs against economic concerns because providing natural play is cheaper than amenity-rich parks. If the City builds the cheaper, natural play and open space parks, the City's parks system will tend to benefit affluent residents. Finally, staff identified open space provision for youth, particularly at-risk youth, as a large growth opportunity, citing the problem that special interests (recreational leagues and ballparks) trump youth interests in the public engagement process.

4.3 Illustrative Example

To shed light on TBL framework adoption, the City of Eugene adopted a TBL policy, with some positive effects. For example, some staff identified increased awareness of TBL and a wetlands protection program that now protects all initially-targeted wetlands. Eugene is an apt example for Medford because it is comparable in size and location and has made some strides in protecting open space, particularly through focusing on riparian areas. In general, Eugene provides open space through (1) acquisition, (2) wetlands protection, and (3) regulation. The city focuses on acquisition from voluntary sellers for fair market value to avoid condemnation and takings claims. The TBL framework has been a benefit to the open space protection program.

Eugene's TBL efforts are relatively extensive. The city provides TBL framework training, retains a sustainability coordinator, and requires TBL findings in a short form for all recommendations that go to council. In interviews, Eugene staff identified minimizing

the “squeaky wheel problem” as the greatest benefit and lack of enforcement as the greatest challenge to implementing TBL.

In addition to the success of the TBL policy, Eugene staff identified failure as an opportunity because it created motivation for staff to avoid future failure. For example, the city attracted a business to town and, when it realized the proposed development would be on wetlands, had to expend approximately \$1 million to retroactively permit the project. While staff called this situation a “mess, and a mess from the start,” it ultimately created momentum behind efficiently executing the wetlands plan consistent with TBL to avoid similar situations in the future. What started as a “mess” became the ultimate driver for effective action. The TBL policy and framework harnessed this motivation, making it so effective that Eugene now owns all wetlands it targeted to acquire at the outset of the wetlands planning process.

Medford can use Eugene’s example in using a TBL framework. The most important lessons learned are to train staff, enforce the policy, minimize the “squeaky wheel problem,” and turn failures into opportunities for success.

Chapter 5: Conclusions and Recommendations

5.1 Conclusions for TBL as an Open Space Decision-Making Framework

This analysis demonstrates that the triple bottom line (TBL) could be used as a decision-making framework for open space planning processes. Based on the number of benefits and obstacles, whether the TBL framework for open space planning should be implemented depends on a city's particular context (scale, culture, current practices, etc.). The literature review shows that TBL is an effective expression for sustainability and that using TBL as a decision-making framework is the best way for cities to capitalize on its benefits. Ultimately, TBL would be useful for open space planning in Medford.

5.2 Recommendations for Medford

Medford could benefit from implementing TBL as an open space decision-making framework. The following series of recommendations are based on the key findings from Medford City Staff and assuming that Medford would benefit from adopting a TBL decision-making framework for open space planning.

5.2.1 Context

Medford's open space planning structure could improve in multiple ways. Specifically, staff could use the TBL framework to overcome their identified key obstacles. First, Medford needs an open space planning process. Currently, open space is planned for primarily in the Leisure Services Plan as a category of parks. Effective open space protection recognizes that parks are actually a category of open space, rather than the vice

versa. Therefore, current open space planning processes could be expanded for greater effect. Second, the City should identify values open space brings to neighborhoods in order to effectively communicate with residents. Medford can do this by building on its Proximity Principle communication and applying that communication to open space education. Third, the City should take a city-wide approach because a collection of agencies care about benefits that arise from open space. For example, Parks and Recreation manage parklands, Public Works manages storm drainage and wastewater collection (which relates to riparian areas), the Water Commission manages the City's water system, and the Planning Department completes comprehensive plans that protect and provide for open space. As a result, inter-agency coordination would create more effective open space planning and protection. Fourth, adopting a formal policy would give weight to staff recommendations. As identified in the literature review, a TBL framework applied to the City Council will create more comprehensive recommendations based on a shared framework. Finally, public input must ensure balance in comments to avoid a one-sided conversation influencing the ultimate Council decision.

Medford could also use a TBL framework to overcome obstacles identified by interviewees. First, the City must embrace open space protection as a shared and important city value. Second, the City must appropriately and effectively "sell" open space protection. Knowing that the community values open space, an effective planning process must word its protection appropriately. In order to sell it, staff can acknowledge that it is better to do planning on the city's own terms rather than wait for state requirements or fines assessed for failing to comply with the requirements. Staff can also sell the idea by acknowledging a choice: citizens can choose to grow the community out, which would be more expensive, or

grow the community up, which would allow for open space infrastructure in a more densely-developed community. As a final selling point, staff can align open space with community culture and values by finding opportunities to link open space values to other values as they arise in the political eye.

Medford's TBL framework would benefit from three additional actions. First, while the Statewide Planning Goals require planners to make findings that relate to the "three P's," not all decisions are land use decisions, so they wouldn't necessarily be looking at the goals or at the ESEE analysis in the process. Second, the policy must be firm. Eugene identified a flexibility as its main cause for problems with its TBL policy. As an example, Medford must ensure that staff will follow the policy consistently and that decisions do not allow for too many exceptions. Finally, Medford should recognize that creating a conversation about TBL can lead to positive results. As one interviewee identified, conversation can change focus and mindset in a positive way, and a positive and shared culture is a productive culture.

5.2.2 Implementation Potential

Medford staff identified key obstacles and opportunities for implementing a TBL framework for open space planning processes. First, staff could alleviate the key obstacle around political tension in two ways: measuring economic impacts to make sound arguments that assign weight to competing needs and partnering with an outside organization. Second, in terms of Profit, if economic benefits are predetermined and that information is communicated to the community, this could reduce the obstacle of people hearing that the City wants certain lands and then driving up their sale prices. In other

words, determining economic benefits would be a good chip in negotiations for riparian easements, for example. Third, in terms of Planet, Medford needs public education to communicate the importance of open space protection. Staff identified Holmes Park as a site where citizens request development on passive parts of the park. By communicating more regarding environmental benefits, such as trail signs or a public education campaign, the City could create more community buy-in. Finally, in terms of People, the City should recognize that equity (People) is more than evenly spread parkland. However, this must be done carefully because defining and operationalizing equity can create a storm of conflict from diverging opinions regarding what equity means (input vs. outputs or redistribution, etc.).

5.3 Conclusion

Despite Oregon's comprehensive Statewide Planning Program, a TBL open space decision-making framework would improve local government open space planning. I found that a local government such as Medford, Oregon can use Triple Bottom Line Theory to effectively prioritize and protect lands for open space infrastructure provision.

Three suggestions for future research will facilitate Oregon local governments utilizing a TBL framework. First, there must be an open space TBL worksheet. Worksheets exist but are limited primarily to TBL for transportation and parks. Second, research must quantify equity. The "P" of people is the most difficult to quantify and to compare to the other "P's." Improving understanding of impacts to equity will empower local governments to properly assess and balance this "P." Finally, research should improve TBL comparisons. Currently, it is difficult to compare benefits that are so different as the "three P's." With more work on how to properly balance these interests, a TBL framework will allow for

more accurate decisions that benefit the greatest number of residents to the greatest degree.

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Appendices

Table 1: Principles of Sustainability

<ol style="list-style-type: none"> 1. Recognize community as a system 2. Redevelop first 3. Provide efficient infrastructure 4. Support concentrated development 5. Restore and enhance the environment 6. Enhance recreational and heritage resources 7. Plan regionally; implement locally 8. Be fair 9. Support community revitalization and development 10. Practice fiscal responsibility 11. Communication and civic engagement 12. Provide leadership
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Source: American Public Works Association, 2008

Table 2: Impact Aggregation Techniques

Technique	Explanation
Benefit-Cost Analysis (BCA)	In the narrow version, all effects get converted to dollar values, which can then be summed to a net present value, which can be compared directly across alternatives. In the broader version, BCA is a set of principles and guidelines for making sure that all significant effects are considered, that the ones that can be monetized are, and that others are described quantitatively or qualitatively.
Least-Cost Planning (LCP)	Benefit-cost analysis with less math, and with the disadvantage that, conceptually, “least-cost” is the wrong idea, especially in transportation planning. What society wants is “best value,” and one way to measure that is excess of benefits over cost (net benefits). Society does not necessarily want “least cost”: monetary costs can be reduced by doing less and less of what society desires. In energy utilities, every electron is as good as any other, so minimizing the cost for a given quantity of electrons makes sense. In transportation, trips are not equivalent: a trip by transit has a different value than a trip by car or bike.
Multi-attribute Utility Analysis	Most of the same ideas of BCA, but measurement is done as scoring and weighting. More rigorous than simple matrix

(MUA)	display. The effort focuses on getting decision-makers to reveal their assessment of the importance of different “attributes” (impacts, outcomes, criteria) of a proposed action. “Utility” for an attribute is the result of multiplying a weight by a probability that it will be achieved. Utility scores for each attribute can then be added.
Analytical Hierarchy Systems / Conjoint Analysis	A special way of determining weights, based on math and statistics. In essence, decision-makers answer a battery of questions about which of two benefits (type and level) they prefer; their answers allow researchers to statistically determine the relative weights of different attributes.
Choosing by Advantages	Like BCA (like all techniques really), this technique starts with the idea that decision-makers are looking for net benefits in a multi-attribute world. It creates a typical matrix of alternatives (actions) and outcomes (impacts, effects, evaluation criteria). Then, for each impact type, it finds the alternative that has the most benefits (the most “advantages”). Then it looks across impact types to make a subjective decision about “the most important advantage” and arbitrarily scores that as 100. Then it ranks all other cells in the matrix relative the primary advantage. The result is scores for each criterion for each alternative that are in the “right” rank order and of the right relative magnitudes, and that can be added.
Numerical Compilation of Opinions	Several possibilities: public-opinion surveys (statistical or anecdotal), expert judgment (formal or informal), or voting (e.g., by a referendum).
Matrix Display, Discussion, and Consensus or Voted Agreement	The most common method. Like Choosing by Advantages, but usually with a crude system of scoring (e.g., 1, 2, or 3). A method that had currency in the planning literature was “Goals Achievement Matrix,” essentially a weight-times-score method. Simpler methods do not use scoring: they show some data about expected performance of alternatives on a few criteria, let decision-makers talk about it, and accept as optimal whatever alternative the decision-makers can agree on pursuing.

Source: Moore and Zako (2013).

Table 3: List of Interviewees

Name	Organization
Bianca Petrou	City of Medford Planning Department
Brian Sjothun	Director of Medford Parks and Recreation Department
Eric Wold	Natural Resources and Urban Forestry Manager, City of

	Eugene
Jerry MacLeod	Parks and Recreation Commissioner
Jim Huber	Director of Medford Planning Department
John Crompton	Professor, Department of Recreation, Park & Tourism Sciences, Texas A&M University
John Michaels	Council Liaison, Medford Councilmember
Mary Kyle McCurdy	Policy Director and Staff Attorney, 1000 Friends of Oregon
Neil Bjorklund	Eugene Parks and Open Space Planning Manager
Pete Young	Planner, Medford Parks and Recreation Department
Suzanne Myers	Principal Planner, Long Range Planning Manager, Medford Planning Department