Hawaii Statewide Transportation Plan

Hawaii’s Multi-Modal and Inter-Modal Network

Executive Summary
The Purpose of this Document is to:

- Give a brief Executive Summary of the HSTP
- Identify Changes in Goals & Objectives from the previous HSTP (2002)
- Link Goals & Objectives to Research and Data
- Link Goals & Objectives to the 8 Planning Factors
- Incorporate Performance Measures
The *Hawaii Statewide Transportation Plan: Hawaii’s Multi-Modal and Inter-Modal Network* (HSTP) is the seventh and latest in a series of HSTP Plans that date back to 1961. This is a policy document. Its chief focus is to provide guidance to system level and master plans of the three primary modes of transportation used in Hawaii, the air, water, and land systems, as well as the non-motorized modes and inter-modal connections. Multi-modal refers to having available more than one of these modes of transportation. Inter-Modal refers to the connecting points of two or more modes of transportation, for example, deplaning from an airplane and then catching a bus to get to your destination.

The theme of this HSTP is “Making Connections.” This refers not just to connections among transportation modes, but also to other jurisdictions in the global economy. It refers to making connections between transportation and other concerns important to Hawaii including protecting the natural environment, complementing land use, supporting the economy, and improving quality of life. The rainbow, common in Hawaii, is used to symbolize making connections, and bridging across geography, time, and culture.

There are seven chapters in the first volume of the HSTP. The second volume consists of ten issue papers on emerging issues. The third volume contains technical appendices and reports prepared as part of the work to produce the HSTP.

**GOALS AND OBJECTIVES**

There are eight goals in this HSTP. Each goal is supported by a number of objectives (totaling 44 in all) which give more details on activities that could help achieve the goal. Most of the goals have been revised and refined from the previous HSTP issued in 2002. Two of the goals are completely new; these are the goals for energy and for funding. The revisions in the goals and objectives reflect work being done by others in the State including: the *Hawaii 2050 Sustainability Plan*, the Hawaii Clean Energy Initiative, and legislatively formed task forces charged with assessing appropriate responses to greenhouse gases, climate change, and sea level rise as well as food security.

The goals were presented to others in several ways to gain their feedback. A statewide telephone survey of 1200 respondents, both land line and cell phone, was taken as the goals and objectives were first being re-examined. This survey, along with the research conducted as part of preparing the ten papers on emerging issues, provided an initial draft version of revised goals and objectives. This draft was presented for feedback to the Sub-Statewide Technical Advisory Committee (Sub-STAC), whose membership is County and State transportation planners. It was also presented and deliberated at a series of five Countywide Public Information Meetings (PIM) held throughout the state. Further, the goals and objectives were discussed at three Stakeholder Workshops. Electronic hand-held voting was used at the PIM and Stakeholder Workshops, a novel and visual approach that appealed to participants.
HSTP GOALS

This extensive vetting of the goals and objectives led to many changes and refinements. The resulting list can be found here as well as in the pull-out in Chapter I of HSTP Volume 1. The goals are shown below, listed by their topic area followed by the full wording of each goal.

GOAL I: MOBILITY AND ACCESSIBILITY

Create and manage integrated multi-modal transportation systems that provide mobility and accessibility for people and goods.

GOAL II: SAFETY

Enhance the safety of the air, land, and water transportation systems.

GOAL III: SECURITY

Ensure the secure operation and use of the air, land, and water transportation systems.

GOAL IV: ENVIRONMENT

Protect Hawaii’s unique environment and quality of life and mitigate any negative impacts.

GOAL V: ECONOMY

Ensure that the air, land, and water transportation facility systems support Hawaii’s economy and future growth objectives.

GOAL VI: ENERGY

Support the State’s energy goal of 70% clean energy, which includes 40% produced by renewable energy and 30% from increased energy efficiency, enhancing the reliability and security of energy sources.

GOAL VII: FUNDING

Create secure, flexible, and sustainable revenues for funding sources for transportation needs.

GOAL VIII: PLANNING

Implement a statewide planning process that correlates land use and transportation while supporting decision-making and programming for Hawaii’s integrated, comprehensive, multi-modal transportation systems.
| GOAL I: Create and manage an integrated multi-modal transportation system that provides mobility and accessibility for people and goods. | Objective 1: Preserve and maintain the existing air, water, and land transportation systems, including motorized and non-motorized modes and measures in good condition or better, and give comparable consideration to funding preservation capital projects as is given to expansion projects.  
Objective 2: Ensure the provision of essential and critical air, land, and water transportation operations and services for all communities throughout the islands.  
Objective 3: Ensure multi-modal and inter-modal connections for passengers and commodities on the air, land, and water systems; and formulate a program of multi-modal and inter-modal projects, including bicycle and walking options.  
Objective 4: Address the special needs of Hawaii's underserved populations, including the elderly, disabled, and Title VI/Environmental Justice (T6/EJ) populations.  
Objective 5: Reduce congestion in the air, water, and land transportation systems. | OBJECTIVE 1: Enhance the safety of the air, land, and water transportation systems.  
Objective 1: Enhance system and user safety at transportation facilities both motorized and non-motorized, with the use of proper equipment, technology, and physical hazard reduction; and implement priority safety projects for each mode.  
Objective 2: Support and collaborate with all levels of government to identify transportation routes and protocols for the safe movement of hazardous materials.  
Objective 3: Continuously conduct assessment, preparedness, and emergency response for natural disasters as part of all planning efforts.  
Objective 4: Use and consider a full range of transportation design techniques to improve personal safety for all travelers. |}

| GOAL III: Ensure the secure operation and use of the air, land, and water transportation systems. | Objective 1: Minimize risks of disruption of transportation to, from, and within Hawaii due to terrorism and other human security threats and events, as well as threats and events from natural causes.  
Objective 2: Work with Federal, State, and County agencies as well as tenants to conduct vulnerability and risk assessments.  
Objective 3: Implement security policies and strategies to minimize risks and threats of disruption of or damage to the transportation systems while maintaining the intended function of the system.  
Objective 4: Provide continuous monitoring of critical infrastructure and communications systems to provide for appropriate emergency response capability.  
Objective 5: Develop a biosecurity plan and measures to protect against pests and disease. | GOAL IV: Protect Hawaii's unique environment and quality of life and mitigate any negative impacts.  
Objective 1: Ensure that the air, land, and water transportation systems respect environmental, natural, cultural, and historic resources; and adopt guidelines to conserve natural resources and alleviate environmental degradation caused by motor vehicles.  
Objective 2: Implement sustainability and livability practices in existing and new facilities, with "sustainability" defined as: "Respect the culture, character, beauty, and history of our State's island communities; strike a balance among economic, social, and community, and environmental priorities; and meet the needs of the present without compromising the ability of future generations to meet their own needs."  
Objective 3: Assess sustainability and livability for air, land, and water transportation facilities and operation practices.  
Objective 4: Support the programs of State and Federal natural resource agencies; as well as support ongoing lines of communication and coordination with these agencies.  
Objective 5: Encourage transportation systems that improve the quality of life, public health, and welfare of Hawaii's people, and that are consistent with land use plans.  
Objective 6: Assist with streamlining environmental process by identifying categories of environmental mitigation that include but are not limited to critical habitat, environmentally sensitive areas, noise, and pollution avoidance.  
Objective 7: Adapt to the effects of climate change and build resilience in the transportation system. Address the effects of a one meter sea level rise and extreme weather events anticipated to occur during and by the end of the 21st Century on Hawaii's air, land, and water transportation facilities and provide responses to this threat in modal facility plans.  
Objective 8: Prevent and minimize the transport of invasive species (pests and diseases). |
### GOAL VII:
Create secure, flexible, and sustainable revenues and funding sources for transportation needs.

<table>
<thead>
<tr>
<th>Objective 1:</th>
<th>Objective 2:</th>
<th>Objective 3:</th>
<th>Objective 4:</th>
<th>Objective 5:</th>
<th>Objective 6:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support the multi-modal transportation needs in the military, tourism, agriculture, health, education, energy, and technology sectors of Hawaii’s economy; and identify sector needs, current and projected, as they relate to movement of people and goods.</td>
<td>Create a commodity flow and freight handling system that is dependable, efficient, economical, secure, and rapid for connecting the ports, land transportation facilities, and industrial/commercial land use and storage areas.</td>
<td>Provide reliability, dependability, and redundancy for commerce in the import and export goods movement system including inspection facilities at ports; address actions for security of commerce.</td>
<td>Create modern air, land, and water transportation systems that are part of a positive visitor experience.</td>
<td>Ensure funding for the safety and security of the state transportation systems.</td>
<td>Maximize the use of Federal programs and funding for needed transportation infrastructure; use Federal non-recurring initiatives and funding sources such as American Recovery and Reinvestment Act (ARRA) and report on project and program achievements.</td>
</tr>
<tr>
<td>Objective 6:</td>
<td>Objective 7:</td>
<td>Objective 8:</td>
<td>Objective 9:</td>
<td>Objective 10:</td>
<td>Objective 11:</td>
</tr>
<tr>
<td>Achieve project readiness in support of new funding sources as they become available; and report on achievements of project completion.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Goal I: Mobility and Accessibility
Create and manage an integrated multi-modal transportation system that provides mobility and accessibility for people and goods.

<table>
<thead>
<tr>
<th>GOAL I</th>
<th>OBJECTIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create and manage an integrated multi-modal transportation system that provides mobility and accessibility for people and goods.</td>
<td>Objective 1: Preserve and maintain the existing air, water, and land transportation systems, including motorized and non-motorized modes and measures in good condition or better, and give comparable consideration to funding preservation capital projects as is given to expansion projects.</td>
</tr>
<tr>
<td></td>
<td>Objective 2: Ensure the provision of essential and critical air, land, and water transportation operations and services for all communities throughout the islands.</td>
</tr>
<tr>
<td></td>
<td>Objective 3: Ensure multi-modal and inter-modal connections for passengers and commodities on the air, land, and water systems; and formulate a program of multi-modal and inter-modal projects, including bicycle and walking options.</td>
</tr>
<tr>
<td></td>
<td>Objective 4: Address the special needs of Hawaii’s underserved populations, including the elderly, disabled, and Title VI/Environmental Justice (T6/EJ) populations.</td>
</tr>
<tr>
<td></td>
<td>Objective 5: Reduce congestion in the air, water, and land transportation systems.</td>
</tr>
</tbody>
</table>

WHAT WAS IN THE PREVIOUS PLAN?
This first goal for an integrated multi-modal transportation system has been in every HSTP since 1961, when early structures of systems were developed for air, water, highway, and interisland travel. This aligns closely with The State of Hawaii Department of Transportation (HDOT) mission statement, “To provide a safe, efficient, accessible, and inter-modal transportation system that ensures the mobility of people and goods, and enhances and/or preserves economic prosperity and the quality of life.”

WHAT'S BEEN ADDED OR CHANGED?
The wording has been modified slightly to include management as well as creation of such systems. Making connections between modes is an important feature of this goal. Objective 4: Special Needs populations are called out to make sure the needs of all are addressed. Objective 5: uses the term “reduce congestion,” replacing the earlier term, “efficiency.”

RESEARCH AND DISCUSSION
- **Eight Planning Factors:** The federal transportation law known as the Safe, Accountable, Flexible Efficient Transportation Equity Act (SAFETEA-LU) of 2005 requires states to consider eight planning factors in development of their long-range transportation plans. The HSTP goes a step further to apply the eight planning factors to all modes. This goal relates to five of the eight federal planning factors: Accessibility and Mobility; Promote consistency between planned growth and economic development; Integration and connectivity; Efficient management and operation; and Preserve the existing system.
- **Data & Trends:** Hawaii continues to grow. By 2035, that growth is expected to result in 23% more residents, with individual island growth rates ranging from Hawaii Island (62%) to Maui (22%).
- **Public Opinion Survey:** 91% of respondents supported bicycle and pedestrian improvements. 18% of all households report having a disabled member with special transportation needs. One of those special needs is for interisland air travel and connections for medical care; this is especially an issue on Molokai, Lanai and Kauai.

WHAT ARE POTENTIAL MEASURES FOR THIS GOAL AND OBJECTIVES?
- Congestion reduction is a priority area for performance measurement in the “Oberstar Blueprint.”
- **Output Measures:** Land: Total VMT; Air: Deplanements; Water: Volume of cargo handled.
- **Outcome Measures:** Number of new multi-modal facilities; facilities in high growth areas; reduced amount of travel delay by mode; customer satisfaction by total population as well as by elderly/disabled and Environmental Justice communities.

MOVING FORWARD
Complete the Statewide Pedestrian Masterplan (underway)
Undertake a Statewide Freight Study
Complete the Coordinated Services Plan for Public Transit (underway)
Goal II: Safety
Enhance the safety of the air, land, and water transportation systems.

<table>
<thead>
<tr>
<th>GOAL II</th>
<th>OBJECTIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhance the safety of the air, land, and water transportation systems.</td>
<td>Objective 1: Enhance system and user safety at transportation facilities both motorized and non-motorized, with the use of proper equipment, technology, and physical hazard reduction; and implement priority safety projects for each mode.</td>
</tr>
<tr>
<td></td>
<td>Objective 2: Support and collaborate with all levels of government to identify transportation routes and protocols for the safe movement of hazardous materials.</td>
</tr>
<tr>
<td></td>
<td>Objective 3: Continuously conduct assessment, preparedness, and emergency response for natural disasters as part of all planning efforts.</td>
</tr>
<tr>
<td></td>
<td>Objective 4: Use and consider a full range of transportation design techniques to improve personal safety for all travelers.</td>
</tr>
</tbody>
</table>

WHAT WAS IN THE PREVIOUS PLAN?
In the previous plan, safety and security were combined in the same goal. Consistent with SAFETEA-LU Legislation, these are now separated.

WHAT'S BEEN ADDED OR CHANGED?
Four new objectives have replaced the single more general objective in order to recognize current thinking on hazards, natural disasters, and human threats to safety, as well as incorporating assessment and preparedness as part of ongoing planning.

RESEARCH AND DISCUSSION
- Eight Planning Factors: Safety is one of the Eight Planning Factors named in SAFETEA-LU.
- HSTP Public Opinion Survey: In a hypothetical question on allocation preferences for transportation spending, respondents said they would spend $35 of $100 on safety projects.

WHAT ARE POTENTIAL MEASURES FOR THIS GOAL AND OBJECTIVES?
- Safety is a priority area for performance measurement in the "Oberstar Blueprint."
- Output Measures: Dollars spent on safety projects; number of fatalities and injuries by motor vehicles; number of air system accidents; number of injuries at Harbors.
- Outcome Measures: Improvement over previous years; customer perceptions of safety.

MOVING FORWARD
Complete the Statewide Pedestrian Masterplan (underway)
Coordinate with Department of Health (DOH) Healthy Living Programs, including Safe Routes to School
Goal III: Security
Ensure the secure operation and use of the air, land, and water transportation systems.

<table>
<thead>
<tr>
<th>GOAL III:</th>
<th>OBJECTIVES</th>
</tr>
</thead>
</table>
| Ensure the secure operation and use of the air, land, and water transportation systems. | Objective 1: Minimize risks of disruption of transportation to, from, and within Hawaii due to terrorism and other human security threats and events, as well as threats and events from natural causes.  
Objective 2: Work with Federal, State, and County agencies as well as tenants to conduct vulnerability and risk assessments.  
Objective 3: Implement security policies and strategies to minimize risks and threats of disruption of or damage to the transportation systems while maintaining the intended function of the system.  
Objective 4: Provide continuous monitoring of critical infrastructure and communications systems to provide for appropriate emergency response capability.  
Objective 5: Develop a biosecurity plan and measures to protect against pests and disease. |

WHAT WAS IN THE PREVIOUS PLAN?
In the previous plan, safety and security were combined in the same goal. Consistent with SAFETEA-LU Legislation, these are now separated.

WHAT'S BEEN ADDED OR CHANGED?
Five new objectives have replaced the single more general objective in order to reflect current thinking on terrorism and biosecurity, as well as threats to security from natural disasters.

RESEARCH AND DISCUSSION
- **Eight Planning Factors**: Security is one of the Eight Planning Factors named in SAFETEA-LU. The HSTP applies it to all modes, not just land transportation.
- **HSTP Public Opinion Survey**: Safety and Security were listed as the #2 priority (after Mobility). In the 2001 survey, they were the first priority.
- **Issue Paper #7, Security**: was prepared as HSTP Research and Background.
- **Other**: Continued investment in air and harbor facilities is ongoing to meet the global and national needs for enhanced security. This is also true for the public transit and land transportation system, to avoid moving vehicles being used as weapons of mass destruction.
- **Safety**: is a priority area for performance measurement in the "Oberstar Blueprint."

WHAT ARE POTENTIAL PERFORMANCE MEASURES FOR THIS GOAL AND OBJECTIVES?
- **Output Measures**: Number of training events held; number of vulnerability and risk assessments conducted.
- **Outcome Measures**: Number of security incidents responded to and averted; number of emergency responses; customer perceptions of security.

MOVING FORWARD
Continue inter-agency coordination with Federal Agencies, Civil Defense, Military, and first responders.  
Continue training.  
Work with the National UH Disaster Preparedness Training Center at University of Hawaii at Manoa.
Goal IV: Environment and Quality of Life
Protect Hawaii’s unique environment and quality of life and mitigate any negative impacts.

<table>
<thead>
<tr>
<th>GOAL IV:</th>
<th>OBJECTIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protect Hawaii’s unique environment and quality of life and mitigate any negative impacts.</td>
<td>Objective 1: Ensure that the air, land, and water transportation systems respect environmental, natural, cultural and historic resources; and adopt guidelines to conserve natural resources and alleviate environmental degradation caused by motor vehicles.</td>
</tr>
<tr>
<td></td>
<td>Objective 2: Implement sustainability and livability practices in existing and new facilities, with “sustainability” defined as: “Respect the culture, character, beauty, and history of our State’s island communities; strikes a balance among economic, social, community, and environmental priorities; and meets the needs of the present without compromising the ability of future generations to meet their own needs.”</td>
</tr>
<tr>
<td></td>
<td>Objective 3: Assess sustainability and livability for air, land, and water transportation facilities and operation practices.</td>
</tr>
<tr>
<td></td>
<td>Objective 4: Support the programs of State and Federal natural resource agencies; as well as support ongoing lines of communication and coordination with these agencies.</td>
</tr>
<tr>
<td></td>
<td>Objective 5: Encourage transportation systems that improve the quality of life, public health, and welfare of Hawaii’s people, and that are consistent with land use plans.</td>
</tr>
<tr>
<td></td>
<td>Objective 6: Assist with streamlining environmental process by identifying categories of environmental mitigation that include but are not limited to critical habitat, environmentally sensitive areas, noise, and pollution avoidance.</td>
</tr>
<tr>
<td></td>
<td>Objective 7: Adapt to the effects of climate change and build resilience in the transportation system. Address the effects of a sea level rise and extreme weather events anticipated to occur during and by the end of the 21st Century on Hawaii’s air, land, and water transportation facilities, and provide responses to this threat in modal facility plans.</td>
</tr>
<tr>
<td></td>
<td>Objective 8: Prevent and minimize the transport of invasive species (pests and diseases).</td>
</tr>
</tbody>
</table>

WHAT WAS IN THE PREVIOUS PLAN?
Goal IV, to protect the environment, was in the 2002 HSTP. This HSTP adds “mitigation of negative impacts” to the wording in order to acknowledge transportation’s role in building facilities.

WHAT’S BEEN ADDED OR CHANGED?
Eight newly worded objectives have been drafted to replace previous objectives that focused on facilities, programs, and activities. The objectives have also been updated to reflect current emphasis on sustainability and livability, environmental mitigation, adaptation to the effects of climate change, and preventing and minimizing the transport of invasive species were also included. Emphasis on non-motorized modes remains. The Hawaii 2050 Sustainability Plan definition of sustainability has been incorporated.

RESEARCH AND DISCUSSION
- **Eight Planning Factors**: The Eight Planning Factors named in SAFETEA-LU expect transportation plans to address the environment, energy, quality of life, and consistency with land use and growth plans. SAFETEA-LU also requires early consultation with natural resource and conservation stakeholders.
- **HSTP Public Opinion Survey**: Over 60% of the State’s residents surveyed feel that new development makes traffic worse. On Kauai, 73% feel this way.
- **Related HSTP Issue Papers**: #2 Climate Change and Sea Level Rise; #5 Land Use Connection; and #10 Environmental Coordination.

WHAT ARE POTENTIAL MEASURES FOR THIS GOAL AND OBJECTIVES?
- **Output Measures**: Number of EA/EIS reviewed; Number of island maps prepared for sea level rise; Number of sustainability/livability initiatives underway.
- **Outcome Measures**: Number of habitats created; Number of Integrated Sub-Regional Area Plans underway; Customer satisfaction with transportation and the environment.

MOVING FORWARD
Continue training in Environmental Coordination with natural resources agencies. Continue Annual reporting on EA/EIS reviewed and mitigations imposed.
Goal V: Economy and Growth
Ensure that the air, land, and water transportation facility systems support Hawaii’s economy and future growth objectives.

<table>
<thead>
<tr>
<th>GOAL V:</th>
<th>OBJECTIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure that the air, land, and water transportation facility systems support Hawaii’s economy and future growth objectives.</td>
<td><strong>Objective 1:</strong> Support the multi-modal transportation needs in the military, tourism, agriculture, health, education, energy, and technology sectors of Hawaii’s economy; and identify sector needs, current and projected, as they relate to movement of people and goods. <strong>Objective 2:</strong> Create a commodity flow and freight handling system that is dependable, efficient, economical, secure, and rapid for connecting the ports, land transportation facilities, and industrial/commercial land use and storage areas. <strong>Objective 3:</strong> Provide reliability, dependability, and redundancy for commerce in the import and export goods movement system including inspection facilities at ports; address actions for security of commerce. <strong>Objective 4:</strong> Create modern air, land, and water transportation systems that are part of a positive visitor experience.</td>
</tr>
</tbody>
</table>

WHAT WAS IN THE PREVIOUS PLAN?
This goal has been reworded to support Hawaii’s economy and future growth objectives. The previous goal was worded to support Hawaii’s economic vitality. The new wording is closer to elements within the purview of the transportation system.

WHAT’S BEEN ADDED OR CHANGED?
The objectives are more specific in naming the sectors of Hawaii’s economy (Objective 1); creating a commodity flow and freight handling system (Objective 2); building in redundancy for goods movement (Objective 3); and creating a positive visitor experience (Objective 4).

RESEARCH AND DISCUSSION
- **Eight Planning Factors:** This goal relates to the first planning factor, Economic Vitality, and applies it to Hawaii’s major economic sectors as well as to growth objectives as expressed in County Land Use Plans.
- **HSTP Data and Trend Report:** Official State Forecast data expects a 24% growth in jobs by 2035. Visitor projections are similarly forecast. Cargo projections by Harbors Division and others force major increases in cargo handling, noting the previous forecasts frequently were exceeded. Connectivity and accessibility are important qualities in addressing this goal, especially for freight and cargo.

WHAT ARE POTENTIAL MEASURES FOR THIS GOAL AND OBJECTIVES?
- **Output Measures:** Number of inspection facilities at ports; amount of cargo handled.
- **Outcome Measures:** visitor satisfaction surveys; decrease in delay at ports.

MOVING FORWARD
Undertake a Statewide Freight Study
Goal VI: Energy
Support the State’s energy goal of 70% clean energy, which includes 40% produced by renewable energy and a 30% increase in energy efficiency, enhancing the reliability and security of energy sources.

<table>
<thead>
<tr>
<th>GOAL VI:</th>
<th>OBJECTIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support the State’s energy goal of 70% clean energy, which includes 40% produced by renewable energy and a 30% increase in energy efficiency, enhancing the reliability and security of energy sources.</td>
<td>Objective 1: Support the national goal to reduce transportation-related greenhouse gas (GHG) emissions and reliance on foreign oil. Objective 2: Actively pursue actions in transportation which help to achieve the State Clean Energy Goal of 40% renewable energy by 2030; and use integrated action plans from DBEDT’s Lead by Example Energy Initiatives with priority transportation actions that would support the Hawaii Clean Energy Initiative (HCEI). Objective 3: Identify ways to increase energy efficiency by 30% at transportation facilities; and identify projects and programs for increased efficiency of energy in support of the Hawaii Clean Energy Initiative (HCEI), Leadership in Energy &amp; Environmental Design (LEED), and other green initiatives for more efficient use of energy. Objective 4: Expand the use of alternative fuel and electric vehicles; provide electric recharging at transportation facilities. Objective 5: Use opportunities where and when practicable and available, to use solar (heating and photovoltaic), wind, geothermal, and ocean resources to supply power to create electricity for transportation facilities.</td>
</tr>
</tbody>
</table>

WHAT WAS IN THE PREVIOUS PLAN?
This is a new goal.

Previously, there were indirect objectives referring to being "environmentally responsible," which include low-cost, energy efficient, non-polluting transportation.

WHAT’S BEEN ADDED OR CHANGED?
The goal is meant to directly link to the Hawaii Clean Energy Initiative and its goals to reduce dependency on oil imports and to encourage conservation. It applies to all modes.

RESEARCH AND DISCUSSION
- Eight Planning Factors: Energy Conservation is part of the all encompassing environment and quality of life factor. Furthermore, there are energy issues embedded in security, mobility, and efficiency factors.
- HSTP Issue Paper #4 is devoted to fuel and energy.
- HSTP Public Opinion Survey found that 61% of respondents used their vehicle less in response to rising gas prices, and 58% still practice that behavior. 77% support research into new fuel options, and 65% support electric cars and recharge stations, and 65% support Hawaii growing biofuel products.
- Other: This goal supports national goals to reduce transportation related green house gases (GHG) and reduce dependence on foreign oil.

WHAT ARE POTENTIAL MEASURES FOR THIS GOAL AND OBJECTIVES?
- Output Measures: Number of electric recharge stations installed at transportation facilities.
- Outcome Measures: Percent of vehicles using renewable energy; percent energy efficiency at harbor and airport facilities.

MOVING FORWARD
Prepare an HDOT Energy Action Plan.
Goal VII: Funding
Create secure, flexible, and sustainable revenues and funding sources for transportation needs.

<table>
<thead>
<tr>
<th>GOAL VII:</th>
<th>OBJECTIVES</th>
</tr>
</thead>
</table>
| Create secure, flexible, and sustainable revenues and funding sources for transportation needs. | **Objective 1:** Develop a statewide framework for long-range financial forecasting; and within this framework, distinguish between system preservation, capacity enhancement, and modernization needs that are funded from user-financing (Harbors and Airports) and user-tax financing (Highways and Transit).  
**Objective 2:** Identify sources and develop and secure funding for the sustainable delivery, maintenance, operation, rehabilitation and replacement, and expansion of the state transportation systems.  
**Objective 3:** Ensure funding for the safety and security of the state transportation systems.  
**Objective 4:** Maximize the use of Federal programs and funding for needed transportation infrastructure; use Federal non-recurring initiatives and funding sources such as American Recovery and Reinvestment Act (ARRA) and report on project and program achievements.  
**Objective 5:** Study the reliability and viability of future transportation financing streams and funding and consider scenarios for innovative and non-traditional financing.  
**Objective 6:** Achieve project readiness in support of new funding sources as they come available; and report on achievements of project completion. |

**WHAT WAS IN THE PREVIOUS PLAN?**
This is a new goal.
While the 2002 HSTP did not have a Finance Goal, an earlier version did seek “adequate, continuous and predictable public and private funding.”

**WHAT'S BEEN ADDED OR CHANGED?**
The six objectives supporting the financial goal, create a framework for forecasting (Objective 1), sustainable finance mechanisms (Objectives 2 & 3), maximized use of Federal funds (Objective 4), reliable and viable revenue streams (Objective 5), and project readiness for funding opportunities (Objective 6).

**RESEARCH AND DISCUSSION**
- **Eight Planning Factors:** Finance is not one of the Federal Eight Planning factors. However, a resource-constrained STIP and Long Range Plan are federal requirements.
- **HSTP Issue Paper #9:** is devoted to presenting Financial Systems and models for each mode, future gap analysis, and scenarios for future funding.
- **HSTP Public Opinion Survey:** shows support for transportation expenditures. 82% support funding for public transportation. 81% support interisland water travel.

**WHAT ARE POTENTIAL MEASURES FOR THIS GOAL AND OBJECTIVES?**
- **Output Measures:** Dollars spent by mode; Percent of total projects that are for system preservation.
- **Outcome Measures:** Percent of preservation projects; percent spent on non-motorized modes, number of grant applications submitted and funded.

**MOVING FORWARD**
Adjustment of finance mechanisms and project delivery under Air and Harbor Modernization Programs.  
Adjustment of finance mechanisms for land transportation system following new federal authorization bill. Participation in identifying and communicating Hawaii’s interests during debate on the bill.
Goal VIII: Planning Process

Implement a statewide planning process that correlates land use and transportation while supporting decision-making and programming for Hawaii’s integrated, comprehensive, multi-modal transportation system.

<table>
<thead>
<tr>
<th>GOAL VIII:</th>
<th>OBJECTIVES</th>
</tr>
</thead>
</table>
| Implement a statewide planning process that correlates land use and transportation while supporting decision-making and programming for Hawaii’s integrated, comprehensive, multi-modal transportation systems. | **Objective 1:** Achieve the Federal requirements for a comprehensive, cooperative, and continuing (3C) transportation planning process; and continue to improve efficient and effective planning.  
**Objective 2:** Maintain a dynamic planning process that ensures coordination and cooperation between the State, Federal, counties, private sector, and general public.  
**Objective 3:** Incorporate new and evolving methods of public involvement, communication, and social networking to keep others informed of transportation planning efforts, opportunities for participation in decision-making, and programming; continue to regularly update the DOT Public Involvement Policy.  
**Objective 4:** Create and implement an Integrated Sub-Regional Area Planning (ISAP) initiative that links strategic planning to project implementation for all modes through a visioning process; and seek funding to begin the ISAP planning for one or more areas of critical State importance.  
**Objective 5:** Keep abreast of current and evolving programs and regulations that affect transportation in Hawaii.  
**Objective 6:** Seek wider application of geospatial technologies, further develop the land use database development, and integrate visioning in transportation planning.  
**Objective 7:** Develop performance measures to manage strategic goals and assets and to assist with better decision-making, communication, transparency, and accountability to stakeholders. |

**WHAT WAS IN THE PREVIOUS PLAN?**
This goal explicitly calls for a planning process linked to decision-making and programming. The intent is to be multi-modal. The previous plan called for a comprehensive, cooperative and continuing (3C) process with public and stakeholder involvement to the “fullest extent possible.” The former wording reflected a land transportation orientation, whereas the current focus is on correlating the land use and transportation connection through multi-modal and inter-modal planning.

**WHAT’S BEEN ADDED OR CHANGED?**
Objective 1: The 3C (Comprehensive, Coordinated, Continuing) applies to all modes and is inter-modal.  
Objective 4: Introduces strategic linkage of multiple modes, with Counties and other State departments activities through ISAP plans.  
Objective 7: Calls for using performance measures to support decision-making, communication, transparency and accountability to stakeholders.

**RESEARCH AND DISCUSSION**
- **Eight Planning Factors:** Linking the planning process to decision-making and programming fulfills integration and connectivity of transportation as well as promoting efficient system management and operation.  
- **HSTP Issue Paper #5:** discusses the land use and transportation planning connection.  
- **HSTP Issue Paper #6:** Planning and Design looks at best planning practices including CSS, Smart Growth, and TOD.  
- **HSTP Public Opinion Survey:** showed less than 20% participated in planning by attending a public meeting on transportation. Hawaii residents’ five top priorities: mobility and accessibility, safety, quality of life, protect environment, support the economy—mirror the eight planning factors.

**WHAT ARE POTENTIAL MEASURES FOR THIS GOAL AND OBJECTIVES?**
- **Output Measures:**  
  Number of ISAP underway or completed; number of public outreach meetings held.  
- **Outcome Measures:**  
  Adoption of updated HSTP; customer satisfaction with outreach; change in travel time by mode; consistency with land use plans.

**MOVING FORWARD**
Initiation of a performance measures system.
KEEP CURRENT WITH VARIABLES THAT INFLUENCE TRANSPORTATION

There are many variables that influence transportation that must be taken into account when conducting transportation planning. Four variables are of particular interest at this time. They are: social and economic forecasts; land use system; the eight planning factors named by the federal government in the Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU) of 2006; and a set of emerging issues identified by the project team as important in Hawaii.

The first variable is social and economic forecasts. The year 2035 was selected for the next round of transportation planning. In order to ensure uniformity and consistency among transportation plans, the forecasts prepared by the State Department of Business Economic Development & Tourism, dated January 2008, are being used. The statewide population and job forecasts are shown in the two figures below. The population forecast includes a steeply rising percentage of older persons, such that by 2035 those over 65 years of age will constitute 25% of the entire population in Hawaii. This statistic has numerous implications for transportation planners, including greater need for assisted travel on all modes as well as the needs for universal safety features in facilities and when making inter-modal connections.

In addition to resident population, transportation planners need to know the number of tourists present in the state at any given time. This is shown in the figure below on Visitor Days Forecast.

![Visitor Days Forecast](image)

**Expected Job Growth, 2005-2035**

![Expected Job Growth](image)

**2035 Population Forecast**

![2035 Population Forecast](image)

Data Sources: Department of Business, Economic Development & Tourism
The second variable influencing transportation is Hawaii’s **land use system**. This system has shifted in the last fifty years since statehood (1959) when the state’s dominant land use and economy was plantation-based agriculture. Today the land use and economy are dominated more by the visitor industry, the military, and by diversified businesses supporting a local population. Rapid growth has led the four counties to develop a highly regulated land use planning system. The ability to provide infrastructure including, but not limited to, transportation infrastructure has dominated discussions about planned projects on all islands. Related debates include those over cultural appropriateness, concurrency (versus after the fact), and “fair share” financial contributions and impact fees.

The State land use classification is within the jurisdiction of the Land Use Commission. Of the four million acres in the state, nearly half are in the Conservation District and 44% are in the Agriculture District. The remaining 208,533 acres are in Urban or Rural classification. The State of Hawaii owns 1.15 million acres, which are divided between public lands and lands set aside for state agencies such as Department of Hawaiian Home Lands (DHHL) and Department of Land and Natural Resources (DLNR).

The Counties are responsible for land planning, zoning and subdivision for agriculture, urban, and rural lands. They conduct this work by preparing General Plans and Regional Development Plans. These responsibilities are significant because they govern the lands where people live, work, and recreate. The Counties have been actively updating their General and Development Plans over the past ten years, and these plans reflect many best practices for integrating land use and transportation, smart growth, advancing principles of clustered development, higher density, and compact living, which support the transit and non-motorized modes of land transportation.

The third variable is the **“eight planning factors”** listed in federal legislation. These also represent good planning practice. In the HSTP they are applied to air, land, and water modes, not just to the land transportation mode referenced in the federal legislation. The eight planning factors are:

1) Support the economic vitality of the United States, the State, metropolitan areas and non-metropolitan areas by enabling global competitiveness, productivity, and efficiency

2) Increase safety of the transportation system for motorized and non-motorized users

3) Increase the security of the transportation systems for motorized and non-motorized users

4) Increase the accessibility and mobility of people and freight

5) Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements, and state and local planned growth, and economic development patterns

6) Enhance the integration and connectivity of the transportation system, across and between modes throughout the state, for people and freight

7) Promote efficient system management and operation

8) Emphasize the preservation of the existing transportation system
The ten emerging issue papers were prepared to examine these critical issues in considerable depth, to look at how they apply in Hawaii, to review best practices in other states, and ultimately to develop an effective approach in the HSTP. The ten issue papers can be found in Volume 2. The federal planning factors are all accounted for in the HSTP Goals and Objectives, and their subject matter is among that in the emerging issue papers. The eight planning factors are listed below.

<table>
<thead>
<tr>
<th>PLANNING FACTOR</th>
<th>HSTP GOAL</th>
<th>HSTP ELEMENT WHERE THIS IS DISCUSSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support the economic vitality of the United States, the States, metropolitan areas and non-metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency</td>
<td>Goal V Economy</td>
<td>2035 Population and Socio-Economic Projections paper</td>
</tr>
<tr>
<td>Increase the safety of the transportation system for motorized and non-motorized users</td>
<td>Goal II Safety</td>
<td>Telephone survey Survey of Disadvantaged PIM feedback exercise</td>
</tr>
<tr>
<td>Increase the security of the transportation system for motorized and non-motorized users</td>
<td>Goal III Security</td>
<td>Issue Paper # 7 discusses needs and requirements Telephone survey Survey of Disadvantaged PIM feedback exercise</td>
</tr>
<tr>
<td>Increase the accessibility and mobility of people and freight</td>
<td>Goal I Mobility and Accessibility</td>
<td>Telephone survey Survey of Disadvantaged PIM feedback exercise Issue Paper #3 examines the mobility issues important to the aging population.</td>
</tr>
<tr>
<td>Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns</td>
<td>Goal IV Environment and Quality of Life</td>
<td>Issue Paper #10 addresses environmental coordination. In addition, Issue Paper #2 addresses climate change and sea level rise. Issue Paper #4 discusses State energy initiatives and provides data for same.</td>
</tr>
<tr>
<td>Enhance the integration and connectivity of the transportation system, across and between modes throughout the State, for people and freight</td>
<td>Goal I Mobility and Accessibility Objective 3 of this goal addresses a multimodal system and the connectivity issues</td>
<td>Issue Paper # 6 addresses planning and design initiatives including context sensitive design, complete streets, smart growth and transit oriented development</td>
</tr>
<tr>
<td>Promote efficient system management and operation</td>
<td>Goal VII Objective 1 addresses funding for maintenance, operation, rehabilitation and replacement</td>
<td>Issue Paper #8 addresses system preservation and asset management</td>
</tr>
<tr>
<td>Emphasize the preservation of the existing transportation system</td>
<td>Goal VII Objective 1 addresses funding for maintenance, operation, rehabilitation and replacement</td>
<td>Issue Paper #8 addresses system preservation and asset management</td>
</tr>
</tbody>
</table>
CURRENT CONDITIONS AND SYSTEMS

The current transportation system in Hawaii is a combination of facilities owned by the State, Counties, military, Federal agencies, and private parties. All are critical to the islands. The State of Hawaii Department of Transportation (HDOT) is responsible for planning, designing, constructing, operating, and maintaining a large complement of state-owned facilities, including:

- Fifteen airports: five primary airports and ten secondary airports
- Ten commercial harbors on six Hawaiian islands
- Approximately 2,450 miles of paved roadways on six Hawaiian islands

In addition to the commercial harbors operated by HDOT, there are also ferry facilities in small boat harbors on the islands of Maui and Lanai, as well as at the Kaunakakai Harbor pier on Molokai, and these ferries are run by private operators.

The public transit systems are owned and operated by the Counties: TheBus and TheHandivan on Oahu; the Maui Bus provided by Maui Transportation Agency with a para-transit system provided by Maui Economic Opportunity; Hele-On bus service and taxi service provided by Hawaii Mass Transit Agency; and the Kauai Bus and demand responsive para-transit on Kauai. Numerous private bus companies cater to the tourist population.

Much of the activity in the transportation system is conducted under state and federal laws and regulations. Hawaii Revised Statutes (HRS) Chapters 279A and 226 pertain to the transportation planning requirements. At the federal level for air interests, the Federal Aviation Administration is concerned with ensuring a consistently high level of safety and service among all airports. They provide funding for master plans, airport design, and some construction.

The Federal Highway Administration and Federal Transit Administration have extensive grant programs as well as guidance for the mobility, accessibility, and efficiency of the national network of highways and transit programs.

Regarding marine interests, there are a diversity of agencies and interests, such as the Maritime Administration (MARAD), US Army Corps of Engineers, and National Oceanic Atmospheric Administration (NOAA), which have influence over safe navigation, dredging, environmental protection, hazardous response, security, and customs.

UPDATED FRAMEWORK FOR PLANNING

The layers of transportation plans are seen as a pyramid as shown on the figure to the right. The pyramid can be read up and down for a particular mode. It can be read across a layer, such as looking for all the system master plans. Or it can be read diagonally, across modes.

The pyramid illustrates quantitative and qualitative activities and information. The pyramid can also be thought of as a cylindrical cone fitting into the core of a sphere as shown in the Sphere of Planning at right.

The sphere has many cylinders, including other topical areas such as agriculture, tourism, energy, and like transportation, they each “fit” into the sphere. At the core is the Hawaii State Plan.
This HSTP has defined a Statewide Transportation Enhanced Planning Process Organization emphasizes multi-modal and inter-modal transportation and is shown on the next page. This process organization is an enhancement of the organization shown in the 2002 HSTP.

- The Integrated Transportation Planning Functional Process Chart is shown at right and depicts where the HSTP falls in the functional planning process.

- The enhanced Statewide Transportation Enhanced Planning Process Organization consists of a Policy Committee, a Technical Advisory Committee, and a Transit Technical Advisory Committee.

- The metropolitan planning process continues under the Oahu Metropolitan Planning Organization (OahuMPO), consisting of a Policy Committee, a Technical Advisory Committee, and a Citizen Advisory Committee.

- The non-metropolitan planning process consists of a Policy Committee and a Technical Advisory Committee for each of the three regional units, one each for Kauai, Maui, and Hawaii. They would be responsible for formulating the public participation element, which is unique for each island.

- A new Intergovernmental Planning and Policy Forum (IPPF) is created to bring more parties into the process. It includes members from multiple state and county agencies responsible for sustainability, energy, agriculture, social services, as well as the University of Hawaii. Federal agencies would participate as well. New resources will be needed to achieve the full benefits of the enhanced process. These can be applied incrementally as resources become available.

The new framework should improve the integration of transportation with County land use planning. Through the IPPF, it also improves integration with natural resource agencies. One of the objectives is to improve environmental coordination and to implement Integrated Sub-Regional Area Planning (ISAP) projects.
The ISAP process is shown in the figure at right. The ISAP process is supported by a GIS database and layers of natural resources and assets, which are mapped for visual understanding. The information for these layers is already available and has been brought together by the HDOT Statewide Transportation Planning Office. Further information on ISAP and candidate locations is available in HSTP Volumes 1 and 2.

DEVELOP INFORMATION AND DATA SYSTEMS TO SUPPORT THE PLAN
The planning system needs to be supported by a robust data collection and analysis program. Towards that end, the HSTP prepared a 2010 Data, Trends, and Indicators Report which should be updated on an annual or biannual basis, depending on staffing resources available. The indicators selected are already collected by some agency, but would have to be compiled together to create tracking data for the transportation indicators.

The data system also consists of the GIS database and mapping, which was described for ISAP planning. Extensive databases are available, and those from the Federal, State, and County natural resource agencies are listed in the HSTP. Shortly, the US Census Bureau will be publishing the 2010 Census, and this data layer will be critical to updating transportation plans.

The final topic under the heading of data systems is performance measures. Performance-based planning is being discussed as a best management practice, and it is speculated that shortly it may be required by the Federal government. For now, it is useful to approach performance management as a good practice worth developing as an overall approach to begin taking measurements and forming a baseline. Two types of measures include output and outcome. The former is a measure of resources applied to an activity, and outcome is a measure of results from that application.

By using geospatial data from the State Department of Business, Economic Development & Tourism (DBEDT) Geographic Information System (GIS) database, GIS maps can be created using the desired GIS information, or layers. This is helpful for transportation planners not only with ISAP planning, but also for any type of planning application.
The GIS Layer Stack featured in the figure on the left has five data layers to form the multi-layer composite:

1) Color Hillshades, 10 meter JPGs.
2) Geographic Place Names from the United States Geological Service (USGS) Geographic Names Information System.
3) State and County routes, from DOT Road Inventory as of March 2010.
4) State Land Use District Boundaries from the State Land Use Commission. The State Land Use Districts depicted in these files are not official and are merely representations for presentation purposes only.
5) Development Plan Areas from the Islands of Kauai, Oahu, Maui, Molokai, Lanai, Kahoolawe, and Hawaii. These were digitized by the Office of State Planning Staff from County community plan maps.

FORMULATE FLEXIBLE AND INNOVATIVE FINANCIAL SYSTEMS FOR TRANSPORTATION

Preservation and expansion of the transportation systems require stable and predictable funding. In Hawaii there are three special revenue funds, one each for Airports, Harbors, and Highways. Transit is funded from County resources. Funds include available federal grants and subsidies. Fund managers must be constantly aware of whether revenues are rising, falling or remaining flat and must balance available funds against program needs. Models to assist this task were developed during preparation of this HSTP.

The Airports Special Revenue Fund receives its revenues from airline landing fees, passenger terminal fees, and aviation fuel taxes; duty free and other concessions; passenger facility charges; Federal grants; interest, investments; and other miscellaneous income. Funds are dispersed to personnel, debt service, insurance, the special maintenance program, general administrative and General Fund surcharges, and other miscellaneous expenses.

The Harbors Special Revenue Fund derives its revenues from cargo-related wharfage tariffs; facility and storage rental fees; shipping fees; plus interest earnings and other miscellaneous fees. Major expenditures include personnel, debt service, special maintenance, and other miscellaneous expenses.
The Highways Special Revenue Fund’s local revenues come from fuel tax; car rental and tour vehicle surcharges; vehicle weight tax and registration fees; plus interest and miscellaneous fees. Hawaii receives nearly $170 million annually in formula funds for various federal highway programs.

All counties pay for their transit systems out of their General Funds, supplemented by federal formula grants. While all counties do charge fares, their transit systems are heavily subsidized. The skills for transportation planners must now include grant writing, monitoring, and reporting back to grantors.

INVOLVE STAKEHOLDERS AND THE PUBLIC IN PLANNING AND DECISION-MAKING

Public involvement is an important part of the planning process. There are many methods available to increase participation and a number of new techniques were used during development of the HSTP. There was a project website as pictured at right, and people were encouraged to visit it to see the latest reports and materials prepared. While the project website is no longer available, the HSTP Report itself is available at the HDOT Website at: www.hawaii.gov/dot

In-person interviews were held with stakeholders early in the process. A telephone survey of 1,200 respondents was also conducted in the beginning of the project.

As material became available, it was disseminated and discussed at the Sub-Statewide Technical Advisory Committee (Sub-STAC). The goals and objectives were presented at five countywide public information meetings and three stakeholder meetings.

Visualization methods were developed to present land use information, using GIS and CommunityViz technologies.

To increase participation and interaction, a hand-held voting technique was used. This was the first time it was used in Hawaii, and it was received very well. Participants felt it greatly expanded the topics to be covered, and the instantaneous results encouraged lively discussion. Meetings were taped and rebroadcast later on public access television in each county.

FINAL WORD

The HSTP is a guide for further transportation planning by the modal divisions and others. It updates the goals and objectives to be considered in that planning. The ten emerging issue papers serve as resource material on several topics, giving it a transportation focus.

The data systems and the financial models will assist with planning and programming decision-making. The new organizational framework will bring more parties together on common ground to consider multiple planning and resource issues on a statewide and regional basis.
Making Connections

For further information, contact:

Statewide Transportation Planning Office
Hawaii Department of Transportation
200 Rodgers Blvd.
Honolulu International Airport
Honolulu, HI 96819

Or visit the HDOT website:  www.hawaii.gov/dot