Aspen Sustainability Report

Environmental | Economic | Social

City of Aspen, 2016

The City of Aspen

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TABLE OF CONTENTS

Acknowledgements ii

Introduction 1

Geographic Profile & Definitions 9

Executive Summary

Environmental
Findings 10
Dashboard 13

Economic
Findings 18
Dashboard 22

Environmental Sustainability 27

Air 30
Overview
One Page Dashboards

Energy 39
Overview
One Page Dashboards

Parks, Trails, & Open Space 50
Overview
One Page Dashboards

Waste 60
Overview
One Page Dashboards

Water 70
Overview
One Page Dashboards

Economic Sustainability 79

Appeal of the Aspen Brand 82
Overview
One Page Dashboards

Tourism Access, Lodging, & Mobility 89
Overview
One Page Dashboards

Business Diversity & Sustainability 101
Overview
One Page Dashboards

Workforce Supply & Match 109
Overview
One Page Dashboards

Local Community Viability 118
Overview
One Page Dashboards

Appendices
Reserved Measures 1
Map of Aspen 2

Cover photo: Babbie, Sheila

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Finally, we appreciate the consideration, feedback, and direction given by department heads, city leadership, and Council.

Welcome to Aspen's first sustainability report.

More and more communities are committing to sustainability. *Why?* Simply, it is believed that a strong foundation of sustainability is a factor for community vitality in decades to come.

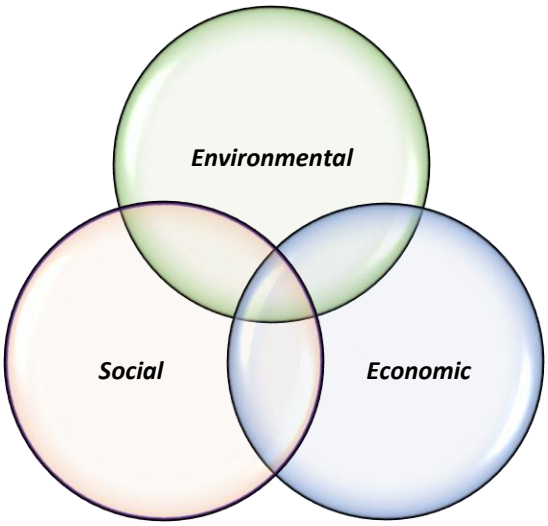
Sustainability is by its nature complex. Its challenges and opportunities cannot be addressed in isolation. Rather they require an integrated and collaborative approach. With this in mind, the Aspen community is striving to achieve sustainability in all areas (*environmental, economic, and social*). This is to enrich the lives of community members and visitors from around the world today and in the future.

The purpose of this report is threefold. First, to engage the community and stakeholders in Aspen's ***sustainability story*** and what this means for the community. Second, to enlighten the community and decision-makers on Aspen's sustainability performance to date. Third, it is purposely designed as a tool for decision makers to use in making data-based decisions on policies and actions that will enhance sustainability.

City staff crafted the sustainability outcomes and metrics with input from focus groups composed of subject matters experts and community members. The report was then generated with the guidance of a Steering Committee. Once drafted it was presented to City Council.

Stakeholders are encouraged to use this report as a starting point to engage in discussion and formulate actions regarding sustainability issues. In addition, the report's structure and content is evolving. Feedback is important to improve and enhance it.

What is community sustainability?



Sustainability has a range of definitions and is more often than not context dependent. At its most basic sense, the concept is about balancing needs and resources today with due consideration for the future. [1]

From a community perspective, sustainability consists of systems in constant interaction with one another - environmental, economic, and social systems.

Figure 1. Venn Diagram Representing the Integrated Pillars of Sustainability

To achieve true sustainability these systems should balance as if they were an integrated whole. Sustainability at its best is found at the nexus of these three spheres.

[1] *Our Common Future, World Commission on Environment & Development (Brundtland Commission). United Nations. 1987. Via link: http://www.un-documents.net/our-common-future.pdf. Retrieved July 2016.*

Viewing Aspen through a sustainability lens

The concept of sustainability is not new to Aspen. Dating back to its early settlement days in the late 19th and early 20th centuries, Aspen has always had a unique '*capacity to endure.'* Today, as a distinctive mountain resort town, sustainability means balancing critical aspects of environmental stewardship, economic prosperity, and social responsibility today with the needs of the future.

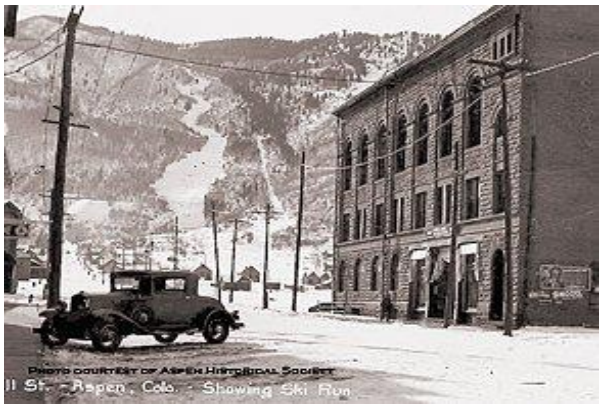


Figure 2. Wheeler Opera House, Aspen Colorado (Then[2] & Now[3])

Sustainability is already featured in many of the community's historical and existing initiatives. Evidence of this can be found in the complex of cornerstone documents that precede and in part inform this report, such as the:

- *Aspen Area Community Plan*
- *Lodging Sector Study*
- *Historic Preservation Design Guidelines*
- *APCHA Housing Study*
- *RFTA – Draft Integrated Transportation System Plan (Phase I & II)*
- *Aspen Community-Wide Greenhouse Gas Inventories*
- *Resiliency Plan: Climate Change & Aspen*

From this broad and significant portfolio of work, it is clear that aspects of community goals and actions are inter-related and mutually reinforcing. Many of these are in support of sustainability objectives today and for the future.

What sustainability means for Aspen is a multi-faceted idea, which is hard to convey in a few words. This report and all of the individual measures found within it, stand to define what it means to be sustainable: environmentally, economically, and socially. Sustainability outcomes are summarized further below and represented fully in the environmental and economic sections of this report.

By taking a holistic approach to sustainability, the community is in a better position to balance the needs of all stakeholders. The goal is to play a lead role in creating a community, city, and region grounded in

[2] *Photo: http://www.aspenpitkin.com/Portals/0/images/City/Wheeler/historic_millstreet_dept.jpg*
[3] *Photo: Babbie, Sheila.*

sustainability principles. This report is testament to the community's effort to make Aspen a sustainable and alluring place to live, work, and visit.

Flagship Initiatives & Highlights

The opportunities related to Aspen's sustainability performance are limitless. Examples of these possibilities and flagship initiatives & highlights to date are as follows:

GHG EMISSIONS. By 2020, Aspen aims to reduce its GHG emissions 30% below 2004 levels. By 2050, it strives to be 80% below those same (2004) levels. Aspen's community-wide emissions inventories updates approximately every three years. The inventory informs the community on its progress towards meeting adopted GHG reduction goals. The newly released 2014 inventory shows that Aspen's emissions have gone down 7.4% since 2004. These targets further motivate future policies and programs to address reduction in carbon emissions.[4]

100% RENEWABLE ENERGY. An illustration of Aspen's commitment to sustainability performance is the achievement of 100% renewable energy in 2015. Today, the City of Aspen electric utility uses 46% hydroelectric, 53% wind power, 1% landfill gas. This outcome has generated environmental benefits by reducing GHG emissions. Added to this are the socio-economic benefits of a cleaner, more diversified, yet affordable energy supply. Aspen is a leader in climate action and is promoting this throughout the country and around the world.[5]

TRANSPORTATION & MOBILITY. Roaring Fork Transportation Authority (RFTA) buses offer affordable service between Aspen and Rifle. Buses between Aspen, Snowmass and the Aspen-Pitkin County Airport are free. There are currently nine free bus routes in Aspen depending on season. Free parking, carpool lanes, and matching are available to carpoolers. There are also car and bike share programs such as CAR TO GO and WE-cycle. Aspen and the Roaring Fork area offer a continuous network of trails connecting Aspen and Glenwood Springs.[6]

AFFORDABLE HOUSING. The Aspen/Pitkin County Housing Authority (APCHA) provides affordable ownership or rental options in the community. At current, there are approximately 2,900 units. This breaks down to approximately 1,600 ownership-type units and 1,300 as rental-type units. APCHA continues to look at ways to improve the existing program. This includes a housing inventory that meet the needs of the workforce and community.[7]

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[4] *City of Aspen website. Canary Initiative. Via link: http://www.aspenpitkin.com/Living-in-the-Valley/Green-Initiatives/Canary-Initiative/Climate-Action-Progress/Retrieved 03.20.16 Retrieved March 2016*

[5] *City of Aspen website. Canary Initiative. Via link: http://www.aspenpitkin.com/Living-in-the-Valley/Green-Initiatives/Renewable-Energy/ Retrieved March 2016*

[6] *City of Aspen website. Transportation. Via link: Via link: http://www.aspenpitkin.com/Departments/Transportation/ Retrieved March 2016*

[7] *City of Aspen website. Housing. Via link http://www.aspenpitkin.com/Departments/Housing-for-Workforce/: Retrieved March 2016.*

KIDS FIRST. Kids First is an early childhood resource center that serves families and childcare programs in the broader Aspen community. Kids First helps families find, choose, and pay for childcare. The department further serves childcare programs through funding, training and development, and other support.[8]

Programs and initiatives like these reinforce positive values of sustainability and community pride. One way to show a commitment to a sustainability vision and values is to report on performance and progress. For Aspen, this commitment means identifying its material sustainability issues and impacts; establishing and tracking key performance measures; and developing a plan of action to continually improve upon them.

About this Report

The Aspen Sustainability Report is a community-based report. It envisions sustainability outcomes and key performance measures that support progress toward them.

Key Performance Measures
In January 2013, the City staff began the process of framing a shared vision for sustainability in Aspen. Environmental and economic measures were identified in collaboration with respective community stakeholders. Various stakeholders' subject matter expertise and experience helped ensure that the key themes and measures are relevant to the Aspen community. This stakeholder engagement process is summarized in Figure 3 below.

Figure 3. Stakeholder Engagement Process for Developing Sustainability Key Performance Measures

As a consequence, this report includes a total of 10 outcomes and 45 specific key performance measures of progress toward those outcomes. 5 measures have been reserved for further development (*Appendix 1*). These cover key attributes of the community's built and natural environments and tourist-based economy.

The short version of the environmental and economic outcome statements is listed below with the full version found in the respective sections of the report.

[8] *City of Aspen website. Housing. Via link http://www.aspenpitkin.com/Departments/Housing-for-Workforce/: Retrieved March 2016.*

ENVIRONMENTAL

- ***AIR -*** *The Aspen community enjoys clean healthy air. Residents and visitors alike expect and value clear skies and unpolluted indoor and outdoor air.*

- **ENERGY** - *The Aspen community effectively manages its energy needs while minimizing adverse environmental impacts.*

- **PARKS, TRAILS, & OPEN SPACE -** *Aspen's unique blend of natural resources provides wide-ranging habitats, recreation opportunities and connected, accessible places.*

- **WASTE** - *The amount of waste is minimal, and waste management choices protect the environment. Wastes are minimized through diversion and reuse whenever possible.*

- **WATER** - *The Aspen community has a sufficient supply of safe, clean water to satisfy a full range of municipal and other purposes while maintaining healthy streams and rivers.*

ECONOMIC

- **APPEAL OF THE ASPEN BRAND** - *Aspen is the destination of choice. Visitors and residents expect and receive the very best of recreational, educational, cultural, and business* amenities*.*

- **TOURISM ACCESS, LODGING, & MOBILITY** - *Visitors to Aspen can readily access the resort via air or ground transport. They have access to modern, safe, and comfortable facilities and amenities.*

- **BUSINESS DIVERSITY & SUSTAINABILITY** - *Aspen has a business environment that leads to strong year-round economic health and that caters to a variety of visitors and residents.*

- **WORKFORCE SUPPLY AND MATCH** - *Aspen has a sufficient supply of well-qualified workers. Wages are competitive. Excellent transportation options are available to support mobility.*

- **LOCAL COMMUNITY VIABILITY** - *Individuals and families can thrive in Aspen with access to affordable housing,* childcare*, health services, educational, and community engagement opportunities.*

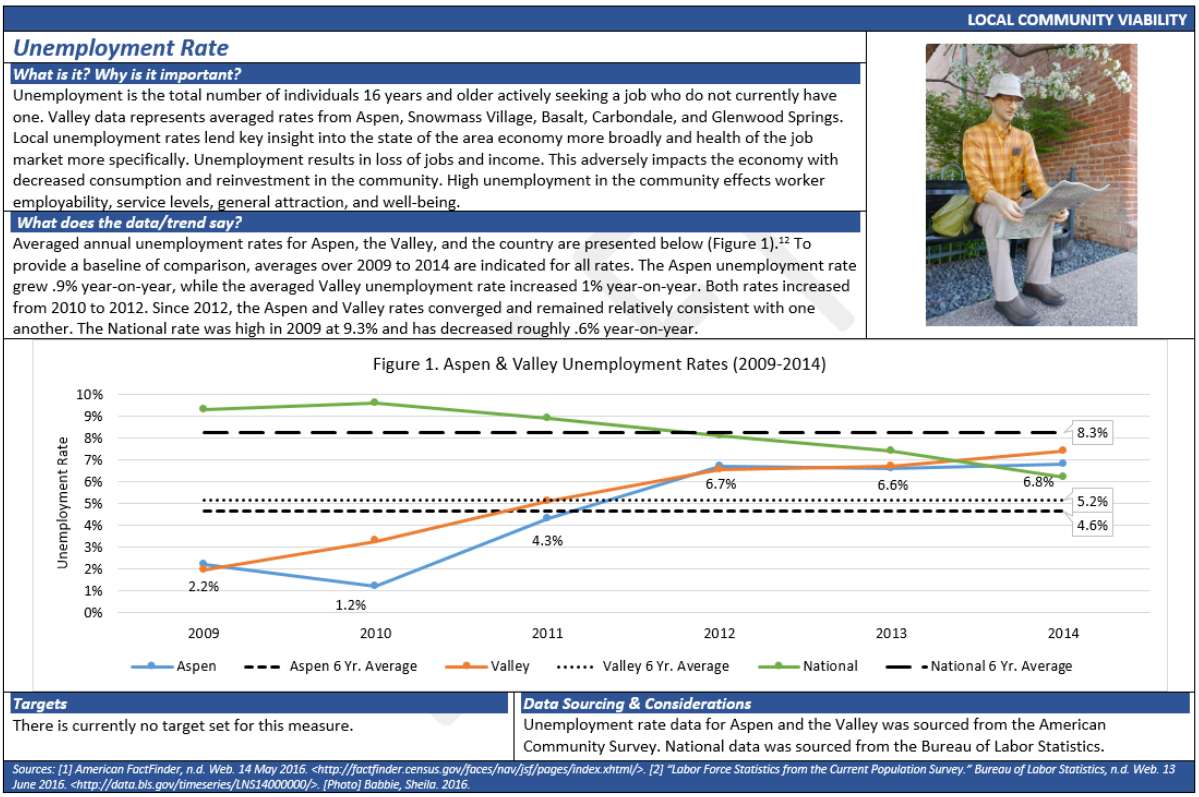
SOCIAL

- The social sustainability outcomes and performance measures are pending development.

Stakeholder feedback is welcome on how to continuously improve and/or expand upon the outcomes and key performance measures.

Sustainability Dashboards

This year's sustainability dashboard(s) display environmental and economic key performance measures developed to date. It is envisaged that key performance measures for the social component of sustainability will be introduced in the next iteration of this report. The key performance measures are formulated in 'at a glance' dashboards that explain what the measure is, why it is important, and what the data and trend say. Associated benchmarks and targets are included where possible.



LOCAL COMMUNITY VIABILITY

Unemployment Rate

What is it? Why is it important?

Unemployment is the total number of individuals 16 years and older actively seeking a job who do not currently have one. Valley data represents averaged rates from Aspen, Snowmass Village, Basalt, Carbondale, and Glenwood Springs. Local unemployment rates lend key insight into the state of the area economy more broadly and health of the job market more specifically. Unemployment results in loss of jobs and income. This adversely impacts the economy with decreased consumption and reinvestment in the community. High unemployment in the community effects worker employability, service levels, general attraction, and well-being.

What does the data/trend say?

Averaged annual unemployment rates for Aspen, the Valley, and the country are presented below (Figure 1).[12] To provide a baseline of comparison, averages over 2009 to 2014 are indicated for all rates. The Aspen unemployment rate grew .9% year-on-year, while the averaged Valley unemployment rate increased 1% year-on-year. Both rates increased from 2010 to 2012. Since 2012, the Aspen and Valley rates converged and remained relatively consistent with one another. The National rate was high in 2009 at 9.3% and has decreased roughly .6% year-on-year.

Figure 1. Aspen & Valley Unemployment Rates (2009-2014)

Targets

There is currently no target set for this measure.

Data Sourcing & Considerations

Unemployment rate data for Aspen and the Valley was sourced from the American Community Survey. National data was sourced from the Bureau of Labor Statistics.

Sources: [1] American FactFinder, n.d. Web. 14 May 2016. <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml/>. [2] "Labor Force Statistics from the Current Population Survey." Bureau of Labor Statistics, n.d. Web. 13 June 2016. <http://data.bls.gov/timeseries/LNS14000000/>. [Photo] Babbie, Sheila. 2016.

Figure 4. Sample Economic Sustainability Dashboard Measure

The report further highlights selected actions that the city and other key stakeholders are currently taking to achieve a more sustainable community (*environmental, economic, and social*). These include programs, initiatives, and plans that are designed for continuous improvement.

Baselines, Data Sourcing, & Considerations

The sustainability measures are a window on the current state of sustainability in the community. They also serve as a measurable means to track future progress and success. Having considered a broad vision for sustainability, the first step is to establish a baseline for the community. In summary, the key performance measures are designed to:

- *Baseline the current position of the Aspen community regarding its sustainability outcomes*
- *Benchmark against performance targets where established/confirmed*
- *Communicate performance to policy/decision makers/citizens*

The development of these outcomes and associated measures enable data driven performance, planning, and action.

The environmental and economic measures presented in this report bring together data from a host of local, state, and even national sources. To the extent possible primary sources are used and validated. Due to data availability and/or quality not all measures are fully established. In future years, there is an expectation to build on these initial measures and dashboards.

The data displayed on respective dashboards show some level of variability over time. In some cases, the variability is minor while in other cases it is quite obvious. Such variability is often inherent and normal,

but can present decision-makers with a dilemma: *At what point in time is the nature of the variability such that it requires attention and intervention, and when is it just par-for-the-course?*

To help understand the variability in the data, and therefore to help assess whether some addressable factor requires attention, several steps have been taken as follows:

1. Where historical data is available, it has been included, so that the most recent year of information can be seen as part of a broader pattern, rather than in isolation and without context.
2. Where feasible, benchmarks or target values are provided. These help illustrate whether or not the data is within the range desired.
3. In some cases, (given at least 20 historical data values), control limits are added. Such are a tool to help illustrate the expected boundaries of variability. Control limits can help identify: 1) whether current values are expected or of concern, regardless of whether they are higher or lower than a prior year, and 2) whether forces outside of random factors appear to be at play. If the latter occurs, it is possible to see those data values that are not normally (randomly) distributed over time as misleading. Data may appear as significant trends and shifts in the data, an unexpected number of outliers, or unexpected repeating patterns.
4. In cases where there is a seasonal pattern to the data, average highs and lows have been added to the graphs. These averages help contextualize whether the expected seasonal peaks and valleys are trending over time. Additionally, this approach was sometimes used when the minimum data requirements to set up control limits could not be met. An example is provided in Figure 5 below.

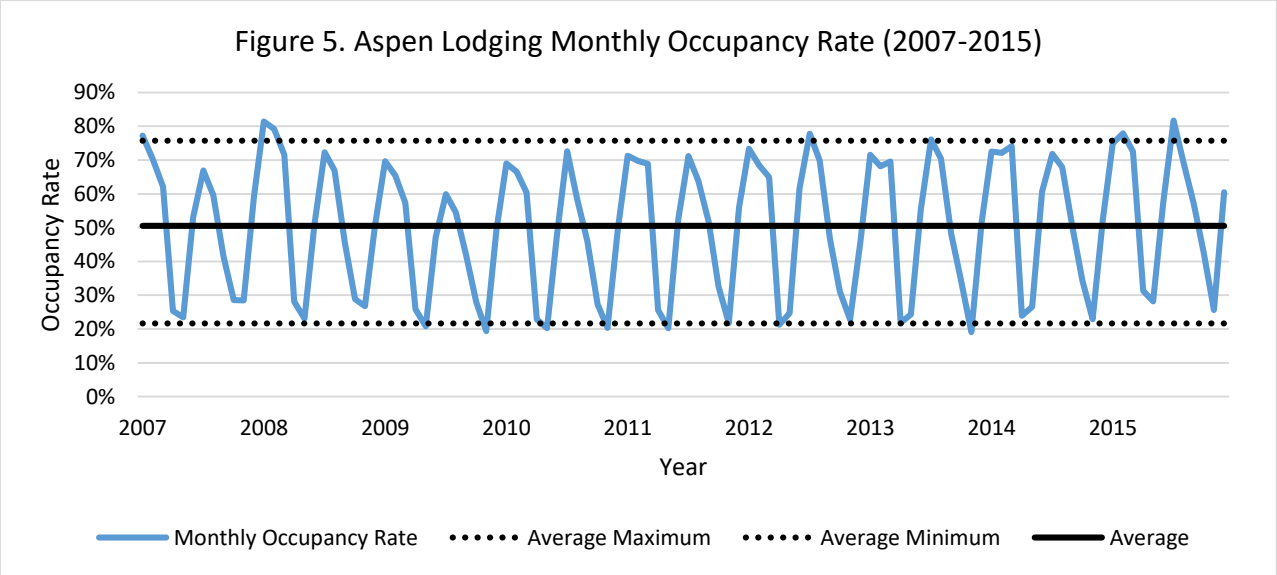


Figure 5. Sample Data Set Showing Data Variability (Average Maximums and Minimums)

Disclaimer

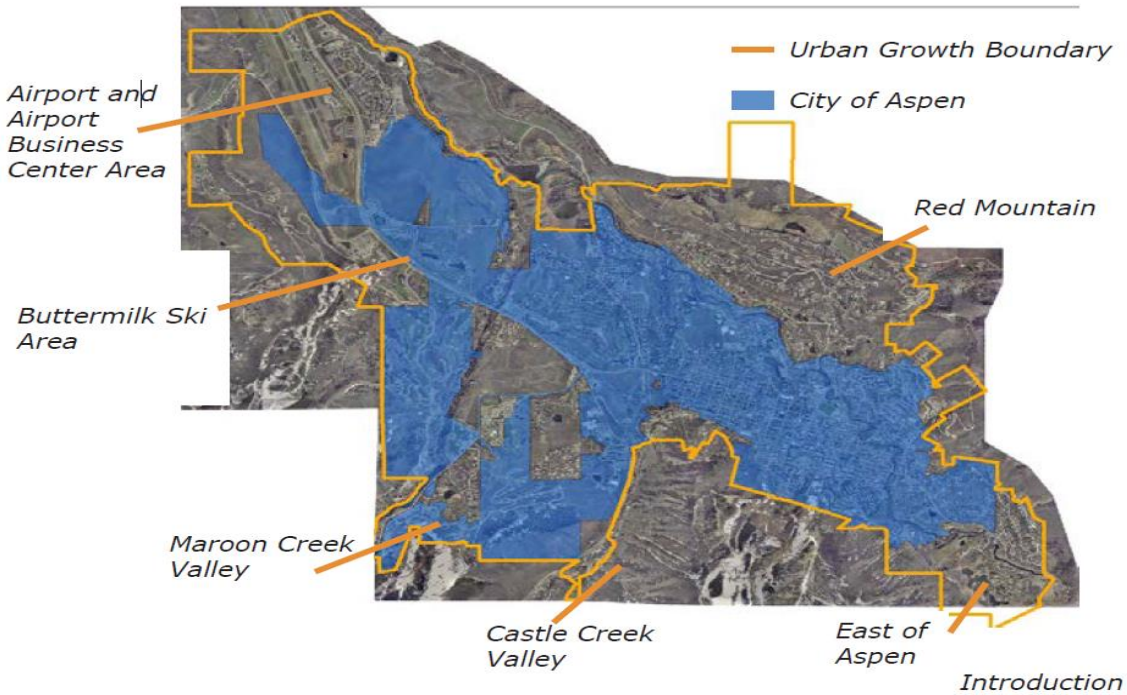
The project team aimed to ensure that the information presented in this report is accurate and complete. Yet, there is no representation of guarantee expressed or implied on accuracy or completeness. Given the dynamic nature of the data included in the report, readers are encouraged to use additional sources to further verify or update content.

Publishing

Consistent with the sustainability principles behind this report, it will be primarily published online. This allows the use of hyperlinks to key documents and resources. Online access also increases the audience for the report. Readers are encouraged to view the report online and to limit to printing when and if necessary.

ASPEN GEOGRAPHIC PROFILE[9]	
Location	The city sits along the southeast (upper) end of the Roaring Fork Valley, along the Roaring Fork River, a tributary of the Colorado River about 40 miles (64 km) south of Glenwood Springs, Colorado.
Geography	It is surrounded by mountain and wilderness areas on three sides: Red Mountain to the north, Smuggler Mountain to the east, and Aspen Mountain to the south.
Land Area	According to the United States Census Bureau, the city has a total area of 3.5 square miles (9.1 km^2), all land.
Elevation	8,000 feet
Population	6,658 at the (Census, 2010)
Roaring Fork Valley[10]	The Roaring Fork Valley is a geographical region in western Colorado in the United States. The Valley is defined by the valley of the Roaring Fork River and its tributaries, including the Crystal and Frying Pan River. It includes the communities of Aspen, Snowmass Village, Basalt, Carbondale, and Glenwood Springs. [Note]: When the Roaring Fork Valley or "Valley" is referenced in the report/dashboards, the above serves as the definition unless specified otherwise.
Pitkin County[11]	Pitkin County is one of the 64 counties in the U.S. state of Colorado. As of the 2010 census, the population was 17,148. The county seat is Aspen. Pitkin County is included in the Glenwood Springs, CO Micropolitan Statistical Area.
Urban Growth Boundary (Map)	The Urban Growth Boundary (UGB) was adopted by the Board of County Commissioners in 2000 and is periodically updated. It was previously called the" Metro Area boundary" or "AACP Metro boundary". The UGB plays a role in growth management, the transfer of development rights (TDR) program, and the Aspen Area Community Plan (AACP). [12]

MAP OF ASPEN ADMINISTRATIVE AREA/URBAN GROWTH BOUNDARY (UGB)[13]



Introduction

[9] *Aspen Geographic Profile. Via link: https://en.wikipedia.org/wiki/Aspen. Retrieved July 2016.*
[10] *Roaring Fork Valley Profile. Via link:*
[11] *Pitkin County Profile. Via link: https://en.wikipedia.org/wiki/Pitkin_County,_Colorado. Retrieved July 2016.*
[12] *Aspen Area Community Plan (2012), p 8. Via link: http://www.aspencommunityvision.com/media/uploads/FINAL_AACP_2272012_reduced.pdf. Retrieved July 2016.*
[13] *Map of Aspen Urban Growth Boundary. Via link: http://www.aspenpitkin.com/Portals/0/docs/joint/GIS/UGB11x17.pdf. Retrieved July 2016.*

ENVIRONMENTAL SUSTAINABILITY DASHBOARD: SUMMARY OF FINDINGS

In Aspen, a sustainable environment is one in which natural resources and their use are managed with consideration for the future and in concert with human needs. Aspen's natural surroundings are definitive to its character and are among the community's greatest assets.

Figure 1. Castle Creek.[14]

This report speaks to the environmental sustainability of the Aspen community and tracks progress in maintaining a healthy and vibrant way of life. The report is organized into five different categories: Air; Energy; Parks, Trails & Open Space; Waste; and Water. Each of these categories contains 3-4 key performance measures in which specific data is tracked over time to gauge the City's progress toward greater sustainability.

The table below serves as a brief executive summary of the current state of each category as a whole. A concise description of the status of each individual performance measure can be viewed in this *Summary of Findings* and 'At-a-Glance' Dashboard section of the report.

AIR[15]

Aspen's outdoor air quality is generally healthy to moderate. But, when negatively impacted by local and regional events, levels have approached those deemed as unhealthy by the EPA.

- Between 1993 and 2015, levels of PM 10 (coarse particulates) fell within good to moderate levels. PM 2.5 levels (fine particulates) were more consistently moderate and approaching unhealthy for sensitive populations.
- In 2015, average annual daily trips across Castle Creek Bridge were at 98% of 1993 levels. Monthly trips showed traffic counts close to 1993 levels with exceedances in April, November, and December.
- Though there is limited data on radon across Aspen, test kits administered by the City of Aspen indicate that a low percentage (27%) of buildings that returned high radon results have since been mitigated successfully.
- Between 2010 and 2015, ozone levels were below but closely approaching EPA designated action levels.

[14] *Babbie, Sheila. 2016.*
[15] *Ibid.*

ENERGY[16]

Though Aspen has taken strides to enhance sustainability energy use and sourcing in some areas, significant work remains to reach the City's climate action goals.

- In 2015, Aspen Electric, which serves much of the downtown core, sourced 100% of its portfolio from renewable sources. Holy Cross Energy, serving other parts of Aspen and all of the surrounding areas, sourced 30.3%.
- Between 2004 and 2014, Aspen reduced its GHG emissions by 7.4%. The community aims to decrease emissions a further 22.6% by 2020.
- Between 2004-2014, there has been a 1.8% reduction in total energy use from the built environment in Aspen. In 2014, energy use from the built environment comprised 70.1% of total energy use.
- In 2015, ridership on City of Aspen buses was 1,078,865, which is consistent with rates since 2010 and a decrease from 2008-2009.

PARKS, TRAILS, & OPEN SPACE[17]

There is a wealth of parks, trails, and open space available for Aspen residents and visitors.

- The City owns and maintains 25.9 miles of trails, 204 acres of parks, and 327 acres of open space in the urban growth boundary. Aspen partners with neighboring jurisdictions to own and jointly maintain 566 additional acres of open space in the greater Aspen area.
- Aspen's urban tree canopy covers 31% of the city.
- The *ACES Forest Health Index* indicates that the forests of the Roaring Fork Valley are healthy and in the range of natural variability, receiving an overall score of 86 out of 100, the highest index score recorded in its 3 years of compilation.

WASTE[18]

Aspen has great opportunity to expand the sustainability of its waste practices.

- No air quality violations were found at the Pitkin County Solid Waste Center (PCSWC) in 2015. There were several instances of organic and inorganic groundwater pollutants, for which the PCSWC is meeting remediation requirements.
- Aspen's 2015 municipal solid waste diversion rate was 21.3%, which is significantly lower than the national average of 34.3% and Aspen's goal of 50%.
- As of 2016, the PCSWC has an estimated lifespan of 15 years.

WATER[19]

The sustainability of Aspen's water production and consumption is largely pending further data collection. River and stream health varies on a case-by-case basis.

- Between 1995 and 2013, there was an overall decrease in total treated water production in Aspen.
- In every year between 2006 and 2015, the Roaring Fork failed to meet the instream flow during its annual 7-day low. Between 2013 and 2015, Castle Creek remained above the dedicated instream flow rate.

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[16] *Photo: Menges, Chris.*
[17] *Photo: Williamson. City of Aspen Parks, Trails, and Open Space Department.*
[18] *Photo: Armstrong, Laura. 2016.*
[19] *Ibid.*

Seen together, these measures speak to the complex work of striving toward greater environmental sustainability in Aspen. While many important steps have already been taken in this effort, the community must continue to make strides in every sector in order to see its desired outcomes become reality.

ENVIRONMENTAL DASHBOARD: SUMMARY OF FINDINGS

Performance Measure	Target Set	Current Status:	
AIR			
Levels of particulate matter	Y	🟢 🟡	In 2015, Aspen's levels of **PM 10 and PM 2.5 were below EPA's National Ambient Air Quality Standard** (the level at which air is deemed unhealthy and requires remediation). The top 10 PM 10 levels in 2015 fell between 60 and 84 ppm, significantly below the NAAQS level of 150ppm (and are therefore ranked in green), whereas the top **PM 2.5 concentrations were between 20 and 28 ppm, significantly closer to the NAAQS level of 35 ppm** (and are therefore ranked in yellow).
Castle Creek bridge traffic counts	Y	🟡	**Average annual daily vehicle trips** across Castle Creek Bridge were **fewer than 1993 counts**, the level that Aspen is committed to not exceeding. However, **monthly comparisons show that in 2015**, the number of daily trips in **Apr., Nov., and Dec. did exceed 1993 monthly levels**.
Radon levels and mitigation	Y	🔴	In general, Colorado has high levels of radon. In Aspen, of those homes that have shared their results with the Department of Environmental Health and received high radon test results, **only 27.41% have mitigated successfully. Aspen aims to increase the amount of successful mitigations (of those buildings who have shared data with the city) to 50%.**
Ozone levels	Y	🟡	Aspen's ground ozone levels are **below, though approaching, the EPA's National Ambient Air Quality Standard**. In 2015, ground level ozone peaked in April-June, which may be attributable to the release of terpenes from budding trees.

TARGET STATUS KEY

GREEN	🟢	*MEETING OR EXCEEDING*	**YELLOW**	🟡	*NOT MEETING; WITHIN RANGE*	**RED**	🔴	*NOT MEETING*	**GRAY**	⚪	*NO TARGET SET*

ENVIRONMENTAL DASHBOARD: SUMMARY OF FINDINGS

Performance Measure	Target Set	Current Status	
ENERGY			
Percentage of electrical energy from renewable sources	Y		**Aspen Electric sources 100% of its electricity from renewable sources**, and will need to actively maintain and acquire such contracts to ensure that this level is met in the future. To focus on all of the electricity consumed in Aspen, collaboration with Holy Cross Energy (which had 30.3% in 2015) to encourage a higher percentage of renewables in their portfolio will be crucial.
Community-wide greenhouse gas emissions	Y		Between 2004 and 2014, Aspen reduced its GHG emissions by 7.4%. **The community will need to further cut 22.6% of emissions to meet the first step of its GHG reduction goals: 30% reduction by 2020, 80% reduction by 2050**. At the time of publishing, the community of Aspen is in the midst of a climate action planning process to target and implement sector-specific GHG reductions.
Energy use from the built environment	N		**Between 2004-2014, there has been a 1.8% reduction in total energy use from the built environment in Aspen**. No specific target has been set yet for this measure.
Mass transit use	Y		**Since 2006, total annual ridership on City of Aspen routes has remained above 1 million**. In 2015, there were a total of 1,078,865 rides. To aim higher and drive further innovation in this sector, the city could set an aspirational target above 1 million rides in the future.

TARGET STATUS KEY

GREEN		*MEETING OR EXCEEDING*	YELLOW		*NOT MEETING; WITHIN RANGE*	RED		*NOT MEETING*	GRAY		*NO TARGET SET*

ENVIRONMENTAL DASHBOARD: SUMMARY OF FINDINGS

Performance Measure	Target Set	Current Status	
PARKS, TRAILS, & OPEN SPACE			
Acres of parks, trails, and open space	Y		Aspen's target is to retain its current holdings of parks, trails, and open space. The city owns and maintains **25.9 miles of trails and 30 parks on 204 acres** of land. Additionally, the City owns **327 acres of open space in the urban growth boundary** and **partners with neighboring jurisdictions to own and jointly maintain 566 acres in the greater Aspen area.**
Community forest coverage	Y		In 2015, **31% of Aspen was covered by urban tree canopy**. Aspen's goal is to maintain this cover moving forward.
Forest Health Index (ACES)	Y		In 2015, the Forest Health Index of the Roaring Fork Valley earned a score of **86 out of 100, indicating forest health well within the range of natural variability.** Scores between 81-100 exhibit normal composition, structure, and function. Scores below 80 depart from the natural range of variability. The 2013 score was 78 and 2014 was 84.

TARGET STATUS KEY

GREEN		*MEETING OR EXCEEDING*	YELLOW		*NOT MEETING; WITHIN RANGE*	RED		*NOT MEETING*	GRAY		*NO TARGET SET*

ENVIRONMENTAL DASHBOARD: SUMMARY OF FINDINGS

Performance Measure	Target Set	Current Status	
WASTE			
Levels of water and air pollution at the landfill	Y		**Air quality emissions** at the Pitkin County Solid Waste Center are **below the Colorado Department of Public Health and the Environment's limits for required remediation**, while **ground water pollution was above**. However, the site is in compliance with all corrective measures mandated by the CDPHE.
Municipal solid waste diversion	Y		**Aspen's municipal solid waste diversion rate was 21.3% in 2015, well below the 2013 national average of 34.3% and Aspen's goal of diverting at least 50%**. Large opportunities have been identified to divert commercial food and yard waste. At the time of publishing, the City of Aspen is undergoing a waste study to identify diversion opportunities in municipal solid waste and construction and demolition debris.
Amount of landfill space available	Y		As of spring 2016, the Pitkin County Landfill estimates that it has **15 more years of operation**. Aspen's goal is to maintain that and not see it decrease more quickly. Lifespan will depend on waste volume, diversion, compaction, and potential expansion. The Landfill has also developed a proposal, pending approval, to add an expansion to the landfill to extend its life for approximately 10 more years.
Number of Weekly Miles Waste Travels for Processing	N		While recycling is responsible for the bulk of waste hauling transportation miles in the Roaring Fork Valley, Aspen has little control over this market. On the other hand, Aspen can influence a shift toward diverting more municipal solid waste to composting, which would extend the lifespan of the Pitkin County Landfill. **Once this landfill is closed, the miles that Aspen's trash travels will increase significantly.**

TARGET STATUS KEY											
GREEN		*MEETING OR EXCEEDING*	YELLOW		*NOT MEETING; WITHIN RANGE*	RED		*NOT MEETING*	GRAY		*NO TARGET SET*

ENVIRONMENTAL DASHBOARD: SUMMARY OF FINDINGS

Performance Measure	Target Set	Current Status	
WATER			
Acre feet of treated water produced	N		**Between 1995 and 2013, there was an overall decrease in total treated water production in Aspen**. This measure will be further evaluated when 2014-2015 data becomes available.
Flow rates in rivers and streams	Y		**Between 2013 and 2015, Castle Creek never dropped below the dedicated instream flow rate** (this river is ranked: green). In contrast, in every year **between 2006 and 2015, the Roaring Fork has failed to meet the instream flow during its annual 7-day low** (this river is ranked: red). Flows on Hunter Creek and possibly Maroon Creek may be added to this measure in the future.
Water availability	N		Data for this measure is pending completion of the Aspen Water Availability Study.
Macroinvertebrate populations in rivers and streams	N		Data for this measure is pending.

TARGET STATUS KEY

GREEN		*MEETING OR EXCEEDING*	**YELLOW**		*NOT MEETING; WITHIN RANGE*	**RED**		*NOT MEETING*	**GRAY**		*NO TARGET SET*

ECONOMIC SUSTAINABILITY DASHBOARD: SUMMARY OF FINDINGS

Economic sustainability in Aspen means having the resources and assets to support a robust tourist-based and residential economy year-round. This means that the economy has an optimal level of productive capacity, and that economic activities are in balance with the natural and social environment.

In this first rendering of the economic sustainability dashboard, most of the performance measures do not yet have targets. Where possible, measures are compared to industry benchmarks. Until these measures have targets, it is not possible to fully assess their performance. Overall, the data sourced to date provides initial insight about the respective outcome areas as presented in this Summary of Findings.

APPEAL OF ASPEN BRAND

To understand the appeal of the *'Aspen Brand'* it is important to have a sense of who the visitors are and why they visit.

- Despite some available demographic data, no mechanism exists for tracking the total number of visitors to Aspen.
- The median age of summer visitors is approximately 49 years of age. In winter, the average age of guests is between 41-44 years of age. Based on ACRA summer surveys, the 45-54 and 55-64 age groups are the largest at 22%. The 18-24 age group represents the smallest group at 6%. Demographics are presenting a challenge and opportunity to attract and engage visitors of all ages.
- Within the survey sample, visitors express high satisfaction with their *Aspen Experience*.

More robust surveying and analysis of the visitor population and demographics is needed in the future in order to target and focus actions to attract and satisfy them.

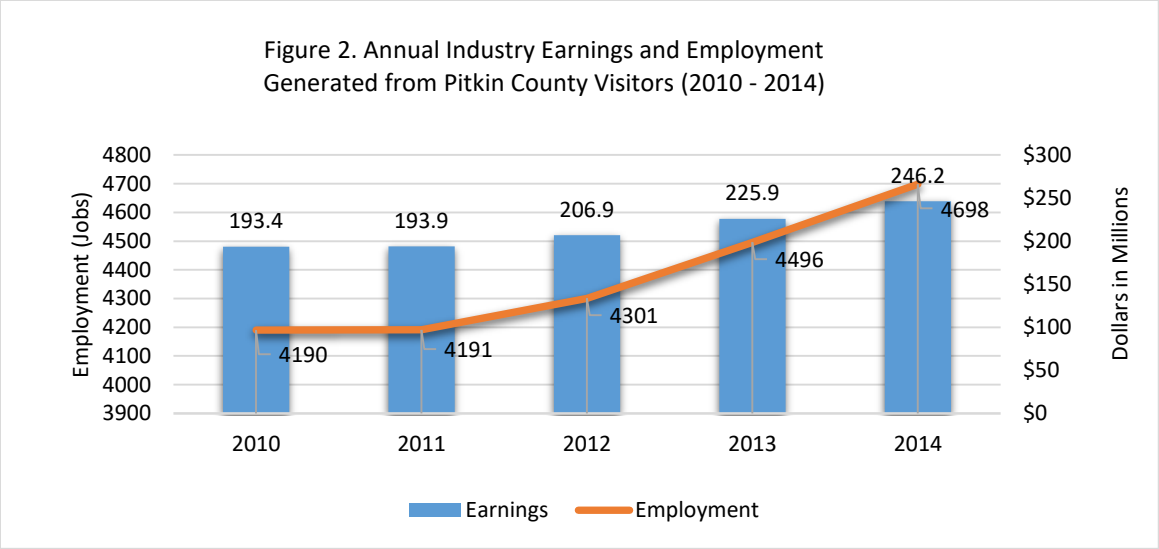
In 2015, the Colorado Tourism Office commissioned a report entitled *Colorado Travel Impacts 1996 – 2014p.* [20] The report provides data on the economic impact of visitors at the state, regional, and county levels. Figure 1 shows the comparative data for Pitkin County and the State of Colorado.

Economic Indicators	Pitkin County	Colorado
Travel Spending	668 ($M)	18.6 ($B)
Earnings	246.2 ($M)	5.1 ($B)
Employment (Jobs)	4.7 (K)	155 (K)
Local Taxes	28.9 ($M)	
State Taxes	5.8 ($M)	1.1 ($B)

Figure 1. Visitor Economic Impacts

For example, Figure 2 (below) illustrates the increase in industry earnings and employment from 2010–2014 generated from Pitkin County visitors. This appears to show a current positive trend.

[20] *Colorado Travel Impacts 1996-2014p, Dean Runyan Associates (Commissioned by Colorado Tourism Office) Via link: http://www.colorado.com/sites/default/master/files/Runyan_TravelImpacts_2014.pdf. Retrieved April – July 2016.*



Discovery of the visitor economic impact data for the Pitkin County region is useful. Overall, it gives insight into the magnitude of the visitor based economy. However, a more in depth analysis of the data and methodology for collection and future use is considered prudent.

The portfolio of economic sustainability key performance measures demonstrate what makes Aspen attractive to visit. They also give an idea of the capacity of Aspen's tourist-based and local economy. Highlights are summarized below.

TOURISM ACCESS, LODGING, & MOBILITY

Airport/airline capacity and lodging occupancy indicate part of the visitor demand for a place, especially at peak and off peak times.

- Commercial airlines have increased to 3 providers and capacity is high (over 90%) with approximately 750 flights per month.
- In 2015, the total lodging capacity (pillow count) was 9,193. The total pillow count decreased by 2% from 2009 to 2015. There appears to be a shift in the mix in favor of the *moderate* category, consistent with community goals to support a diverse lodging base. Demand for lodging during peak seasons remains solid with occupancy rates between 70 to 75%.
- Qualitative ratings of walkability, bike-ability and transit indicates relatively good performance and continuous improvement in these areas.

The performance indicators appear to be relatively stable based on the historical trend. Inevitably, there are further opportunities to optimize infrastructure, operating efficiencies, and quality attributes especially in light of competition for visitors.

BUSINESS DIVERSITY & SUSTAINABILITY

The business community of Aspen is diverse and steady. Economic activity appears to be trending in a positive direction with moderate growth in taxable sales and quantity of business licenses.

- Since 2004, economic activity in Aspen (reported as total taxable retail sales) has steadily increased (2.2%) year-on-year. As expected, Aspen businesses' sales differ considerably between on and off seasons. Historically, May and December are the lowest and highest average sales months.
- Over the past six years, the top business types in Aspen have remained relatively consistent. While business types have changed little from 2010-2015, the categories of businesses remain diverse and suited for peak as well as off seasons.

Generally, business diversity and sustainability is subject to market forces (supply and demand). Further work can be done to understand the capacity for businesses that are operating in the on and off-season and whether this suits community and visitor needs.

WORKFORCE SUPPLY & MATCH

The size and composition of the valley workforce appears to be relatively stable and consistent with what you would expect to see post downturn (2008/2009).

- While the size of the valley workforce contracted from 37,000 (2008) to 33,000 (2014), the composition of occupations remained relatively stable. *Arts, Entertainment, Recreation, Accommodation, and Food* consistently at the top.
- In 2015, Pitkin County (Aspen/Snowmass) had the highest annual wages (compared to peer counties) reported at $59,488. Pitkin County annual average wage increased by approximately 29% from 2011 to 2015 which is likely attributed to a rebound in hiring and wages post the economic downturn in 2008/2009.
- The total number of Aspen workforce members living within the Urban Growth Boundary (UGB) is unknown. It should be noted that 38% of City of Aspen FTE workforce live within the UGB.
- While housing supply does not perfectly meet demand, 90% (owners) and 70% (renters) of APCHA employed households are ***not*** cost burdened.
- The average workforce member (travelling from mid valley) spends approximately $2,100 or (3.5%) of annual wages commuting by bus. The annual round trip cost of commuting by bus is calculated at approximately one fifth (20%) of what it costs for drive alone commute for the same distance (Aspen/Carbondale).
- Subsidized / free bus passes totaling 1,185 (627 - winter and 558 – summer) are purchased by approximately 50 employers for the benefit of their employees.

Demand for affordable housing and low cost transportation options remain key issues especially given the relative cost of living. Workforce development as a contributor to the economy is an opportunity.

LOCAL COMMUNITY VIABILITY

Aspen's local community viability relates to its economic and social capacity to sustain its residents (e.g. income, employment, housing, childcare, education, and engagement) and relative quality of life.

- From 2009-2014, the city's median household income has on average grown minimally but steadily (average increase of 1.3% year-on-year).
- Over the same period, the averaged city unemployment rate is rising but remains lower than the national period average.
- Basic necessities of housing and childcare are in high demand relative to affordable supply.
- Meanwhile, health insurance costs in the county indicate a competitive cost split for employees.
- High school graduation rates have been consistently high (over 90%) which suggest a high standard of education.
- City voter participation averages around 2,252 ballots cast in regular elections which implies citizens care about their community and the issues that face it.

These key performance indicators suggest reasonably good local community viability. With the relatively high cost of living, accessibility to affordable housing, childcare, and healthcare remain key issues.

Collectively, these key performance measures demonstrate robust tourist access and residential demand for a place. They give a relatively good insight as to how appealing the Aspen community remains as a brand and how important this is in sustaining the local economy. The economic sustainability dashboard provides an *'at a glance view'* of how the community is doing on each measure. And what this means for future consideration and opportunities for continuous improvement.

Photos (in order above): Babbie, S.; Kolacek, Z; Holder. M; Kolacek, Z.; Aspen Times

ECONOMIC SUSTAINABILITY DASHBOARD: SUMMARY OF FINDINGS

Performance Measure	Target Set	Current Status	
APPEAL OF THE ASPEN BRAND			
Economic impact of visitors to Pitkin County	N		Visitor spending in Pitkin County increased steadily from $586.6 M in 2010 to $668 M in 2014. This represents a 14% increase over the period. Total direct travel spending in Colorado during 2014 was $18.6 billion dollars.
Median age of visitors by age group (summer/winter)	N		The median age of visitors is approximately 49 (summer) and average age between 41 – 44 (winter). The largest age groups represented were 45-54 and 18-24 with 22% each with the youngest age group 18-24 at 6%. [Note: ACRA survey data used for summer median age; group distribution. Aspen Skiing Company data used for winter average age range]
Satisfaction level of key visitor groups (summer)	N		According to the ACRA summer survey (2014), visitors appear to be quite satisfied with their Aspen experience with an average rating of 9.1 out of 10. [Note: This is a limited sample of the summer visitor population ACRA survey data every second year]
% of visitors who are repeat visitors (summer)	N		From 2006 to 2014, average retention rates among visitors surveyed is 68%. During the same period there was an absolute increase from 67% (2006) to 70% (2014). [Note: This is a limited sample of the summer visitor population ACRA survey data every second year]

TARGET STATUS KEY

GREEN		*MEETING OR EXCEEDING*	**YELLOW**		*NOT MEETING; WITHIN RANGE*	**RED**		*NOT MEETING*	**GRAY**		*NO TARGET SET*

ECONOMIC SUSTAINABILITY DASHBOARD: SUMMARY OF FINDINGS

Performance Measure	Target Set	Current Status	
TOURISM ACCESS, LODGING, & MOBILITY			
Total number of short-term beds (pillow count) available, by type	N		Destimetric data (2009–2015) shows that total pillow decreased from 9,385 to 9193 (-2%) in that period. In terms of the mix, the *deluxe* category dropped from 5,804 to 5,034 (- 15%); the *moderate* category increased from 3,213 to 3,773 (+ 15%); the *economy* category increased slightly from 368 to 386 pillows (+ 5%). [Note this does not account for Airbnb potentially contributing additional capacity (unquantified) to the overall lodging inventory (pillow count).]
Occupancy rate (by month)	N		Occupancy rates range between 70 to 75% in peak seasons (winter and summer). According to Statista's Travel Tourism & Hospitality / Accommodation statistics, the occupancy rate for US hotels in 2015 was 63%.[21]
Value for price for lodging (summer)	N		According to the ACRA summer surveys (2006-2014), visitors on average rated the value for price for lodging at approximately 8 out of 10. The individuals surveyed rate attributes based on a scale from 1 (*poor*) to 10 (*excellent*). [Note: This is a limited sample of the summer visitor population every second year]
# of non-stop airline routes/trips to Aspen (monthly)	N		From 2005 to 2016 the average number of routes per year was 4.74 with a steady increase to 6 routes by 2015. During this same period, the average maximum trips per month was approximately 750.
# of airlines serving Aspen during different seasons (monthly)	N		Over the years (2013-2016), the peak number of airlines per year has settled at 3. At current, the primary commercial carriers are United, Delta, and American.
Qualitative ratings of walkability, bike-ability, and transit	N		Qualitative ratings of walkability, bike-ability and transit indicates relatively good performance and continuous improvement in these areas.

TARGET STATUS KEY											
GREEN		*MEETING OR EXCEEDING*	YELLOW		*NOT MEETING; WITHIN RANGE*	RED		*NOT MEETING*	GRAY		*NO TARGET SET*

[21] *Statista. Via link: http://www.statista.com/statistics/200161/us-annual-accomodation-and-lodging-occupancy-rate/. Retrieved July 2016.*

ECONOMIC SUSTAINABILITY DASHBOARD: SUMMARY OF FINDINGS

Performance Measure	Target Set	Current Status	
BUSINESS DIVERSITY & SUSTAINABILITY			
Aspen economic activity level	N		From 2005-2015, Aspen's total taxable retail sales increased 22.6% (adjusted for inflation to 2015 dollars). Year-on-year, taxable retail sales change 2.2% on average. In 2009, there was an observable decrease of -12% in taxable retail sales related to the economic downturn.
Total number of business licenses	N		From 2013-2015, business licenses have increased on average 16% year-on-year. Special event licenses make up 6% of the total business licenses per year. From 2013-2016, contractor licenses account for 20% of new licenses.
Seasonal business sales activity	N		Off-season sales months (April, May, October, November) differ considerably from on-season months (January, February, July, August, December) (inflation adjusted to 2015 dollars). On the whole, both on and off-season retail sales activity shows an increase at an average rate of 6.9% over the 2012-2015 period.
Mix of top business types	N		Industry retail sales were relatively consistent between 2010-2012 and 2013-2015 (inflation adjusted to 2015 dollars). Accommodations reflects an exception; total retail sales increased an average of 10.2% year-on-year from 2013-2015 compared to the 3.8% change year-on-year from 2010-2012.
Commercial vacancy rates	N		*Data for this measure was not presented in this report. Measure may be pursued in a future iteration of the report.*
Commercial rental rates	N		*Data for this measure was not presented in this report. Measure may be pursued in a future iteration of the report.*

TARGET STATUS KEY

GREEN		*MEETING OR EXCEEDING*	**YELLOW**		*NOT MEETING; WITHIN RANGE*	**RED**		*NOT MEETING*	**GRAY**		*NO TARGET SET*

ECONOMIC SUSTAINABILITY DASHBOARD: SUMMARY OF FINDINGS

Performance Measure	Target Set	Current Status	
WORKFORCE SUPPLY & MATCH			
Size of valley workforce / top occupations	N		In 2008 the workforce size was approximately 37,000. It has since dropped to 33,000 (2014). The composition of the workforce has remained relatively stable over the years with *Arts, Entertainment, Recreation, Accommodation, and Food* consistently as the top occupation area.
Annual employee wages in comparison with other Colorado (peer) resort counties.	N		In 2015, Pitkin County (Aspen/Snowmass) had the highest annual wages (as compared to peer counties) reported at $59,488. Pitkin County annual average wage increased by approximately 29% from 2011 to 2015 which is likely attributed to a rebound in hiring and wages post the economic downturn in 2008/2009.
% of households who are housing cost burdened	N		90% (owners) and 70% (renters) of APCHA employed households are ***not*** cost burdened with costs below 30% of household incomes. For Pitkin County employed households, 81% (owners) and 70% (renters) are ***not*** cost burdened with costs 30% below household incomes.
% of CoA workforce that resides within the Aspen urban growth boundary	N		The total number of Aspen workforce members living within the Urban Growth Boundary (UGB) is not readily available. As a relative proxy, 38% of City of Aspen FTE workforce live within the UGB. [Note: This measure has been reserved for further research and development]
Median commuting costs by bus (as a % of median HH income)	N		The average workforce member (travelling from mid valley) spends approximately $2,100 or (3.5%) of annual wages commuting by bus. The annual round trip cost of commuting by bus is calculated at approximately one fifth (20%) of what it costs for drive alone commute for the same distance (Aspen/Carbondale). [Note: RFTA recommends using the flat round trip rate fare discounted at 30% to account for the value card.]
Participation rate of employers/employees in subsidized/free bus pass programs	N		Subsidized / free bus passes totaling 1,185 (627 - winter and 558 – summer) are purchased by approximately 50 employers for the benefit of their employees.

TARGET STATUS KEY

GREEN		*MEETING OR EXCEEDING*	**YELLOW**		*NOT MEETING; WITHIN RANGE*	**RED**		*NOT MEETING*	**GRAY**		*NO TARGET SET*

ECONOMIC SUSTAINABILITY DASHBOARD: SUMMARY OF FINDINGS

Performance Measure	Target Set	Current Status	
LOCAL COMMUNITY VIABILITY			
Median household income	N		From 2009-2014, Aspen and Pitkin County median household incomes have varied, with an average period change of 3.6% and 2.7%, respectively. Both communities are consistently above the state figures (grew 1.3% on average year-on-year).
Unemployment rate	N		From 2009-2014, the Aspen unemployment rate grew .9% and the Valley rate increased 1% year-on-year. The national rate has decreased roughly .6% year-on-year.
Affordable ownership housing supply & demand	N		The majority of APCHA ownership inventory is comprised of Category 4 and RO units (33% each). From 2005-2015, the most averaged bids per unit are in Category 1 and 2. Since 2005, average unit bids have decreased by 38%.
Affordable rental housing supply & demand	N		The majority of APCHA rental inventory is comprised of Category 3 (32%) and RO units (35%). From 2014 to 2015, average applications per unit increased at 37% (Category 1-2), 67% (Category 3-4), and 2.4% (Category RO).
Licensed childcare capacity for children under 5	N		From 2010 to 2014, Pitkin County childcare capacity fulfilled nearly half of the potential need on average. Of survey respondents, 48% are currently served by childcare in licensed centers. Roughly 65% of survey respondents prefer childcare in licensed centers.
Licensed childcare cost	N		From 2010-2015, daily childcare rates show an increase of 3% on average each year. The average annual infant childcare rate in Pitkin County is 33% more costly than the state average.
Cost of health insurance	N		The average cost of health insurance premiums to Aspen employees is $119.93 per member per month (pmpm), as represented by VHA data. On average, employees pay 17.5% of health premium costs (pmpm). This percentage split is comparable to the state's average of 16%.
High school graduation rate	N		From 2010 to 2015, the Aspen High School graduation rate is consistently above 90%. On average, the graduation rate is 95.6% and the completion rate is 97.2%.
Voter participation numbers	N		From 2005-2015, Aspen's number of voters averages around 2,252 while runoff election votes average at 1,716. From 2008-2015, the average Pitkin County voter participation is 6,747, with higher rates during national election years.

TARGET STATUS KEY

GREEN		*MEETING OR EXCEEDING*	YELLOW		*NOT MEETING; WITHIN RANGE*	RED		*NOT MEETING*	GRAY		*NO TARGET SET*