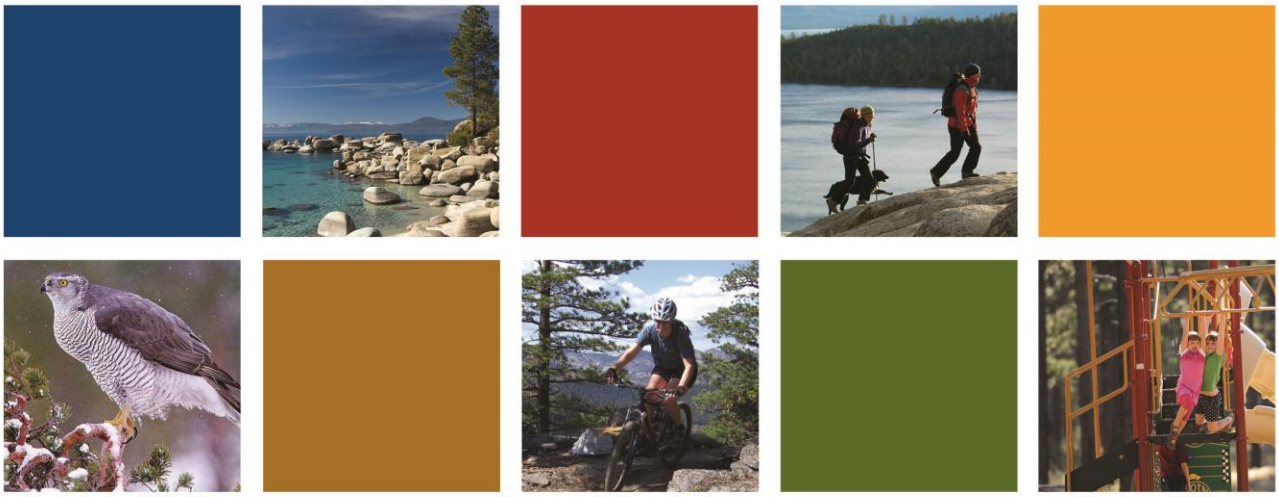
Lake Tahoe Sustainable Communities Program Documents Series #7

Development Commodities Transfer Policies Analysis

December 2013



lake Tahoe

Sustainable Communities Program

California Strategic Growth Council

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Disclaimer

Acknowledgements

Tahoe Metropolitan Planning Organization Governing Board

The Tahoe Metropolitan Planning Organization (TMPO) Governing Board is comprised of the members of the Tahoe Regional Planning Agency (TRPA) Governing Board and one representative of the US Forest Service. The TRPA staff serves both the TMPO and TRPA. The TRPA Governing Board is responsible for adopting the Lake Tahoe Regional Plan and Code of Ordinances. The TMPO Governing Board is responsible for adopting the Regional Transportation Plan and Sustainable Communities Strategy.

Tahoe Regional Planning Agency Senior Management Team

Joanne S. Marchetta, Executive Director
John Marshall, General Counsel
John B. Hester, Planning Director
Julie Regan, Chief, External Affairs
Jeanne McNamara, Implementation Director
Chris Keillor, Finance Director
Marja Ambler, Clerk to the Governing Board

Tahoe Regional Planning Agency Sustainable Communities Program Staff

John B. Hester, Planning Director
Morgan Beryl, LTSCP Program Manager, Assistant Planner
Caitlan Cullen, Assistant Planner
Karin Edwards, Environmental Improvement Program Coordinator
Nick Haven, Transportation Planning Manager
Adam Lewandowski, Principal Planner
Shay Navarro, Senior Planner
Paul Nielsen, Current Planning Manager

Lake Tahoe Sustainability Collaborative

This citizens group is responsible for sustainability planning recommendations, projects, and programs . More information is available at www.sustainabilitycollaborative.org.

Tahoe Basin Partnership for Sustainable Communities

This group, comprised of representatives from the Tahoe Regional Planning Agency, Tahoe Metropolitan Planning Organization, California Tahoe Conservancy, El Dorado County, Placer County, City of South Lake Tahoe, North Lake Tahoe Resort Association, and Sierra Nevada Alliance, was responsible for preparing the original SGC Round 1 Sustainable Community Planning Grant application and has provided ongoing support for completion of these SGC grant-funded tasks.

Consultants

AECOM
Ascent
BAE
Dyett and Bhatia
Environmental Incentives
Hauge Brueck Associates
High Bar Global Consulting
Highmark Designs
KPS3
One Globe Corporation
PMC
Sierra Business Council
SITKA Technology
Sustainable Community Advocates
Tahoe Prosperity Center

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Introduction to the Lake Tahoe Sustainable Communities Program

The need to embrace sustainability in all planning and implementation activities in the Lake Tahoe Region and beyond has been recognized in a number of ways. At the national level, the Department of Housing and Urban Development has created the Sustainable Communities Regional Planning Grant Program and the Department of Interior Bureau of Reclamation has initiated the Truckee River Basin Study that will include adaptive strategies to respond to climate change and other uncertainties. At the state level, California has adopted the Sustainable Communities and Climate Protection Act of 2008 requiring greenhouse gas emission reduction targets for passenger vehicles for 2020 and 2035 for each region covered by a metropolitan planning organization (MPO) and created the Strategic Growth Council, which has awarded grants for sustainable community planning and natural resource conservation. At the Lake Tahoe Region level, the Tahoe Regional Planning Agency (TRPA) has updated the Lake Tahoe Regional Plan to include sustainability policies and mitigation measures, and the Tahoe Metropolitan Planning Organization (TMPO) has adopted a Sustainable Communities Strategy as required by the Sustainable Communities and Climate Protection Act of 2008. At the local level, local governments in the Lake Tahoe Region are in the process of integrating sustainability principles into their local plans.

In the summer of 2010, a partnership of agencies, organizations, and jurisdictions came together as "The Tahoe Basin Partnership for Sustainable Communities" in order to apply for a grant from the Strategic Growth Council. Collectively, the Partnership is supporting execution of the Strategic Growth Council 2011 Sustainable Communities Planning Grant that was officially awarded to the TMPO in August of 2011. The Partnership is comprised of Tahoe Metropolitan Planning Organization, Tahoe Regional Planning Agency, El Dorado County, Placer County, City of South Lake Tahoe, California Tahoe Conservancy, and Sierra Nevada Alliance.

The TRPA, in partnership with other key stakeholders in the Lake Tahoe Region, is a participant in all of these national, state, regional and local efforts. Often they are complementary and of common interest to stakeholders. Hence, the Lake Tahoe Sustainable Communities Program has been created as a Basin-wide program with staff from different agencies and organizations participating in the various efforts. To the extent possible, the products from these efforts will be available through the Lake Tahoe Sustainable Communities Program website and as a series of documents.

Lake Tahoe Sustainable Communities Program Documents Series

This series of documents is organized to generally reflect the tasks associated with the grants received from the California Strategic Growth Council (SGC). The series as currently envisioned includes the following:

1. **Sustainability Framework and Vision** – This document accompanies the California Tahoe Conservancy *Tahoe Basin Sustainability Planning Guidebook* document (Appendix A) and includes an overview of the Sustainable Communities Program, the framework within which all of the regional and local level plans work, and the vision for sustainability based on input from over 5,000 participants in the regional planning process. The *Tahoe Basin Sustainability Planning Guidebook* was prepared in 2011 and describes how this effort was originally envisioned. The Sustainability Framework and Vision has more detailed and updated language related to the

newly adopted Regional Plan and the framework for Area Plans, input from participants in that process, and the interaction of sustainability components. This serves as the "deliverable" for the SGC Round 1 Sustainable Community Planning Grant Task 1: Roadmap & Organizational Structure.

2. **Sustainability Action Plan Background** – This document includes the initial greenhouse gas emissions inventory and reduction targets, and climate change adaptation and mitigation strategies. It reflects the adopted Regional Plan, Regional Transportation Plan, and Sustainable Communities Strategy policies, and is the basis for the sustainability (a.k.a., climate change) action plan. This document serves as the "deliverable" for the SGC Round 1 Sustainable Community Planning Grant Task 3: Goals, Objectives, & Strategies.

3. **Sustainability Action Plan: A Sustainability Action Toolkit for Lake Tahoe** – This includes the revised greenhouse gas emissions inventory and reduction targets, and climate change and adaptation strategies vetted through the Lake Tahoe Sustainability Collaborative and the Tahoe Basin Partnership for Sustainable Communities. This document also includes community level outreach and action strategies. This document serves as the "deliverables" for the SGC Round 1 Sustainable Community Planning Grant Tasks 3.D, 4.A, and 4.D: Lake Tahoe Sustainability Action Plan and Outreach Activities.

4. **Sustainability Indicators Reporting Plan**– This includes: (1) an assessment of existing Lake Tahoe Region measurement and monitoring efforts, (2) identification of a suite of sustainability indicators, (3) development of a sustainability metrics reporting plan, and (4) initiation of a sustainability dashboard. This measurement and tracking approach is intended to be consistent with and a key element of the larger Lake Tahoe Basin Monitoring, Evaluation, and Reporting Program required by California State Appropriations Bill #3110-0140 in addition to serving as the 'deliverables' for SGC Round 1 Task 4.B: Develop Performance Measures, Indicators and Monitoring Program, including a Tracking and Accounting System and SGC Round 2 Task 4.A: Obtain Regional Indicators Data.

5. **Area Plans Framework** – This includes the framework for Area Plans and initiation of those Area Plans. The framework (i.e., Regional Plan policies and code, conformance review checklist, and model Area Plan contents) serves as the "deliverable" for SGC Round 1 Sustainable Community Planning Grant Task 4, Subtask C: Lake Tahoe Livable Communities Program.

6. **Area Plans Background** – This includes an assessment of the sustainability and livability measures needed in each planning area and the barriers to local implementation of those sustainability measures. This document serves as the "deliverable" for the SGC Round 1 Sustainable Community Planning Grant Task 2: Situation Assessments.

7. **Development Commodities Transfer Policies Analysis** – This document; it includes identification and analysis of the potential market effectiveness of proposed transfer of development rights and bonus unit policies considered for inclusion in the Regional Plan. This serves as the "deliverable" for the SGC Round 1 Sustainable Community Planning Grant Task 4, Subtask E: Development Rights Incentives Program.

8. **Development Commodities Tracking and Exchange System** – This includes the concepts, processes, software requirements, and other system specifications, as well as the results of implementing the development commodities and exchange system. This serves as the "deliverable" for the SGC Round 2 Sustainable Community Planning Grant Task 3: Regional Development Rights Tracking System.

9. **Economic Development Strategy** – This includes analysis of existing and targeted industry clusters and recommendations on the clusters and incentives that will be most effective in creating and maintaining a sustainable economy for the Lake Tahoe Region. Also included is stakeholder outreach resulting in recommendations for implementation of commodities transfer policies. This serves as the "deliverable" for the SGC Round 1 Sustainable Community Planning Grant Task 4, Subtask F: Economic Incentives Strategy.

10. **Lake Tahoe Sustainability Collaborative Strategic Plan** – This document includes the LTSC's mission, charter, and business plan which provides the strategy for the Lake Tahoe Sustainability Collaborative to continue, on an ongoing basis, to act as an independent entity that "champions" sustainability in the Lake Tahoe Region. This serves as the "deliverables" for the SGC Round 1 Sustainable Community Planning Grant Task 1.B: Establish Lake Tahoe Sustainability Collaborative and SGC Round 2, Task 4.E: Lake Tahoe Sustainability Collaborative Support.

11. **Annual Report** – This is the initial annual report on the Lake Tahoe Sustainable Communities Program and will be included as part of future TRPA annual reports. It will be updated using current sustainability indicators data, and can act as a template for similar sustainability planning reports in other regions. This serves as the "deliverables" for the SGC Round 2 Sustainable Community Planning Grant Tasks 4.B: Implement Regional Data Sharing/Management Program, 4.C: Web-Based Dashboard Implementation and 4.D: Prepare and Publish Final Tahoe Annual Report.

12. **Lake Tahoe Sustainable Communities Program Summary** - Other documents that are an integral part of the sustainability efforts in the Lake Tahoe Region include the Lake Tahoe Regional Plan, Regional Transportation Plan and Sustainable Communities Strategy, and various local government Area Plans. This document provides a summary of these plans, the products described in previous reports in this series, and how they work together within the Sustainability Framework for the Lake Tahoe Region. This serves as the "deliverable" for the SGC Round 2 Sustainable Community Planning Grant Task 2: SB375 Local Planning and Implementation Tool-Kit.

While providing valuable information about the Lake Tahoe Sustainable Communities Program to Lake Tahoe Region stakeholders, this series is also designed to provide a reference for other regions involved in addressing the critical issue of sustainability.

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Lake Tahoe Region Development Commodities Transfers

To achieve the threshold relating to water quality, the Lake Tahoe Regional Plan restricts residential, commercial, and tourist accommodation development[1]. Residential development is restricted by limiting the total amount of residential development, the pace of development, and the amount of impervious surface resulting from development. Restrictions on the total square footage of commercial floor area, coupled with limitations on impervious surface, have been instituted for commercial developments. Similarly, restrictions on the total number of tourist accommodation units and impervious surface apply to tourist accommodation developments.

Residential Development Commodities

To develop a residential parcel a property owner must have a residential development right, a residential development allocation, and the necessary amount of land coverage for the project. As an alternative, a property owner may acquire and remove an existing residential unit of use from a property and transfer it to a different property.

Residential development rights are the right to develop a vacant, privately-owned, residential parcel. The upper limit on residential development rights has been established by prohibiting any new land subdivisions[2]. The upper limit on residential development rights in the Basin is approximately 51,000. Of these, slightly less than 47,000 have been used for development or otherwise retired; leaving approximately 4,000.

The annual level of residential allocations has been set by the Regional Plan. The 1987 Regional Plan had 300 allocations per year for 20 years (i.e., 6,000). The 2012 Regional Plan has a significantly reduced level of 130 allocations per year (i.e., 2,600). These allocations are distributed to jurisdictions annually based on a number of criteria including compliance with code requirements and implementation of water quality improvement projects.

The amount of impervious surface coverage that is allowed on a given parcel of land is based on the physical suitability of that parcel to accommodate development. The Individual Parcel Evaluation System (IPES) was created to score each of the remaining undeveloped residential parcels. The more sensitive lots received a lower score. The less sensitive lots received a higher score. In each jurisdiction the score above which a parcel becomes eligible for development, provided it has a development right and allocation, changes over time primarily as the ratio of sensitive lots to total lots goes below a certain percentage. In other words, as sensitive lots are removed from the stock of lots available for development, more of the remaining lots in the stock are available for development.

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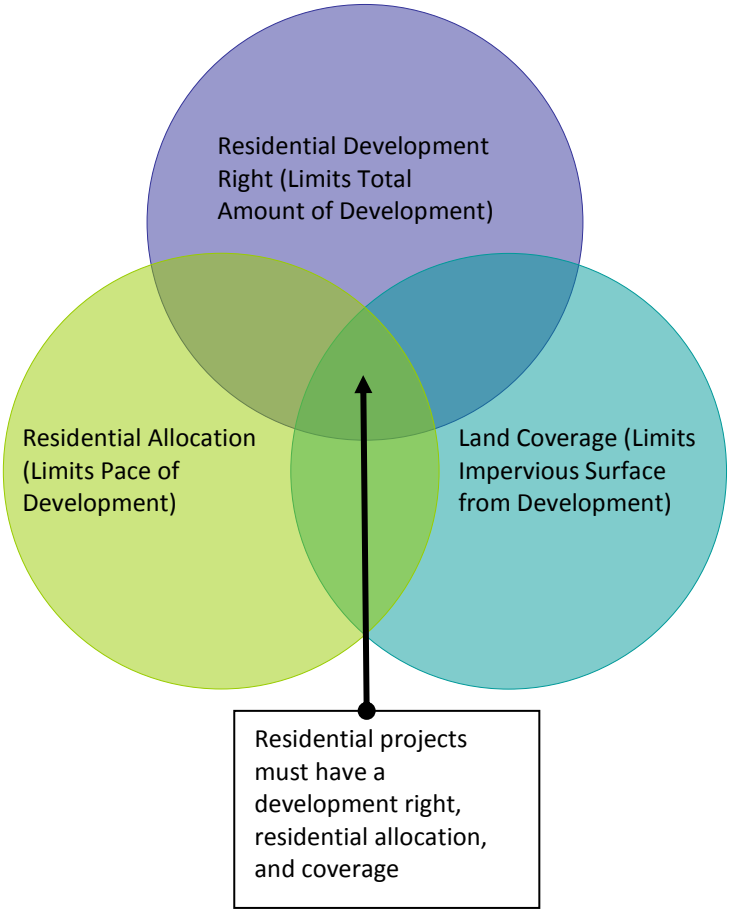
[1] This section is based largely on the United States Supreme Court Respondent's Brief in Bernadette SUITUM, Petitioner, v. TAHOE REGIONAL PLANNING AGENCY, Respondent. No. 96-243.

[2] Subdivision of a multiple unit residential building to facilitate ownership of separate units within that building is allowed.

If 2,600 of the remaining 4,000 vacant parcels with a right to develop do in fact develop, there will be approximately 1,400 parcels with a development right remaining. However, development rights can be transferred off of the original parcel for use in multi-family residential projects on other parcels. Past experience indicates that that some of the allocations will be used for these transfers, which would result in fewer parcels being developed. Development rights from more sensitive lands will be transferred to other less sensitive lands in target areas because "bonus units" can be obtained from these transfers. Based on the analyses discussed in the next section of this document, the 2012 Regional Plan increased the "bonus units" as an incentive to accelerate these transfers from more sensitive lands to targeted mixed use redevelopment areas.



Commercial Development Commodities

Commercial floor area is generally defined as the square footage of the floor area on all levels of a commercial building. The coverage allowed on a commercial parcel is based on the land capability of that parcel. The allowed land coverage is determined by applying a defined percentage of land that can be covered with impervious surface for each land capability district on that parcel. The land capability

districts are essentially based on soil type and related geomorphological characteristics[3]. Land capability classifications range from 1 to 7. Lands that are identified as classes 1-3 are considered lower capability (more sensitive). Lands identified as classes 4-7 are considered higher capability and more suitable for development (less sensitive). Within targeted redevelopment areas, a commercial project may include coverage on higher capability lands beyond the defined percentage allowed by the land capability system. Any coverage in addition to the defined percentage allowed by the land capability system must be transferred from other parcels.

To develop a commercial project both commercial floor area and coverage are required. The 1987 Regional Plan allowed coverage to be transferred on a sliding scale up to a "two-to-one" basis (i.e. 2 square feet of coverage removed for each new square foot placed). The 2012 Regional Plan changed the coverage transfer basis to "one-to-one" when coverage is transferred off of sensitive lands to provide an incentive to remove coverage from where it is most environmentally impactful.

The 1987 Regional Plan also allowed commercial floor area to be transferred on a "one-to-one" basis. To create an incentive to move commercial floor area from more sensitive lands to targeted mixed use redevelopment areas, the 2012 Regional Plan changed the commercial floor area transfer ratio to a sliding scale as described below.

It is estimated that there are approximately 6.5 million square feet of commercial floor area in the Lake Tahoe Basin[4]. The 1987 Regional Plan allocated 800,000 square feet for commercial development. When the 2012 Regional Plan was prepared, slightly less than 400,000 square feet were remaining and available for use. Hence, the 2012 Regional Plan did not allocate additional commercial floor area to the jurisdictions. However, as mentioned above, the 2012 Regional Plan did change the transfer ratio for commercial development so commercial floor area can be transferred on a sliding scale ranging from "one-to-one" to "one-to-three", depending on the sensitivity of land from which it is being transferred (i.e. 3 square feet of commercial floor area can be placed for each square foot removed from the most sensitive lands). Again, this was done to accelerate these transfers from more sensitive lands to targeted mixed-use redevelopment areas.

Tourist Accommodation Unit Development Commodities

A tourist accommodation unit, or TAU, is generally defined as a hotel, motel or other rental lodging unit. Like commercial development described above, the coverage allowed on a tourist parcel is based on the land capability for that parcel. As with commercial projects, a tourist accommodation project within a designated redevelopment area may include coverage on higher capability lands beyond the defined percentage allowed by the land capability system, as long as that coverage is transferred from elsewhere.

To develop a tourist accommodation project both a TAU and coverage are required. As also described above, the 2012 Regional Plan changed the coverage transfer basis to "one-to-one" when coverage is transferred from sensitive lands to provide an incentive to remove coverage from where it is most impactful. The 2012 Regional Plan also changed the TAU transfer ratio so TAUs can be transferred on a

[3] Bailey, R.G. 1967. Land Capability Classifications of the Lake Tahoe Basin. Available from the Tahoe Regional Planning Agency

[4] The actual figures at the time of the 2012 Regional Plan Update are included in the Final EIS.

sliding scale ranging from “one-to-one” to “one-to-three”, depending on the sensitivity of land from which it is being transferred (i.e. 3 TAUs can be placed for each TAU removed from the most sensitive lands). Again, this was done to accelerate these transfers from more sensitive lands to targeted mixed-use redevelopment areas.

It is estimated that there are approximately 12,000 TAUs in the Lake Tahoe Basin[4]. Because there are TAUs from the 1987 Regional Plan that have remained unused, the 2012 Regional Plan does not include any additional TAUs. However, as mentioned above, the 2012 Regional Plan did change the transfer ratio for TAUs.

Commodity Conversions

In addition to the transfer options listed above, there are limited circumstances when conversion from one type of commodity to another is allowed. Generally these options are:

1. Up to 200 TAUs can be converted to multi-family units on the same parcel subject to size limitations;

2. Residential units and/or TAUs may be converted to residential, tourist or commercial units if the residential units or TAUs are transferred from low capability (more sensitive) to high capability (less sensitive) lands and the low capability land is restored;

3. Residential units and/or TAUs may be converted to residential, tourist or commercial units if the conversion results in the elimination of a unit of non-conforming use;

4. Residential units and/or TAUs may be converted to residential, tourist or commercial units if the conversion is certified to meet local jurisdiction health and safety standards, and all structures and uses within the project area are modified to meet TRPA standards for a new project;

5. Residential units and/or TAUs may be converted to residential, tourist or commercial units if the conversion is certified to meet local jurisdiction health and safety standards, and the converted use is part of an Environmental Improvement Program “linked project”; and

6. TAUs may be converted to residential units on the same site if the converted units will be used for deed restricted affordable housing, will meet local jurisdiction health and safety standards, and all TRPA standards for modification of a developed project area are met.

The specific requirements for each of the options above are in section 50.10 of the TRPA Code of Ordinances.

Analysis of Proposed Policy Changes

The 2012 Regional Plan includes significant policy changes designed to alter the land development "footprint" in the Lake Tahoe Region. There are two primary reasons for these policy changes. First, there is a desire to accelerate the removal of development and development rights from sensitive lands in order to reduce and remove damage caused by increased impervious surface and stormwater runoff, intrusion into sensitive vegetation and wildlife habitats, scenic degradation, and similar impacts. Second, by removing remote development and development rights, the vehicle miles travelled per capita in the Region, as well as the resulting emissions and air pollution, will be reduced. The intent of the policy changes is to incentivize the transfer of development and development rights by increasing the bonus units available with the transfers.

Before changing the policies to increase the bonus units, analyses of the market for the bonus units and the efficacy of the proposed policy changes were conducted. The first analysis was conducted by AECOM. In response to a number of questions and concerns from stakeholders as discussed below, TRPA funded and commissioned a second analysis that was conducted by BAE using a different methodology and set of assumptions. A summary of the results are provided below. The appendixes include the actual analysis memoranda from AECOM and BAE.

AECOM Analysis

AECOM evaluated the potential efficacy of the proposed incentives by analyzing demand and supply (i.e., the market) for residential units, commercial square footage, and tourist accommodation units. A static cash flow analysis approach was used to analyze the different transfer ratios that were proposed using five different development prototypes. It was assumed that the development standards proposed in the 2012 Regional Plan Update would be adopted and that a return on investment of 20% would be necessary for the incentive to be utilized by a developer. The key conclusions from the AECOM analysis were:

- In all instances, the transfer of development rights (TDR) program improved the financial feasibility of projects by decreasing the cost per unit of development and improving return on investment.
- However, while the TDR program improves the return on investment, it is still not high enough to trigger development.
- TDR is most likely to accelerate the development of condominium projects, as these projects are closest to achieving financial feasibility prior to receiving any additional development rights.
- In the medium- and long-term, market and regulatory conditions can improve project feasibility in concert with the TDR program.

Following completion of the analysis and during subsequent deliberations on proposed Regional Plan policies, a number of the AECOM assumptions and some of the analysis results were questioned by various stakeholders. These are outlined below.

- AECOM concluded that residential demand may or may not exceed supply. The AECOM demand projection for the Tahoe Basin for 2035 is 8,680 units. However, there are only slightly more than 4,000 rights (i.e., undeveloped parcels) remaining, clearly indicating that demand exceeds supply.

- AECOM concluded that the demand for tourist accommodation units (TAUs) will exceed the supply. Currently there is an oversupply of TAUs on the south shore of the Lake and an active effort to retire many of those units.
- A return on investment (a.k.a., ROI or "hurdle rate") of 20% was used in the AECOM analysis. A number of stakeholders suggested that ROI is too high.

BAE Analysis

BAE used a residual land value approach to evaluate the proposed incentives. This approach essentially includes preparing a pro forma with all project development costs (i.e., development costs, financing costs, and developer profit) and then comparing the remaining revenue to the amount that the developer would have to pay for the land. A number of pro forma analyses were prepared using ranges of incentives, ranges of costs for each type of commodity, and various development project scenarios (i.e., single use, mixed use, small and large condominium). It was assumed that the development standards proposed in the 2012 Regional Plan Update would be adopted and that a profit of 10% would be necessary for the incentive to be utilized by a developer. The key conclusions from the BAE analysis were:

- The proposed transfer incentive program provides sufficient ratios of new development commodities in some, but not all cases, depending on the cost of the purchased development right.
- Because the projects modeled under a high incentive ratio (e.g., sending site is sensitive land) proved feasible, even with high costs to purchase those rights, the analysis illustrates that the combination of proposed incentive ratios meets the desired policy objective – to encourage retirement of sensitive lands distant from transportation facilities and the Lake. The analysis shows that, given the right set of conditions, there would be sufficient developer profit margins to stimulate development in targeted locations.

Both analyses indicated that the efficacy of the development commodity transfer policies will be enhanced as the market improves, and as regulatory conditions change. These two analyses also conclude that condominium projects are most feasible. Because the two analyses employ varied methodologies, they use different measures and criteria for evaluating financial feasibility. Hence, it is not possible to directly compare the numerical results. However, the most salient similarity is both analyses conclude that transfer ratios do provide an incentive for developments to be removed from sensitive and remote areas and relocated to the targeted mixed-use redevelopment areas.

Appendixes

A. AECOM TDR Transfer Matrix Economic Analysis

B. BAE Financial Feasibility Analysis of the Regional Plan Transfer of Development Incentive Program

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MEMORANDUM

DATE	2/02/2012
FROM	AECOM
TO	Tahoe Regional Planning Agency
RE	TDR Transfer Matrix Economic Analysis

Economic Analysis: Headline Conclusions

The key conclusion of AECOM's analysis can be summarized as follows: the proposed TDR program provides an immediate, tangible economic benefit to environmental redevelopment by reducing cost and therefore improving financial returns. Under the existing regulatory system which limits growth, new demand for tourist accommodations is likely to exceed allowable supply over the next twenty to twenty-five years. Demand for residential and commercial in the Basin may or may not exceed allowable supply over the same period, depending on the volume of residential allocations and commercial floor area released with the Regional Plan Update. Given existing market conditions and current development and regulatory standards, the ability to generate financially feasible new development (primarily through environmental redevelopment in Town Centers) will be challenging. Further, few projects will pencil out in the near-term, even with the financial boost provided by the proposed TDR program. Depending on the extent of regulatory changes and the speed and depth of the emergent economic recovery, projects are likely to become more financially feasible over the medium- and longer-term.[1] The following summary describes AECOM analysis and conclusion regarding:

- Expected market demand compared to existing and allowable supply;
- The baseline financial feasibility of redevelopment in Town Centers in the Tahoe Basin; and
- How TDR ratios, development standards, and changes in market conditions impact the financial feasibility of new development.

Demand and Supply Conditions

AECOM recognizes that the scarcity of vacant undeveloped land available for development, combined with the cost of redevelopment and existing growth control policies, will reduce the actual realization of market demand in the Tahoe Basin. Given the regulatory structure and the growth limits on new supply, development will correlate more closely to the availability of supply than the magnitude of demand. Supply constraints can have the effect of raising real estate prices and improving economic returns to property owners and project developers over the long term.

Comparing demand to estimated supply (including proposed development right allocations under the various RPU alternatives) provides a sense of whether demand and supply will likely reach equilibrium over the lifespan of the Regional Plan Update (RPU).

AECOM forecast demand in the Basin for multiple land uses, including residential, commercial, retail, and visitor accommodations (defined as hotel, motel, and destination resort accommodations) under an assumption of macro-economic improvement in the economy of the US West, particularly in Northern California and Nevada, which drive moderate growth in full-time employment and demand for second homes in the Basin, as well as incremental growth in tourism and ancillary services. Assumptions were developed using the *Lake Tahoe Basin Prosperity Plan* (Prosperity Plan), interviews with visitor-services industry experts and other stakeholders, and available data on local and regional growth patterns and forecasts.

To understand supply, or the existing inventory and performance of commercial space, AECOM gathered parcel-level data on existing land uses from the Assessor's office of each County located in the Basin. We used data from the 2010 US Census as the basis of our inventory of residential housing. To understand vacancy rates, AECOM accessed data from both the 2010 Census and Costar, a proprietary database of commercial property

[1] For the purposes of this memorandum, near- or short-term is defined as current market conditions, medium-term is defined as roughly 2020, and long- or longer-term is defined as roughly 2035.

performance in the US. Combining these data allowed AECOM to calculate the supply inventory and vacancy of residential and commercial square footage in the Basin.

Results of Demand and Supply Analysis

Over the lifespan of the regional plan, demand is likely to exceed allowable supply for tourist accommodation units. Demand for residential and commercial in the Basin may or may not exceed allowable supply over the same period, depending on the volume of residential allocations and commercial floor area released with the Regional Plan Update.

Demographic, employment, and spending projections were used to generate estimates of future demand for residential units, commercial space, and tourist accommodations. Residential demand is driven by growth in employment, full-time population, and second-home buyers. Retail demand is driven by new and recaptured spending from residents, employees, and tourists. Commercial demand, primarily for office space, is driven by employment growth, while demand for tourist accommodations is driven by overnight visitation and associated visitor spending.

Residential Demand

By 2020, approximately 3,230 residential units will be needed to account for growth in population and employment. This demand increases to over 8,680 units by 2035, which represents an 18 percent growth over the current inventory of residential units in the Basin. Residential inventory was estimated in 2010 at 48,520 units or 73 million square feet.

Table 1: Cumulative Demand for Residential (units)

	South Lake		North Lake		Tahoe Basin	
Land Use	2020	2035	2020	2035	2020	2035
Primary Residential Units	940	2,500	400	1,050	1,330	3,550
Second Home Units	1,280	3,510	620	1,620	1,900	5,130
Total Residential Units	2,220	6,010	1,020	2,670	3,230	8,680

Commercial Demand

By 2020, over 258,100 square feet of commercial development (including industrial, office, and retail uses) will be needed to account for growth in population, employment, and spending. Total demand increases to 579,100 square feet by 2035, representing nearly 12 percent growth over the current inventory of 4.9 million square feet.

Table 2: Cumulative Demand for Commercial By Land Use (square feet)

	South Lake		North Lake		Tahoe Basin	
Land Use	2020	2035	2020	2035	2020	2035
Industrial	3,200	8,300	2,200	5,700	5,400	14,000
Office	93,700	253,200	38,900	104,300	132,600	357,400
Retail	75,500	107,400	44,600	100,300	120,100	207,700
Total	172,400	368,900	85,700	210,300	258,100	579,100

Tourist Accommodation Demand

The Tahoe Basin economy is heavily dependent on tourism, which has been in decline in recent years. Since 2008, there has been a contraction in the number of visitor-days that Tahoe receives each year. In particular, increased competition in the gaming industry (expansion of tribal gaming facilities across California and Nevada) has resulted in lower visitation to the Basin each year.

Table 3 below summarizes the demand for tourist accommodation units. By 2020, approximately 1,570 new hotel and resort rooms will be needed to account for growth and diversification of Tahoe's visitor-serving industries. This demand increases to 3,400 rooms by 2035. Tourist accommodation inventory was estimated in 2010 at 10,460 rooms. Currently there is a significant oversupply in the Basin of approximately 2,440 rooms; a substantial number are aging motel rooms that either vacant or in use as temporary housing for seasonal and low-wage employees. Due to a combination of functional obsolescence and regulation, these rooms will be refurbished or removed from supply and redeveloped over time.

Table 3: Cumulative Demand for Tourist Accommodations (rooms)

	South Lake		North Lake		Tahoe Basin	
Land Use	2020	2035	2020	2035	2020	2035
Tourist Accommodations (rooms)	410	850	1,160	2,280	1,570	3,400

Supply

Projected demand is assumed to be satisfied primarily by filling vacant and underutilized spaces and with new development/redevelopment in accordance with the regulatory constraints of the Regional Plan. To the extent that vacant space and allowable new construction are not adequate to satisfy demand, redevelopment and more efficient utilization of existing space is expected.

AECOM assumed future, stabilized rates for vacant and underutilized space is estimated to total 5% of the residential supply, 10% of the commercial supply and 5% of the tourist accommodation supply. These vacancy rates are assumed to be maintained under healthy market conditions.

The table below summarizes the combined results of AECOM's supply and demand analysis. The demand values discussed above are adjusted for existing and anticipated vacancy and structural obsolescence to reach total additional demand in the Basin, then compared to the available existing and allowable additional development rights proposed as a part of the Regional Plan Update.

Table 4: Summary of Existing Rights & Supply Alternatives

	Existing	RPU Alternatives – Proposed Allocations & Rights				
Land Use	Rights	Alt 1	Alt 2	Alt3	Alt 4	Alt 5
Total Residential (units)	4,090	0	2,600	3,200	4,000	5,200
Total Commercial (SF)	224,800	0	200,000	200,000	400,000	600,000
Total Visitor Accommodations (rooms)	250	0	0	0	200	400

Source: *TRPA – Goals & Policies: Chapter II – Land Use Element: Land Use Subelement*, pplI-4 & II-21, Revised 12/22/2011

The analysis, summarized in Table 5, found that long term demand for visitor accommodations is likely to exceed available supply in the future, whereas the combination of existing and allowable supply of residential units and commercial square footage may or may not exceed demand based on how many residential allocations and how much commercial floor area is released with the Regional Plan Update. Estimated demand for residential units and commercial space will exceed supply under Alternatives 1, 2 and 3 and will not exceed supply under Alternatives 4 and 5. Note that the cumulative demand by land use (Tables 1, 2 and 3) is adjusted for expected existing and future vacancy and structural obsolescence to reach total final demand.

Table 5: Long Term Market Status

	Final Demand	Final Demand compared to Existing Rights + Proposed Allocations & Rights				
	2035[1]	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Total Residential (units)	8,080	Excess Demand			Equilibrium	Excess
Total Commercial (SF)	660,100	Excess Demand			Equilibrium	Supply
Total Visitor Accommodations (rooms)	1,560	Excess Demand				

Note 1: Cumulative demand by land use (Tables 1, 2 and 3) is adjusted for expected existing and future vacancy and structural obsolescence to reach total projected final demand by 2035.

Establishment of Financial Feasibility

For this study, AECOM performed a static cash flow analysis[2] of hypothetical environmental redevelopment programs in Town Centers around the Basin. We analyzed multiple land uses and site configurations, including: stand-alone multifamily residential, office, retail, hotel, and mixed-use retail with residential. AECOM referred to the *Tahoe Redevelopment Case Study: Feasibility Analysis* by Regional Planning Partners (March 2010) for key inputs and assumptions, making adjustments based on expected market conditions and interviews with local stakeholders and developers. To understand the impact of TDR incentives on project feasibility, AECOM then conducted multiple iterations of the static cash flow model based on different transfer ratios for each site plan corresponding to the transfer table published by the Regional Plan Update (RPU) committee on 12/22/2011 (see appendix). This allowed for an analysis of the sensitivity of project feasibility to changes in TDR ratios. Additionally, AECOM examined project feasibility against changes in commodity pricing and market rents and sale prices.

AECOM used the proposed development standards in the most recently available Regional Plan Update document, the *Revised Land Use Supplement*, Chapter 2 Land Use Element (dated 1/18/2012),[3] including those for density, height, and coverage. It is important to note that given the scarcity of vacant undeveloped land available for development and existing growth controls enacted to drive the reuse of existing Town Centers, Regional Centers, and High Density Tourist Districts, **AECOM assumed that all project scenarios involved the environmental redevelopment of parcels in Town Centers** currently in use as commercial establishments.

Results of Financial Feasibility Analysis

In all instances, the TDR program improved the financial feasibility of projects by decreasing the cost per unit of development and improving return on investment.

Generally, TDR reduced overall project costs by two to five percent; as TDR ratios increase, total project costs decline. However, the largest incremental change occurs in the first tier of TDR bonuses, within the ratio ranging from 1.25 to 2.0 transfer units, and is consistent across land uses and development programs. This translates to an increase in land value of approximately $450,000 to $830,000 per acre for the first tranche of bonus units, with additional though declining value as transfer ratios rise.

However, while the TDR program improves the return on investment, it is still not high enough to trigger development.

A developer's profit expectations and tolerance for risk drives their investment decisions. One measure of profitability is "return on investment".[4] Based on the RPP study noted above,[5] developers in the Basin typically seek a twenty percent return (called a "hurdle rate") on project development costs in order to undertake a project, though the hurdle rate can vary depending on the economic climate and the risk threshold of the developer. While the proposed TDR program improves the return on investment for all property types, the improvement is not sufficient to push projects above the hurdle rate and thereby jumpstart new development activity without other regulatory changes and/or significant improvements in market conditions.

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[2] A static cash flow analysis evaluates the economics of a development at stabilized occupancy. In other words, after a project has been completed, reached normal vacancy, and then sold or leased. The analysis does not project ongoing management cost or rent inflation but is a point-in-time depiction, in current dollars, of the development in order to understand its financial feasibility. Static cash flows are an industry standard method for reviewing development feasibility in the very early stages of a project.

[3] Accessed online 1/23/2012 at TRPA.org under the Regional Plan Update: http://www.trpa.org/documents/rp_update/Committee/Jan_Feb_2012/6_Draft_Goals_&_Policies_Chapter2_Land%20Use_CoverSheet_All_Subelements_1-19-2012.pdf

[4] In this analysis, return on investment is calculated by dividing the total cost of the project by its net capitalized revenue.

[5] *Tahoe Redevelopment Case Study: Feasibility Analysis* by Regional Planning Partners (March 2010)

TDR is most likely to accelerate the development of condominium projects, as these projects are closest to achieving financial feasibility prior to receiving any additional development rights. Still, even for condo projects, there remains a financial gap to be filled, likely through some combination of higher pricing and/or relaxed regulations. Land uses with the lowest financial productivity (that is, the worst financial performance) that appear less likely to be undertaken in the near future include those involving multifamily residential apartments and offices. While TDR improves the performance of these uses, they face substantial hurdles due to high development costs paired with low revenue expectations.

In the medium- and long-term, market and regulatory conditions can improve project feasibility in concert with the TDR program.

It is important to note that the analysis discussed thus far reflects current market conditions and proposed development standards. Market conditions will change overtime and development standards may as well, as regional plan amendments are approved. These changes, in concert with the proposed TDR ratios, can create an economic and regulatory set of circumstances that allow for a twenty percent or higher return on investment. There is an important relationship between development standards and the TDR program; depending on a project's achievable density (given height, setback, coverage and parking), standards can work with, or against, project feasibility. Currently, parking and coverage are limiting achievable density for all product types. TRPA would help improve project feasibility if changes to parking, height, and coverage standards- like those endorsed by the RPU Committee - are ultimately approved. In combination, these measures have the potential to spur environmental redevelopment sooner than it would otherwise occur.

In order to better understand the extent to which market conditions, specifically project revenues, must appreciate in order to trigger new development, AECOM conducted an additional analysis testing the sensitivity of project feasibility to changes in project revenues. AECOM found that revenues would need to increase substantially, in the range 25 percent or higher, for programs to approach the hurdle rate, assuming all else remains constant. As noted above, regulatory changes and improved market conditions can both help eliminate this feasibility gap. The difference between current project revenues and the project revenues needed to achieve project feasibility is a useful indicator of if (1) projects are on the brink of project feasibility, and may need only a minor improvement in market conditions or nudge from the public sector, or if (2) projects are very far from project feasibility, and may require a major improvement in market conditions or significant action by the public sector.

Appendix

Table 6: Transfer of Development Rights Matrix

	Transfer Existing Development (ERU, CFA, TAU) to Town Centers, Regional Centers, and/or the High Density Tourist District and restore and retire parcel	Transfer Development Right to Town Centers, Regional Centers, and/or the High Density Tourist District and retire parcel
SEZ	1: 3	1: 1.5
Sensitive lands (1a, 1c, 2 and 3)	1: 2	1: 1.5
Non-Sensitive lands (4, 5, 6 and 7)	1: 1	1: 1
Distance from Town Centers, Regional Centers, the High Density Tourist District and Primary Transit Routes	Additional transfer ratio based on distance from non-residential support services and transit (only for transfers of Residential Development Rights and Existing Residential Units into Town Centers, Regional Centers and/or the High Density Tourist District)	
Less than ¼ Mile or on the Lake-ward side of primary transit routes	1: 1	
¼ Mile to ½ Mile	1: 1.25	
½ Mile to 1 Mile	1: 1.5	
1 Mile to 1 ½ Mile	1: 1.75	
Greater than 1 ½ Mile	1: 2	

Source: TRPA, File name: 6c_Draft_Chp2_12-22-2011, Document: Goals & Policies, Chapter II – Land Use Element, Land Use Subelement, page II-24, Revised 12/22/2001; no change in document Revised 01/18/2

bae urban economics

MEMORANDUM

To: John B. Hester, Planning Director, TRPA
From: Janet Smith-Heimer, MBA, Managing Principal, BAE
Re: Financial Feasibility Analysis of the Regional Plan Transfer of Development Incentive Program
Date: May 18, 2012 (Final)

Executive Summary

This memorandum analyzes the financial feasibility of the Regional Plan Transfer Incentive Program. The focus of the analysis is on testing the parameters of the program in terms of the range of incentive ratios offered under different scenarios, which vary by the nature and location of the "sending site."

The analysis uses a method known as static pro forma, which models hypothetical real estate development projects, including estimates of all development costs, financing costs, and developer profit. The resulting "bottom line" in the analysis is "residual land value," which represents the amount that a developer would be able to pay for land to build the project, given all of the other assumptions. If the residual land value is positive, and matches the range of land transaction costs available to developers, the project is considered "feasible," which means that it could be developed, yield sufficient developer profit, and accommodate the RP Incentive Program requirements.

Summary of Findings

The analysis found that the proposed Transfer Incentive Program provides sufficient ratios of new development "commodities" in some, but not all cases, and depends on the cost of each purchased development right. A range of prior "low-cost" to "high-cost" development rights were tested in the analysis, as described below.

In general, both the residential (condominium) and Tourist Accommodation Unit (TAU) projects were feasible, assuming today's market conditions improved slightly. Exceptions to this general finding were the cases where the project would be developed under a low incentive ratio (e.g., sending site is non-sensitive land located near the Lake), and also with a high purchase cost for the development rights; these scenarios all proved infeasible. In "real world" terms, this means that if the market in the region for new condominium or TAU projects were to experience a boom in demand, driving up development rights' prices to historically

high levels, and the developer opted to purchase rights yielding low ratios of development transfer, these resulting projects would not be able to secure sites (land) at market prices to develop the projects. In practical terms, however, it should be noted that developers may still be able to develop feasible projects even under these conditions, by banking sites or by developing a luxury project that achieves higher price points (sale prices or hotel rates) than those assumed herein.

Because the projects modeled under a high incentive ratio (e.g., sending site is sensitive land) proved feasible, even with high costs to purchase those rights, the analysis illustrates that the combination of proposed incentive ratios meets the desired policy objective – to encourage retirement of sensitive lands distant from transportation facilities and the Lake. The analysis shows that, given the right set of conditions, there would be sufficient developer profit margins to stimulate development in the targeted locations.

The following memorandum describes the analysis, assumptions, findings, and conclusions in more detail. The pro forma models are included as a set of Appendices.

Purpose of Analysis

This memorandum outlines the analysis, findings, and conclusions regarding a financial feasibility analysis of the Regional Plan Transfer of Development Incentive Program ("Incentive Program"). The analysis of feasibility was commissioned to verify that the Regional Plan's proposed Development Incentive Program will improve the utilization of the concept of transferring development rights (TDR) to restore sensitive lands and concentrate new development in locations throughout the Tahoe region that can sustain additional projects with less environmental impact.

This memorandum assesses the financial feasibility of the proposed Incentive Program. Specifically this memorandum summarizes financial analysis to explore if the Incentive Program will provide sufficient financial return to a private developer to result in likely implementation.

Overview of Incentive Program

The Draft Regional Plan, released on March 28, 2012, outlines the Development Incentive Program designed to improve the feasibility of prior Transfer of Development Rights (TDR) initiatives first implemented by the previous Regional Plan. The proposed Development Incentive Program seeks to link desired environmental mitigation with new development/redevelopment land use goals, by both continuing to limit overall new development and also by providing a mix of incentives to encourage transferring development rights from distant, non-urbanized locations (especially near sensitive streams) to designated Town Centers, Regional Centers, and a High Density Tourist District.

Specifically, the Development Incentive Program offers the following incentives:

Table 1: Development Incentive Program

	Transfer Existing Development (ERU, CFA, TAU) to Town Centers, Regional Centers and/or the High Density Tourist District and restore and retire parcel	Transfer Development Right to Town Centers, Regional Centers and/or the High Density Tourist District and retire parcel
SEZ	**1:3**	1:1.5
Sensitive Lands (1a, 1c, 2 and 3)	1:2	1:1.25
Non-Sensitive lands (4, 5, 6 and 7)	**1:1**	**1:1**
Distance from Town Centers, Regional Centers, the High Density Tourist District and Primary Transit Routes.	Additional transfer ratio based on distance from non-residential support services and transit (only for transfers of Residential Development Rights and Existing Residential Units into Town Centers, Regional Centers and/or the High Density Tourist District)	
Less than ¼ Mile or on the Lake-ward side of primary transit routes.	**1:1**	
¼ Mile to ½ Mile	1:1.25	
½ Mile to 1 Mile	1:1.5	
1 Mile to 1½ Mile	1:1.75	
Greater than 1½ Mile	**1:2**	

"Bold" ratios above are used in the BAE analysis.
Source: TRPA, 2012.

It should be noted that the incentives related to the distance from transit'/lake are applicable only to residential development.

Transfer of Existing Development/Transfer of Development Rights

The above chart shows that transfer of existing development (e.g., when the sending site has existing development which is removed and the parcel is environmentally restored) is treated slightly differently than the transfer of a development right (e.g., when the sending parcel is retired and deed restricted, and the development right is transferred; these rights were granted in the original Regional Plan). The bonus units earned in both scenarios do not require an allocation from TRPA. The higher ratios are granted to the first column, when a sending site is both retired and structures are demolished to restore the site to its natural environment. If the sending site is located in a Stream Environmental Zone (SEZ), and is restored, the highest ratio is granted, (a total of 3 units for the existing 1 unit removed). It should be noted that this system applies to existing residential units (ERU), tourist accommodation units (TAU), and commercial floor area (CFA). Also, the receiving sites must be located in the districts in the Regional Plan Update designated as Town Center, Regional Center, or High Density Tourist Center.

Additional Transfer Ratio for Distance from Lake/Transit Routes

The additional "distance" factor is a new concept for this Development Incentive Program, seeking to encourage retiring and restoring formerly residential uses that are located furthest from the Lake and transit routes. Note that this additional development incentive is only applicable to residential projects, not to commercial or hotel projects. If obtained, this right is multiplicative, granting as much as 6 new residential units (i.e., 3 x 2) for every unit located on sensitive land that is also distant from the Lake.

Overview of Development Parameters

The financial analysis shown later in this memorandum is based on pro forma models of several hypothetical development projects. This section provides an overview of key development parameters imposed by the Regional Plan, which together shape the resulting possible development projects described later in this memorandum.

Density and Height Limits

The Regional Plan creates several "receiving site" land use classifications intended to encourage new development/redevelopment in locations which have transit, urban services, and the land capacity to support people. The following table shows the density and height limits by the receiving site zones subject to the Development Incentive Program. It should be noted that these density and height limits are all subject to approval of Area Plans which will accommodate the new projects in a sustainable manner.

Table 2: Development Parameters for Town Centers, Regional Centers, and High Density Tourist District

	Height Limit		Maximum Density	Maximum Site Coverage
Location	**Floors**	**Feet**		
Town Center				
Residential MF	4	56	25 units/acre	70% site coverage
Tourist Accomodation Units (TAUs)	4	56	40 units/acre	70% site coverage
Regional Center				
Residential MF	6	95	25 units/acre	70% site coverage
Tourist Accomodation Units (TAUs)	6	95	40 units/acre	70% site coverage
High Density Tourist Center				
Residential MF	14	197	25 units/acre	70% site coverage
Tourist Accomodation Units (TAUs)	14	197	40 units/acre	70% site coverage

Sources: Based on Draft Regional Plan and Draft Environmental Impact Statement; BAE, 2012.

Site Coverage

The Regional Plan continues the prior framework regarding site coverage for redevelopment and new development, with no more than 70 percent site coverage allowable for any development project subject to TRPA approvals. The components of coverage are assumed to be sufficient to meet the requirements for site coverage shown in the pro forma models in the next section. However, it should be noted that the market for development rights, in some cases, includes a site coverage aspect as part of the purchase price for the development right; this theoretically can lead to a higher value in situations where the former coverage at the sending site is being reused at the receiving site.

Parking Requirements

TRPA jurisdiction within the Tahoe Region includes five counties and one incorporated city across the two-state area (Nevada and California). Parking requirements vary among these jurisdictions, and are governed by each jurisdiction through its own local plans, zoning codes, and related ordinances. Thus, for purposes of this analysis, a typical parking requirement is assumed for each project's pro forma, based on example requirements present in the Tahoe Region.

Impact Fees

The Tahoe Region, covering two states and many unincorporated areas across five counties, has a wide range of impact fees and other development fees charged to individual projects. To model the "worst-case" situation with the highest identified impact fees, the analysis used the fee structure applicable to unincorporated Placer County in California, which has a traffic mitigation fee in place, as well as a community facilities fee and other utility hookup charges (hookup charges applicable to just residential projects). In addition, TRPA charges an air quality mitigation fee to all new developments, depending on the amount of net new vehicle trips being generated by the increment of new development. For purposes of the analysis herein, it was assumed that all trips generated by the project being modeled were "net new" trips, in order to provide a conservative set of assumptions for financial feasibility testing.

Pro Forma Analysis

Methodology

The analysis conducted for this report is based on a static pro forma model, designed to yield a "bottom-line" dollar amount representing the residual land value of the new project. The static pro forma establishes a development program (e.g., number of units, size of units, etc.), and estimates all development costs for this project (excluding land), based on a variety of sources as footnoted in the examples included in the Appendices to this memorandum. The same model also estimates all development revenues accruing to the developer of the project. The final calculation subtracts all development costs from revenue, resulting in a "residual land value." This residual land value represents the value of the land on which the new project is built. It reflects the basic land economics premise that land values reflect what can be

developed on the land, incorporating all fees, regulations, and development restrictions such as height, density, and site coverage. Feasibility is established by comparing these derived residual land values with actual sale prices for land parcels in similar locations under similar conditions. If the model's residual land value is within the same range as the actual land values experienced in the Tahoe region, the project with its associated development program and costs is considered feasible.

The pro forma models shown herein incorporate developer profit as a component of total development costs. Profit is estimated as 10 percent of hard costs (e.g., "return on cost"), which is a general standard of profit threshold utilized by medium to large developers. It should be noted that estimating profit using "return on cost" bypasses the aspect of leverage or other measures of return on equity investment, as these can vary substantially from developer to developer. For convenience, the actual dollar amount of this profit estimate is shown in each pro forma, along with assumptions regarding loan amount and requisite equity; the profit amount can be compared to equity investment as a secondary measure of feasibility in this approach.

The pro forma models were constructed to show a "Low Ratio- High Ratio" range of outcomes, related to the low and high end of the ranges of potential development right ratios shown on Table 1. In other words, the pro forma models bracket the low ratio (e,g,, non-sensitive sending sites already located near the lake/transit routes) and the high ratios proposed (e.g., sending sites located in Stream Environmental Zones, considered very environmentally sensitive, and also located far from lake/transit). This framework rewards the most development rights to the cases where the new project is residential multi-family, the sending site is in an SEZ, and the sending site is located far from urbanized areas. When all of these conditions are met, the development right ratio is multiplicative at a rate of 3 times 2, or 6 total rights received for every unit transferred from a sending site that is restored to a natural state. This framework is intended to place the highest value and return (by lowering the number of development rights to be purchased) on those projects which obtain the most distant SEZ rights, and retire and restore those sending sites.

Costs of Development Rights

The most challenging aspect of the pro forma analysis is estimating the future cost of development rights. The California Tahoe Conservancy, which serves as the California clearinghouse for TDRs (in Nevada, it is the State Division of State Lands), reports that they currently have existing development rights for residential units ranging from $17,000 to $20,000 per residential right. In addition, TRPA has collected information regarding past development rights purchase transactions. Its information indicates that past transactions for a sensitive lands retirement/restoration program ranged up to $80,000 per development right. Thus, these form the low end ($17,000) and high end ($80,000) of the assumed existing residential development right purchased in the pro forma model for development of condominiums.

For Tourist Accommodation Units (TAUs), available information suggests that development rights have ranged in the past from $25,000 to $65,000 per unit. It should be noted that the available information for TAU development right costs is somewhat limited, as few of these projects have gone through the TDR process and obtained development rights in recent years.

Commercial Floor Area (CFA) development rights reportedly cost approximately $30 to $40 per right (which is per square foot). However, it has been proposed in the draft RP that each community in the Regional Plan receive an allocation of new CFA from a total pool of 200,000 square feet for the region; this allocation would be at limited to no cost to the developer if he/she can obtain the allocation from the development project host community (some communities charge a small amount to the developer). However, due to the draft nature of this proposal, the analysis herein assumes that the CFA development rights would need to be acquired at "market rate" costs; thus, for the projects with commercial space in their development program (Mixed-Use with ground floor retail), the full range of $30 to $40 per square foot of CFA for all new space developed, is tested.

Framework for the Scenarios

The scenarios (development projects) tested in the following analysis follow a framework of testing both ends of the Incentive Program ratios (from non-sensitive lands in near-transit/Lake locations, to distant sensitive lands), In addition, both ends of the reported historical price ranges for each type of development right (e.g, residential, TAU, and CFA), were tested.

The first set of scenarios is constructed as "single-use" projects, across these ranges of low-high ratios and low-high costs for purchase of development rights. For these single-use projects, a common one acre receiving site was assumed, and the development parameters were applied to limit site coverage to no more than 70 percent, along with the density and height limits applicable to Town Centers and Regional Centers (e.g., maximum density of 25 residential units per acre, no more than four stories tall). For TAUs (hotel use), these same parameters were applied (e.g., maximum density of 40 rooms per acre, no more than four stories tall). In addition, due to the wide range of historical residential projects that TRPA has experienced, with many projects targeting large-unit buyers of up to 2,800 square feet or more average unit size within the project, the scenarios took the approach of testing a "small condo unit size" averaging 1,200 square feet, and separately, a "large condo unit size" of 2,800 square feet. All of these "single-use" projects fit on their receiving site utilizing wood frame construction (affected by height), and surface parking, provided that relatively low parking ratios are assumed (one parking space per residential unit). It should be noted that actual projects could vary significantly from these assumptions.

In addition to the above single-use development scenarios, the analysis also tested a mixed-use concept. For this set of scenarios, it was assumed that the project would contain ground floor retail with five stories of residential condominiums above, along with an at-grade

structured parking garage behind the retail space, serving both the retail customers and the condominium buyers living above. To fit this scenario on the site and not exceed the site coverage limit, this set of scenarios requires utilizing the taller six-story height limit, thus changing to a more expensive steel frame (or reinforced concrete) type of construction to meet Uniform Building Code (UBC) standards for residential buildings over four stories. Therefore, the analysis increases the per-square-foot construction costs for this set of mixed-use scenarios, and assumes a six-story building. This mixed-use set of scenarios was tested for just the large size condominium unit assumptions.

Condominium Sale Prices and Hotel Room Rates

Appendix A shows market data regarding recent condominium sales in zip codes matching the receiving site locations able to be developed in the RP, for resale of units less than 15 years old (e.g., relatively new construction). Appendix A also shows the results of a recent query of Trulia for asking prices for both smaller and larger units. The resulting estimate of sale price used for the analysis herein was $450,000 for the 1,200 square foot "small condo unit size" and $850,000 for the 2,800 square foot "large condo unit size."

For hotel room rates, current asking rates were obtained from several travel sites for hotels with a 3-star rating or above. It is assumed that a new-construction hotel would be developed with a high set of amenities with at least this rating. A room rate averaging $200 per night was assumed for this analysis, which is at the higher end of the range of room rates found in the Tahoe Region, but below some of the most expensive full service newer hotels.

Summary of Findings

As shown below, the analysis yields a range of values for the hypothetical development projects tested. Assuming a constant developer profit measure of 10 percent of hard costs for each project, and the development programs for each project as outlined above and detailed in each model in the Appendix, the following residual land values are estimated:

Table 3: Summary of Financial Analysis

	Low TDR Cost				High TDR Cost			
	Low TDR Ratio		High TDR Ratio		Low TDR Ratio		High TDR Ratio	
	Land Value/Sq. Ft.	Feasible?	Land Value/Sq. Ft.	Feasible?	Land Value/Sq. Ft.	Feasible?	Land Value/Sq. Ft.	Feasible?
Single Use with Wood Frame Construction								
Residential For-Sale Project - Small Unit Sizes	$ 10.33	Y	$ 18.86	Y	$ (27.62)	N	$ 12.53	Y
Residential For-Sale Project - Large Unit Sizes	$ 12.34	Y	$ 20.87	Y	$ (39.24)	N	$ 0.92	N
Tourist Accomodation Unit Project	$ 3.35	N	$ 19.42	Y	$ (35.20)	N	$ 6.57	Y
Mixed-Use with Streel Frame Construction								
Retail/Residential For-Sale Project - Large Unit Sizes	$ 8.21	Y	$ 16.74	Y	$ (34.92)	N	$ 5.24	Y

The residual land values above were deemed feasible if they approach or exceed $5.00 per square foot of land, which is considered the low end of the range for developable land parcels in the Town Center, Regional Center, and High Density Tourist District locations shown in the Regional Plan.

It should be noted that many of the sites where projects would be developed within the Town Center, Regional Center, and High Density Tourist District locations are currently improved with aging, existing structures. This situation lends itself to redevelopment because the existing improvement would provide the requisite site coverage. However, since the sizes of the existing improvements may vary, demolition costs were not separately estimated; the residual land value should be considered as including the cost to demolish whatever improvements are not reusable in the new development project.

Single Use Projects with Wood Frame Construction and Surface Parking

As shown, for single use residential condominium projects at four stories or less, the range of ratios assuming a low cost for development rights result in feasible projects. This finding applies to both the small and large condo projects.

When the high end of the development right purchase cost is assumed (e.g., $80,000 per unit), the findings are more mixed. The combination of a low TDR ratio and this high purchase price per TDR does not yield any feasible condominium projects. It should be noted that this situation may be improved if the sale prices of the condos (which would reflect the high TDR purchase cost under strong market conditions) were also increased. For example, if the large unit condo project paying $80,000 per development right were developed under the low end of the TDR ratio (e.g., sending site were non-sensitive land near transit/Lake), and a condominium sale price were increased to an average of $950,000 per unit (increase from the $850,000 sale price per unit assumed herein), the resulting land residual would return to a positive number of roughly $12.00 per square foot, yielding feasibility. Thus, to the extent that high cost TDRs occur during “boom” market conditions, also reflected in high sale prices, these projects could reflect feasible scenarios.

Looking at the high end of the proposed Incentive Program, with high TDR ratios, the assumed high cost per development right yields a feasible project if the units are small sizes on average. When analyzed for large unit sizes, the land residual is barely positive (.e.g., $0.92 per square foot of land), which falls below the threshold of $5.00 used to test feasibility in this analysis. However, again, it should be noted that slight shifts in size assumptions, or slightly higher sale prices for these larger condo units (or other land acquisition strategies) may yield feasible high TDR ratio – high TDR cost projects.

For single-use hotel scenarios, the low end of the TDR ratios do not create feasible projects, given the assumptions used for the analysis. However, the high end of the TDR ratio makes

these projects feasible, even at the highest development right cost assumption level of $65,000 per TAU.

In general, the proposed TDR ratios do create feasible development scenarios, and can be made to achieve the objective of retiring sensitive land in distant locations.

Mixed-Use Retail + Large Size Condominiums with Steel Frame Construction and Parking Garage

This set of development scenarios analyzes a more densely developed project type of up to 6 stories, which would only apply to the Regional Center and the High Density Tourist District proposed for South Lake Tahoe, CA and Stateline, NV.

As described above, this set of scenarios assumes a building with ground floor retail and an at-grade parking garage behind it, fitting within the 70 percent or less total site coverage (see pro forma models, these scenarios meet this test by limiting retail space and accommodating the the required garage parking spaces as well). Above the ground floor retail and parking garage "footprint," steel frame construction is assumed to allow the project to fit large condominium units (e.g., average of 2,800 square feet plus common area).

For these scenarios, feasibility is achieved in all cases except the low TDR ratio – high TDR cost situation. Here, due to the high cost of the development rights purchased, and the low ratio provided in the non-sensitive lands closest to transit/Lake, feasibility is not achieved (e.g., negative residual land value). However, again it should be noted that if market conditions were very strong, sale prices for the condominiums would rise above those assumed herein, and feasible projects could likely be developed.

APPENDIX A: MARKET DATA FOR CONDOMINIUMS & RETAIL

Median Price of Condominiums Built 1997 - 2012 and Sold in the Past Year (a)

Zip Code	County, State	Community	Number of Sales Meeting Criteria	Median Sales Price
96150	El Dorado, CA	South Lake Tahoe	0	NA
96145	Placer, CA	Tahoe City	0	NA
96143	Placer, CA	Kings Beach	13	$214,500
89451	Washoe, NV	Incline Village	29	$402,000
89449	Douglas, NV	Stateline	1	$875,000

Note:
(a) This table shows the median price for condominiums that were built between 1997 and 2012, and sold between April 2011 and April 2012.

Source: Dataquick; BAE, 2012.

APPENDIX B: PRO FORMA MODELS

This information is available upon request from TRPA.