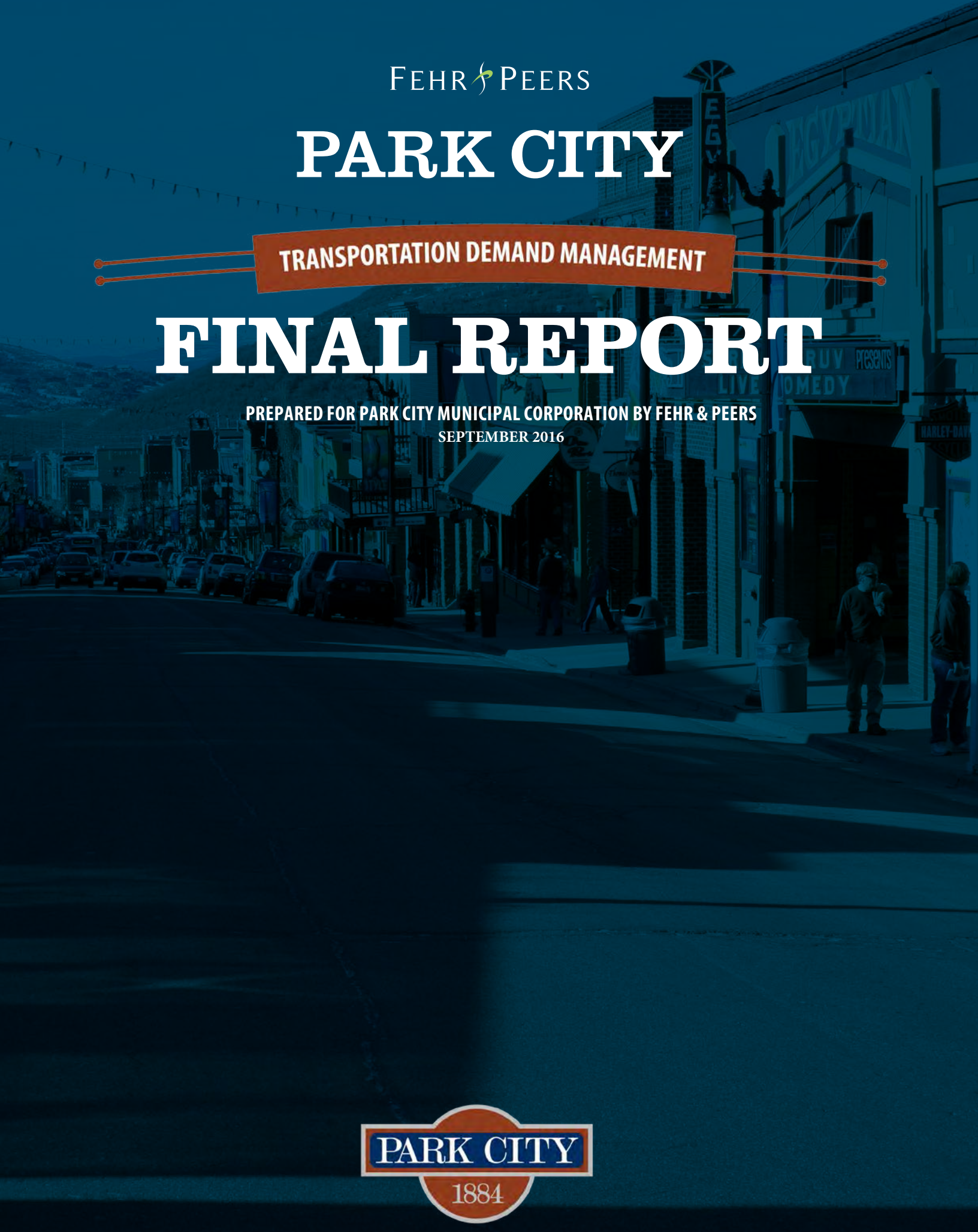
FEHR PEERS

PARK CITY

TRANSPORTATION DEMAND MANAGEMENT

FINAL REPORT



PREPARED FOR PARK CITY MUNICIPAL CORPORATION BY FEHR & PEERS

SEPTEMBER 2016

PARK CITY 1884

Park City Municipal Corporation

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EXECUTIVE SUMMARY

PROJECT PURPOSE

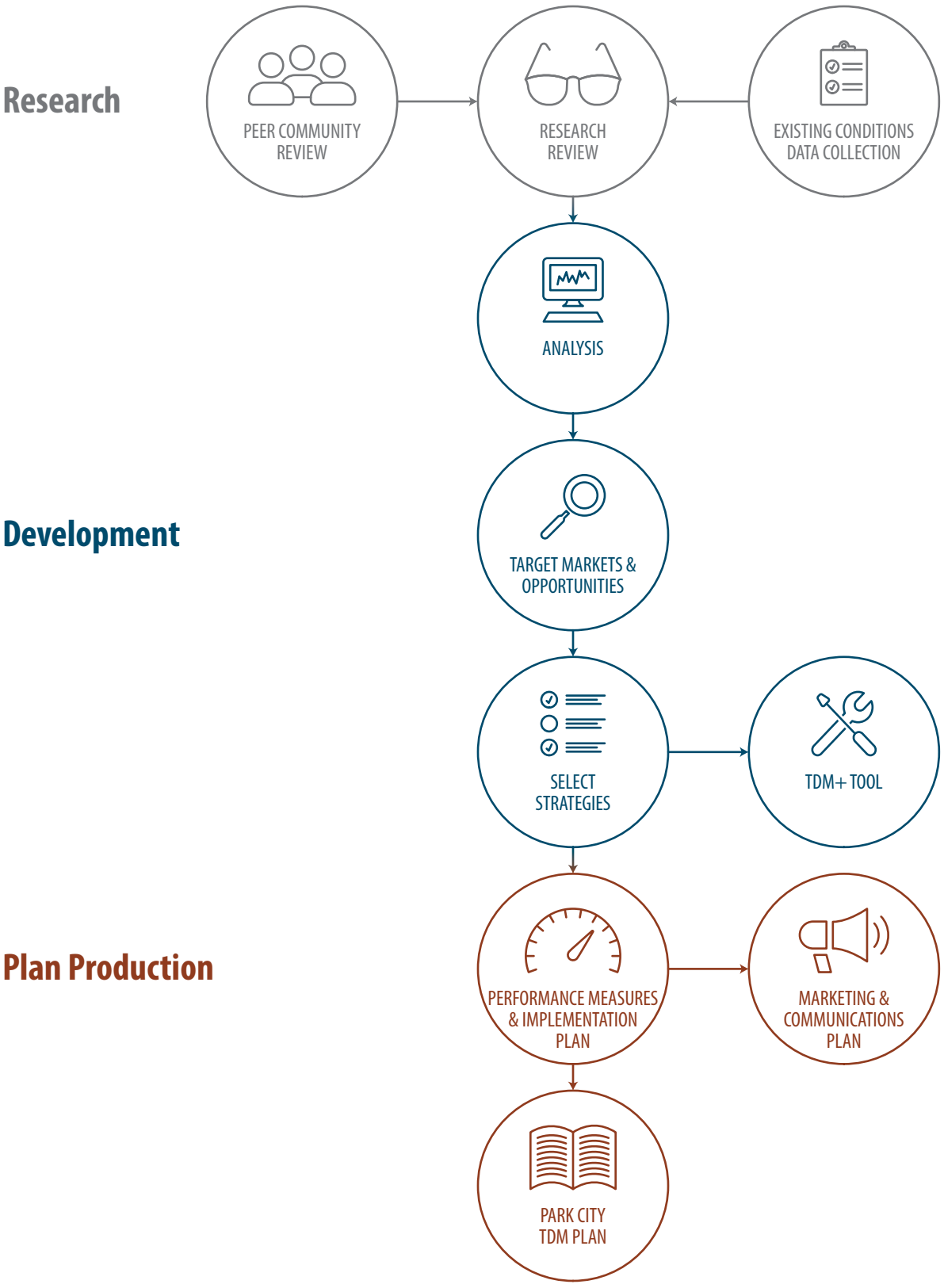
The Park City Transportation Demand Management project is focused on reducing vehicle miles traveled (VMT) and related traffic and environmental impacts of Single Occupant Vehicles (SOV) during peak days and peak hours. This reduction will be accomplished through a focused Transportation Demand Program that is targeted at those groups who show the highest propensity to make travel choices other than the SOV.

DOCUMENT PURPOSE

The purpose of this document is to summarize the existing transportation conditions in the Park City area, highlight peer community and national research on TDM strategies, and provide a shortlist of strategies, performance measures, and next steps to implement a TDM program for Park City. The following flow chart provides an overview of the plan development process.

Park City TDM Plan

PROJECT OVERVIEW & PROCESS



KEY FINDINGS

Peer Community & National Research

- Collaboration is key between public agencies and private employers
- The most successful programs provide a variety of TDM strategies and alternatives to driving alone
- The unique conditions in resort towns require that TDM program managers adapt typical TDM strategies to user needs
- Ongoing monitoring is essential to ensure that TDM programs respond to changing user needs over time

Target Audience Segments & Opportunities

- Five segment groups within the Park City area to focus TDM strategies on
  - Residents – Living in Park City
    - Primarily use their car to get around, but they are willing to use alternative modes of transportation such as transit or biking, as long as it is convenient and time effective.
  - Part–Time Residents – own a second home in Park City
    - While their car is their main mode of transportation, they are more likely to carpool then to drive alone and are willing to try transit and biking to get around.
  - Commuter – work in Park City but live outside of Park City
    - Like others in Park City, their car is their main mode of transportation and they typically drive alone. They are willing to try alternatives modes as long as they are convenient and time efficient, meaning they are more willing to carpool than to take transit.
  - Visitors / Tourists
    - Their car is their main mode of transportation to and from Park City, but they are likely to carpool to get in and out of town. Inside of town, they will walk or take transit to get around.
  - Employees
    - They prefer to have access to their car during the day, whether it is needed or not. Convenience is a motivating factor in their travel choices, however they are

willing to consider taking transit, biking, or carpooling, particularly if their employer offered an incentive to do so.

TDM STRATEGY SHORTLIST

Strategies were developed through review of academic and peer community research, review of existing conditions, and coordination with Park City staff. Strategies were also stratified to each target audience segment to demonstrate which strategies would be most effective for each group. These are described in the following pages.

PHOTO: WIKIPEDIA, USER MRS.KSER.SIZE

TDM STRATEGIES THAT WORK FOR

RESIDENTS

Overview

The transportation demand management (TDM) strategies at right introduce new travel options for full-time Park City residents. They respond to residents' needs and priorities as determined through market research. They offer a diverse set of options spanning land use, policy, and programs, and they look to optimize existing transportation infrastructure while nurturing a balanced, multimodal travel network.

While Park City residents primarily use their car to get around, they are willing to use alternative modes of transportation such as transit or biking, as long as it is convenient and time effective. Park City residents take pride in their community and enjoy the variety of activities that Park City has to offer. They are middle aged, social, engaged, and physically active.

Focus Areas

RIDESHARE · PARKING · BIKE · WALK/BIKE · TRANSIT · DEMAND MANAGEMENT · PROGRAMS · LAND USE

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	FOCUS AREA	RANGE OF REDUCTION IN VEHICLE MILES TRAVELED (VMT)	IMPLEMENTATION COSTS	
IMMEDIATE STRATEGIES				
Walking/Biking School Bus (APPLIES TO SCHOOL TRIPS ONLY)		0% 5% 10% 15% 20%	Varies	SALARY & BENEFITS OF HALF TIME STAFF COORDINATOR
School-Oriented Carpools (APPLIES TO SCHOOL TRIPS ONLY)		0% 5% 10% 15% 20%	$5,000 - $10,000 $24,000 - $48,000	STARTUP COSTS ANNUAL OPERATING COSTS
Increased Transit Frequency to Kimball Junction		0% 5% 10% 15% 20%	$1,200,000 $425,000	CAPITAL COSTS ANNUAL OPERATING COSTS
NEAR-TERM STRATEGIES				
Bike Repair Stands		0% 5% 10% 15% 20%	$800 - $1,500	PER STAND
Bike Share System USING E-BIKES		N/A	$1,500,000 - $2,500,000	CAPITAL & OPERATING COSTS
School Parking Management (APPLIES TO SCHOOL TRIPS ONLY)		0% 5% 10% 15% 20%	$8 - $13	PER PERSON
Tailored Information & Promotions (APPLIES TO WORK TRIPS ONLY)		0% 5% 10% 15% 20%	$8 - $13	PER PERSON
Carpool/Vanpool Parking		0% 5% 10% 15% 20%	$150 - $300	PER SPACE
Transit Jump Queue Lanes		0% 5% 10% 15% 20%	Varies	
Transit Vehicle Signal Preemption		0% 5% 10% 15% 20%	Varies	
LONG-TERM STRATEGIES				
TDM Requirements for New Developments or Redevelopment POLICY		0% 5% 10% 15% 20%	N/A	
Density Bonus for Parking Reduction POLICY		0% 5% 10% 15% 20%	N/A	
Parking Demand Management		0% 5% 10% 15% 20%	N/A	
ONGOING STRATEGIES				
Bike Parking at Developments & Transit Stops		0% 5% 10% 15% 20%	$400 - $700	PER RACK

TDM STRATEGIES THAT WORK FOR

PART-TIME RESIDENTS

Overview

The transportation demand management (TDM) strategies at right introduce new travel options for part-time Park City residents, who may live elsewhere but also own a home in Park City. They respond to part-time residents' needs and priorities as determined through market research. They offer a diverse set of options spanning land use, policy, and programs, and they look to optimize existing transportation infrastructure while nurturing a balanced, multimodal travel network.

Part-time residents are in the Park City area with a more vacation-oriented mindset; yet, they consider themselves locals. They are in Park City for a special event, visiting family and friends, or for outdoor recreation. While their car is their main mode of transportation, they are more likely to carpool than drive alone and are willing to try transit and biking to get around.

Focus Areas

RIDESHARE · PARKING · BIKE · WALK/BIKE · TRANSIT · DEMAND MANAGEMENT · PROGRAMS · LAND USE

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PHOTO: WIKIPEDIA USER MRS.KEYSER.SIZE

	FOCUS AREA	RANGE OF REDUCTION IN VEHICLE MILES TRAVELED (VMT)	IMPLEMENTATION COSTS	
IMMEDIATE STRATEGIES				
Increased Transit Frequency to Kimball Junction		0% 5% 10% 15% 20%	$1,200,000 $425,000	CAPITAL COSTS ANNUAL OPERATING COSTS
NEAR-TERM STRATEGIES				
Bike Repair Stands		0% 5% 10% 15% 20%	$800 - $1,500	PER STAND
Bike Share System USING E-BIKES		N/A	$1,500,000 - $2,500,000	CAPITAL & OPERATING COSTS
Tailored Information & Promotions (APPLIES TO WORK TRIPS ONLY)		0% 5% 10% 15% 20%	$8 - $13	PER PERSON
Carpool/Vanpool Parking		0% 5% 10% 15% 20%	$150 - $300	PER SPACE
Transit Jump Queue Lanes		0% 5% 10% 15% 20%	Varies	
Transit Vehicle Signal Preemption		0% 5% 10% 15% 20%	Varies	
LONG-TERM STRATEGIES				
TDM Requirements for New Developments or Redevelopment POLICY		0% 5% 10% 15% 20%	N/A	
Density Bonus for Parking Reduction POLICY		0% 5% 10% 15% 20%	N/A	
Parking Demand Management		0% 5% 10% 15% 20%	N/A	
ONGOING STRATEGIES				
Bike Parking at Developments & Transit Stops		0% 5% 10% 15% 20%	$400 - $700	PER RACK

TDM STRATEGIES THAT WORK FOR

VISITORS & TOURISTS

Overview

The transportation demand management (TDM) strategies at right introduce new travel options for visitors and tourists to Park City. They respond to visitors' needs and priorities as determined through market research. They offer a diverse set of options spanning land use, policy, and programs, and they look to optimize existing transportation infrastructure while nurturing a balanced, multimodal travel network.

Visitors and Tourists are looking for a break from their everyday life and to enjoy a different environment and culture. They are in Park City to play and have fun. They may only be visiting for the day, or stay a few nights, but they will enjoy all that Park City has to offer while they are there. Their car is their main mode of transportation to and from Park City, but they are likely to carpool to get in and out of town. Inside of town, they will walk or take transit to get around.

Focus Areas

RIDESHARE · PARKING · BIKE · WALK/BIKE · TRANSIT · DEMAND MANAGEMENT · PROGRAMS · LAND USE

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	FOCUS AREA	RANGE OF REDUCTION IN VEHICLE MILES TRAVELED (VMT)	IMPLEMENTATION COSTS	
IMMEDIATE STRATEGIES				
Increased Transit Frequency to Kimball Junction		0% 5% 10% 15% 20%	$1,200,000 $425,000	CAPITAL COSTS ANNUAL OPERATING COSTS
NEAR-TERM STRATEGIES				
Bike Share System USING E-BIKES		N/A	$1,500,000 - $2,500,000	CAPITAL & OPERATING COSTS
Additional Evening Recreation Opportunities & Amenities		0% 5% 10% 15% 20%	N/A	
Real-Time Information Gathering & Messaging		0% 5% 10% 15% 20%	N/A	
Efficient Parking JOINT, FLEX, SATELLITE, AND SPACE-EFFICIENT PARKING		0% 5% 10% 15% 20%	N/A	
Tailored Information & Promotions (APPLIES TO WORK TRIPS ONLY)		0% 5% 10% 15% 20%	$8 - $13	PER PERSON
Carpool/Vanpool Parking		0% 5% 10% 15% 20%	$150 - $300	PER SPACE
Shuttle Bus Service		0% 5% 10% 15% 20%	$2,000 - $4,000	PER COMMUTER PER YEAR
Transit Jump Queue Lanes		0% 5% 10% 15% 20%	Varies	
Transit Vehicle Signal Preemption		0% 5% 10% 15% 20%	Varies	
LONG-TERM STRATEGIES				
TDM Requirements for New Developments or Redevelopment POLICY		0% 5% 10% 15% 20%	N/A	
Parking Supply Management		0% 5% 10% 15% 20%	N/A	
ONGOING STRATEGIES				
Charter Buses for Large Events (APPLIES TO EVENT TRIPS ONLY)		0% 5% 10% 15% 20%	$500 - $1,500	

TDM STRATEGIES THAT WORK FOR

COMMUTERS

Overview

The transportation demand management (TDM) strategies at right introduce new travel options for commuters who work in Park City but live elsewhere. They respond to commuters' needs and priorities as determined through market research. They offer a diverse set of options spanning land use, policy, and programs, and they look to optimize existing transportation infrastructure while nurturing a balanced, multimodal travel network.

Commuters in and out of Park City are there solely for work purposes. They may shop or dine while they are in Park City, but their primary purpose is to arrive for work and depart for home. Like others in Park City, their car is their main mode of transportation and they typically drive alone. They are willing to try alternatives modes as long as they are convenient and time efficient, meaning they are more willing to carpool than to take transit.

Focus Areas

RIDESHARE · PARKING · BIKE · WALK/BIKE · TRANSIT · DEMAND MANAGEMENT · PROGRAMS · LAND USE

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PHOTO: WIKIPEDIA USER MRS KEYSER SOZE

	FOCUS AREA	RANGE OF REDUCTION IN VEHICLE MILES TRAVELED (VMT)	IMPLEMENTATION COSTS	
IMMEDIATE STRATEGIES				
Increased Transit Frequency to Kimball Junction	Transit		$1,200,000 $425,000	CAPITAL COSTS ANNUAL OPERATING COSTS
NEAR-TERM STRATEGIES				
Bike Repair Stands	Bike		$800 - $1,500	PER STAND
Efficient Parking JOINT, FLEX, SATELLITE, AND SPACE-EFFICIENT PARKING	Parking		N/A	
Tailored Information & Promotions (APPLIES TO WORK TRIPS ONLY)	Programs		$8 - $13	PER PERSON
Required TDM/ETC Coordinators at Major Employers (APPLIES TO WORK TRIPS ONLY)	Programs		N/A	
Rideshare Program (APPLIES TO WORK TRIPS ONLY)	Rideshare		$5,000 - $10,000 $24,000 - $48,000	STARTUP COSTS ANNUAL OPERATING COST
Vanpool Program (APPLIES TO WORK TRIPS ONLY)	Rideshare		$1,000 - $1,500 $125	MONTHLY OPERATING COST PER VAN MONTHLY OPERATING COST PER USER
Expanded Commute Options IMPROVEMENTS TO REGIONAL TRANSIT SERVICE, PARTICULARLY TO HEBER CITY AND KAMAS (APPLIES TO WORK TRIPS ONLY)	Transit		$0 - $1,200,000 $48,000 - $823,700	CAPITAL COSTS ANNUAL OPERATING COSTS
Shuttle Bus Service	Transit		$2,000 - $4,000	PER COMMUTER PER YEAR
Transit Jump Queue Lanes	Transit		Varies	
Transit Vehicle Signal Preemption	Transit		Varies	
LONG-TERM STRATEGIES				
TDM Requirements for New Developments or Redevelopment POLICY	Land Use		N/A	
Parking Demand Management	Parking		N/A	
Parking Supply Management	Parking		N/A	
Subsidized Transit for Inter-City Commuters (APPLIES TO WORK TRIPS ONLY)	Transit		$1,000,000 - $2,000,000	
ONGOING STRATEGIES				
Bike Parking at Developments & Transit Stops	Bike		$400 - $700	PER RACK
Bike Showers/Lockers	Bike		$1,000 - $2,500	PER LOCKER

TDM STRATEGIES THAT WORK FOR

EMPLOYEES

Overview

The transportation demand management (TDM) strategies at right introduce new travel options for employees who live and work in Park City. They respond to employees' needs and priorities as determined through market research. They offer a diverse set of options spanning land use, policy, and programs, and they look to optimize existing transportation infrastructure while nurturing a balanced, multimodal travel network.

Similarly to residents, year-round employees live and work in Park City. Their routine doesn't change much and they drive—by themselves—directly to and from work without the need for side trips or stops. They prefer to have access to their car during the day, whether it is needed or not. Convenience is a motivating factor in their travel choices, however they are willing to consider taking transit, biking, or carpooling, particularly if their employer offered an incentive to do so.

Focus Areas

RIDESHARE · PARKING · BIKE · WALK/BIKE · TRANSIT · DEMAND MANAGEMENT · PROGRAMS · LAND USE

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PHOTO: WIKIPEDIA USER MRS.KEYSER-SOZE

	FOCUS AREA	RANGE OF REDUCTION IN VEHICLE MILES TRAVELED (VMT)	IMPLEMENTATION COSTS	
IMMEDIATE STRATEGIES				
Increased Transit Frequency to Kimball Junction		0% 5% 10% 15% 20%	$1,200,000 $425,000	CAPITAL COSTS ANNUAL OPERATING COSTS
NEAR-TERM STRATEGIES				
Bike Repair Stands		0% 5% 10% 15% 20%	$800 - $1,500	PER STAND
Efficient Parking JOINT, FLEX, SATELLITE, AND SPACE-EFFICIENT PARKING		0% 5% 10% 15% 20%	N/A	
Tailored Information & Promotions (APPLIES TO WORK TRIPS ONLY)		0% 5% 10% 15% 20%	$8 - $13	PER PERSON
Required TDM Coordinators at Major Employers (APPLIES TO WORK TRIPS ONLY)		0% 5% 10% 15% 20%	N/A	
Rideshare Program (APPLIES TO WORK TRIPS ONLY)		0% 5% 10% 15% 20%	$5,000 - $10,000 $24,000 - $48,000	STARTUP COSTS ANNUAL OPERATING COST
Vanpool Program (APPLIES TO WORK TRIPS ONLY)		0% 5% 10% 15% 20%	$1,000 - $1,500 $125	MONTHLY OPERATING COST PER VAN MONTHLY OPERATING COST PER USER
Transit Jump Queue Lanes		0% 5% 10% 15% 20%	Varies	
Transit Vehicle Signal Preemption		0% 5% 10% 15% 20%	Varies	
LONG-TERM STRATEGIES				
Affordable Employee Housing POLICY		0% 5% 10% 15% 20%	N/A	
Parking Demand Management		0% 5% 10% 15% 20%	N/A	
Parking Supply Management		0% 5% 10% 15% 20%	N/A	
ONGOING STRATEGIES				
Bike Parking at Developments & Transit Stops		0% 5% 10% 15% 20%	$400 - $700	PER RACK
Bike Showers/Lockers		0% 5% 10% 15% 20%	$1,000 - $2,500	PER LOCKER
On-site Day Care or Day Care Brokerage Services (APPLIES TO WORK TRIPS ONLY)		0% 5% 10% 15% 20%	Employee subsidized	

PERFORMANCE METRICS

Performance measures were also developed to track and monitor performance of TDM strategies. **Table 1** presents a list of proposed performance measures and data collection methods for the Park City TDM program as well as responsible parties for collecting this data.

Table 1: Performance Measures

Goal	Metrics/Performance Measures	Collection Method	Responsible Party
Reduce single-occupant vehicle (SOV) mode share	1. Reduction in drive-alone mode share for trips on gateway corridors	Vehicle occupancy counts on SR 248 and SR 224	City
	2. Increase daily bus hours of regional transit service to and from Park City	Transit operator reports	Transit operator
	3. Provide additional regional transit routes to neighboring communities	Transit operator reports	Transit operator
	4. Increase in regional transportation ridership	Transit ridership reports	Transit operator
	5. Increase in daily bus hours on local transit service	Transit operator reports	Transit operator
	6. Increase frequency on Park City transit network.	Transit operator reports	Transit operator
	7. Increase and maintain competitive transit travel time	Transit operator reports	Transit operator
	8. Increase in local transit ridership	Transit ridership reports	Transit operator
	9. Increase in visitor use of transit	Intercept surveys	City
	10. Expand the number of intercept park-and-ride facilities on gateway corridors	City and/or transit operator report	City and/or transit operator
	11. Increase in carpooling/vanpooling	Employee survey for major employers and resorts	Employers
Reduce single-occupant vehicle (SOV) mode share	12. Increase and maintain competitive bicycle travel time to and from major destination areas	Field travel time assessment and report	City

Table 1: Performance Measures

Goal	Metrics/Performance Measures	Collection Method	Responsible Party
Reduce single-occupant vehicle (SOV) mode share	13. Increase in bicycle use in summer months	Bike counts at major destinations • Rail Trail – near Bonanza Drive • Poison Creek Trail – near City Park and near Main Street • McLeod Creek Trail – near Holiday Ranch Loop Road • Farm Trail – near Thaynes Canyon Drive • Park City Pkwy Trail – near Bonanza Drive	City
	14. Increase in pedestrian access in summer months	Pedestrian counts at major destinations • Rail Trail – near Bonanza Drive • Poison Creek Trail – near City Park and near Main Street • McLeod Creek Trail – near Holiday Ranch Loop Road • Farm Trail – near Thaynes Canyon Drive • Park City Pkwy Trail – near Bonanza Drive	City
Reduce Vehicle Miles Traveled (VMT) per Employee and Resident	15. Shorter commute distances	Employee survey for major employers and resorts	Employers
	16. Percentage of housing units within 1/4 mile of transit routes and paved multiuse trails.	GIS analysis	City
	17. Local affordable housing options for employees	Review number of affordable housing units within the municipal boundaries that are provided to local employees below market rate	City
	18. Reduction in parking utilization	Parking utilization counts at major employers and resorts	Employers
	4. Increase in regional transportation ridership	Transit ridership reports	Transit operator
	8. Increase in local transit ridership	Transit ridership reports	Transit operator

Table 1: Performance Measures

Goal	Metrics/Performance Measures	Collection Method	Responsible Party
	9. Increase in visitor use of transit	Intercept survey of visitors	City
	11. Increase in carpooling/vanpooling	Employee survey for major employers and resorts	Employers
Reduce Vehicle Miles Traveled (VMT) per Employee and Resident	13. Increase in bicycle use in summer months	Bike counts at major destinations • Rail Trail – near Bonanza Drive • Poison Creek Trail – near City Park and near Main Street • McLeod Creek Trail – near Holiday Ranch Loop Road • Farm Trail – near Thaynes Canyon Drive • Park City Pkwy Trail – near Bonanza Drive	City
	14. Increase in pedestrian access in summer months	Biannual pedestrian counts at major destinations • Rail Trail – near Bonanza Drive • Poison Creek Trail – near City Park and near Main Street • McLeod Creek Trail – near Holiday Ranch Loop Road • Farm Trail – near Thaynes Canyon Drive • Park City Pkwy Trail – near Bonanza Drive	City
	19. Reduce per capita VMT and associated petroleum consumption and greenhouse gas emissions	Estimate reductions using Utah Household Travel Survey data, local mode share data, and VMT estimate from major gateway corridors	City
Manage congestion on major corridors	20. Growth in traffic volume on gateway corridors (peak and daily) will not exceed the percentage growth in annual housing and employment growth	Cordon counts on SR 248 and SR 224	City
	21. Growth in traffic volume on internal corridors (peak and daily) will not exceed the percentage growth in annual housing and employment growth	Cordon counts on Bonanza Drive and Park Avenue (entrance to downtown)	City

Table 1: Performance Measures

Goal	Metrics/Performance Measures	Collection Method	Responsible Party
	22. Manage congestion during festivals and special events	Review of Master Festival License or Special Event Permit Submittals	City
Provide TDM program awareness and utilization	23. Number of potential users who are aware of programs and services	Employee survey for major employers and resorts	Employers
	24. Number of participants in employer programs and services.	Employer report submitted by TDM coordinator	Employers

IMPLEMENTATION

An effective TDM program involves building consensus among diverse constituents; communicating goals and values; consistent messaging and rigorous management, marketing and evaluation. It also requires developing a broad base of support and participation.

Park City has already taken steps to address some of these questions by forming a Transportation Management Association (TMA). The formation of the TMA is a good beginning. However, it is recommended that a series of meetings to further process, educate and encourage full participation, and develop a clear plan with widespread support and enthusiasm for moving TDM forward. Several studies are either currently underway or recently concluded: the parking study, marketing plan, and the short-range transit study. The data from these studies, as well as the information contained in this report, should inform TDM planning.

MARKETING AND COMMUNICATION

The challenge facing the TDM program is to help Park City residents, visitors, and commuters understand the program's goals and strategies to the point that they actually change their travel behaviors. A communication campaign focused on raising public awareness of the program will nudge people living and visiting Park City and their employers to take their efforts to the next level

and start utilizing alternative modes of travel. Building a critical mass of program supporters will help grow the program into a mainstream effort. Ultimately, alternative travel can become a day-to-day norm that will make it easier to travel around Park City.

Consistent placement of messages will lead to greater awareness of alternative travel options and ultimately, adoption of alternative travel behaviors. Utilizing four main channels of communication will help disseminate the messages to the traveling public and Park City employers.

- Outreach
- Media Relations
- Grassroots
- Interactive

Channels create an informational pyramid for our key audiences. General awareness of the program is grown through outreach across various media (print, broadcast and outdoor). Audiences learn a little bit more about TDM goals and strategies through news stories that are thoughtfully placed with local media. At the grassroots level, we can interact with our audiences one-on-one and have the opportunity to customize messages to their needs and interests. Finally, on the interactive level, we can offer in-depth education about the program and its strategies and benefits though the proposed website and other online tools.

The following strategies and metrics have been identified for marketing and communication the TDM plan:

Strategies

- Educate the public on the available alternative travel options
- Create an outreach program to target and partner with large employers, encouraging the use of alternative travel options among their employees
- Partner with tourism groups to educate visitors on the available travel options
- Update city staff, including planning and development, on the TDM program strategies and solutions to keep messaging consistent
- **Metrics**
- Employee research: A follow-up survey provided to employers and employees in the Park City area. Surveys and travel pattern data will be used to identify shifts in travel behaviors.

- Intercept survey: Administered in Park City during weekday and weekend events. Survey data will be used to identify awareness of alternative modes, as well as if people are changing their travel behaviors.
- Park City Transit ridership data: Ridership counts can be used to identify an increase in alternative travel use—specifically transit use.
- Traffic counts on SR-224 and SR-248: Traffic counts will be used to identify a decrease in the number of vehicles using SR-224 and SR-248 as well as occupancy counts to measure carpooling, vanpooling and ridesharing.
- Social media click rates: Will be used to identify an increase in awareness.
- Google analytics data for website visits: Can identify an increase in program awareness.

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CHAPTER ONE

EXISTING CONDITIONS

Overview

To understand existing transportation conditions in Park City, the consultant team collected and analyzed a number of data resources. This analysis included traffic counts by vehicle classification on SR 224 and SR 248, vehicle occupancy counts, and analysis of cell phone and GPS data provided by StreetLight Data. Transit data from both local and regional providers was also collected and analyzed.

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PHOTO: WIKIPEDIA USER MRS KEYSER SOZE

KEY FINDINGS

Traffic

- Fairly balanced directional traffic flows on SR-224 in the summer.
- SR-248 has pronounced AM and PM peaks year-round.
- More pronounced AM and PM peaks on both SR-224 and SR-248 in the winter.
- Approximately 72% of traffic was composed of passenger vehicles and 27% were larger commercial vehicles[1] on SR-224 (Weekday).
- Approximately 64% of traffic was composed of passenger vehicles while larger commercial vehicles made up 35% of weekday traffic on SR-248 (Weekday).
- Average weekday passenger vehicle occupancy of 1.42 on weekdays and 1.99 for weekends in the summer.
- I-80 West, I-80 East, Kimball Junction, Lower Park Avenue[2], and Deer Valley are major origin/destination locations.

Transit

- Between 2007-2014 annual ridership has decreased by a total of 10.3%, from 2,027,296 to 1,819,321 one-way passenger-trips. Over this period, 2014 experienced the lowest ridership to-date.
- Busy times are 3-7 PM in the winter, and 11 AM-1 PM in the summer. Between 3-5 PM was the busiest boarding time.
- The Utah Transit Authority (UTA) began operating the PC – SLC Connect service in October 2011. Annual ridership totaled 47,215 one-way passenger-trips (March 2013 through February 2014).
- There is no public transit service connecting Park City with many of the commuter residence locations, such as Heber and Kamas.

[1] Commercial vehicles were classified as 2 Axle Long vehicles, buses, 2 Axle 6 Tire vehicles or any vehicle with more than 2 Axles.
[2] Defined as the area between Park Ave. and Bonanza Drive and Kearns Blvd. and Deer Valley Dr.

- According to FY 14-15 ridership by route, the City Routes and Kimball Junction routes have the highest ridership.
- The 2011 onboard survey completed as part of the SRTP suggest that nearly half of all respondents were Park City visitors.
- In the 2011 onboard surveys, several respondents identified the need for later transit service, and there were several requests for earlier transit service.

TRAVEL BEHAVIOR

VOLUME

To understand daily vehicle volumes, vehicle counts were collected on both SR-224 and SR-248 (see Figure 1). Counts were collected on a typical weekday and Saturday. To better understand how these trends might differ by season, Utah Department of Transportation (UDOT) Automatic Traffic Recorder (ATR) data was used to provide hourly volumes on both SR-224 and SR-248.

Figure 1: Vehicle Volume Collection Locations

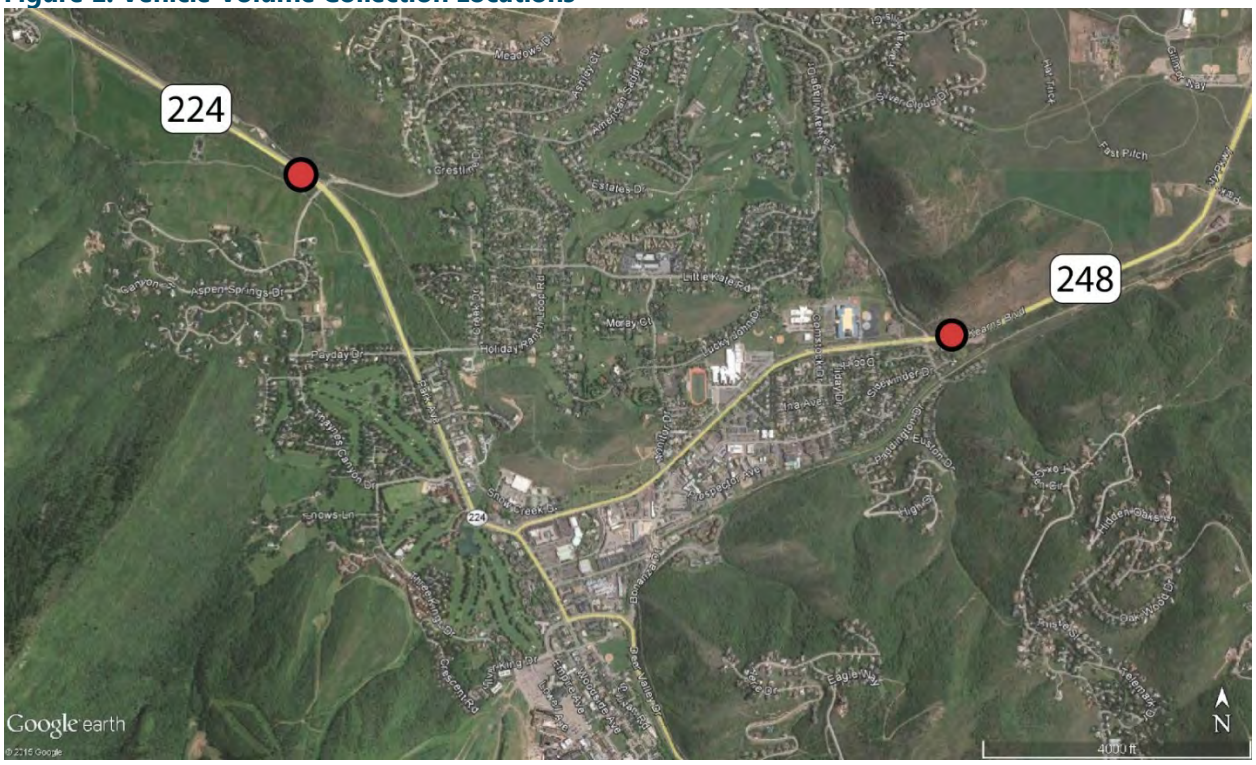
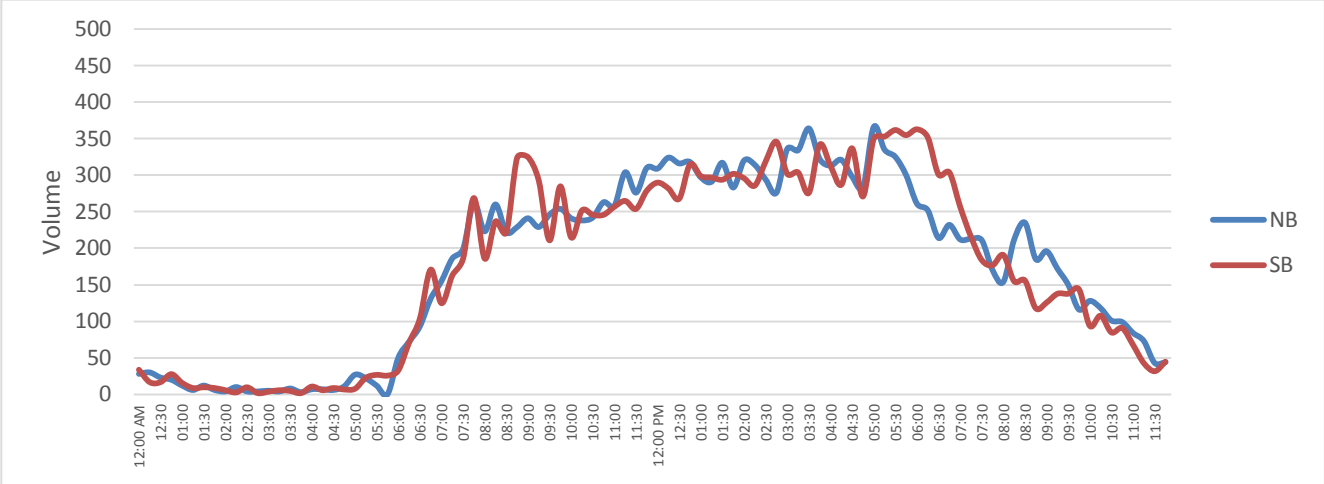


Table 2: Volume Summary (January 2015 and July 2015)

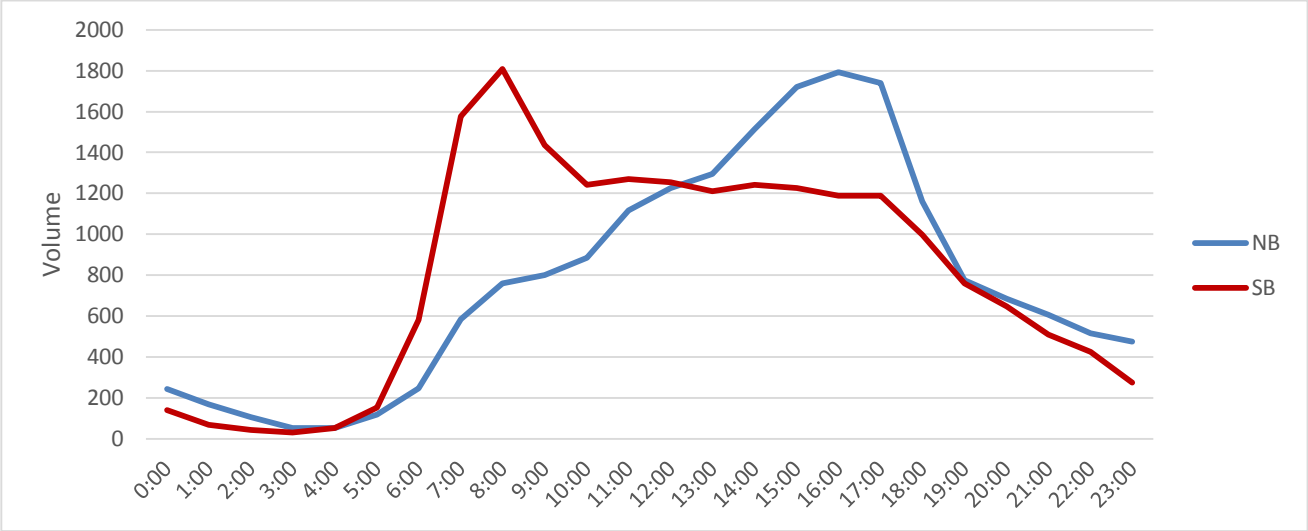
Corridor/Day	AM Peak % of Daily Traffic	PM Peak % of Daily Traffic	Highest Inbound Traffic Time/Volume	Highest Outbound Traffic Time/Volume	Highest 2-Way Traffic Time/Volume
224 – Summer Weekday	10%	15%	5-6 PM / 1,420	3-4 PM / 1,356	5-6 PM / 2,746
224 – Winter Weekday	12%	16%	8-9 AM / 1,808	4-5 PM / 1,792	4-5 PM / 2,981
224 – Summer Saturday	N/A	N/A	5-6 PM / 1,607	3-4 PM / 1,408	3-4 PM / 2,843
224 – Winter Saturday	N/A	N/A	8-9 AM / 1,744	4-5PM / 2,083	4-5 PM / 3,251
248 – Summer Weekday	13%	17%	8-9 AM / 1,085	5-6 PM / 1,187	5-6 PM / 1,972
248 – Winter Weekday	13%	15%	7-8 AM / 1,033	4-5 PM / 1,173	4-5 PM / 1,796
248- Summer Saturday	N/A	N/A	3 -4 PM / 957	4-5 PM / 835	3-4 PM / 1,770
248 – Winter Saturday	N/A	N/A	8-9 AM / 860	4-5 PM / 1,020	4-5 PM / 1,585

Figure 2: SR-224 15-Minute Increment Weekday Volume (Summer)



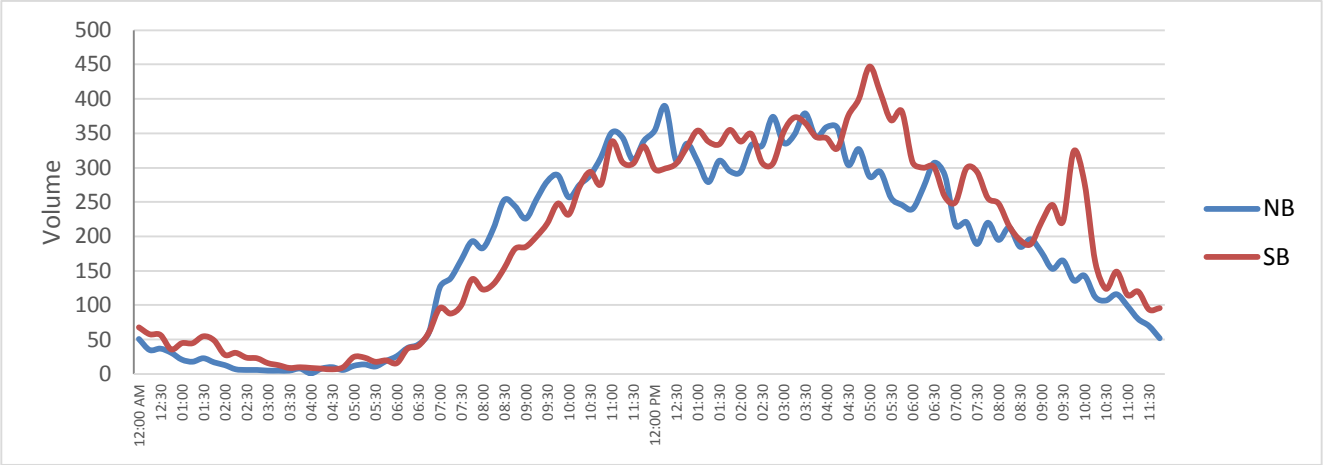
- No traditional AM peak. Traffic grows throughout day and plateaus in what is typical PM peak. This is different than urban areas where traffic often dips during off peak (non-commute periods).

Figure 3: SR-224 Hourly Weekday Volume (Winter)



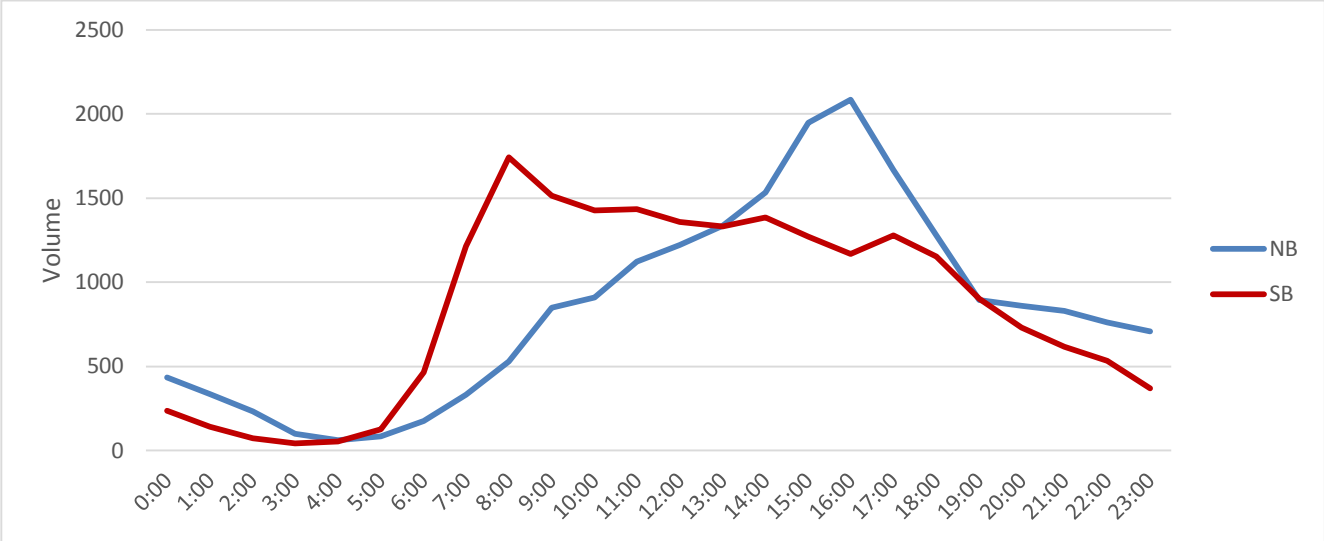
- More clear AM and PM peaks

Figure 4: SR-224 15-Minute Increment Saturday Volume (Summer)



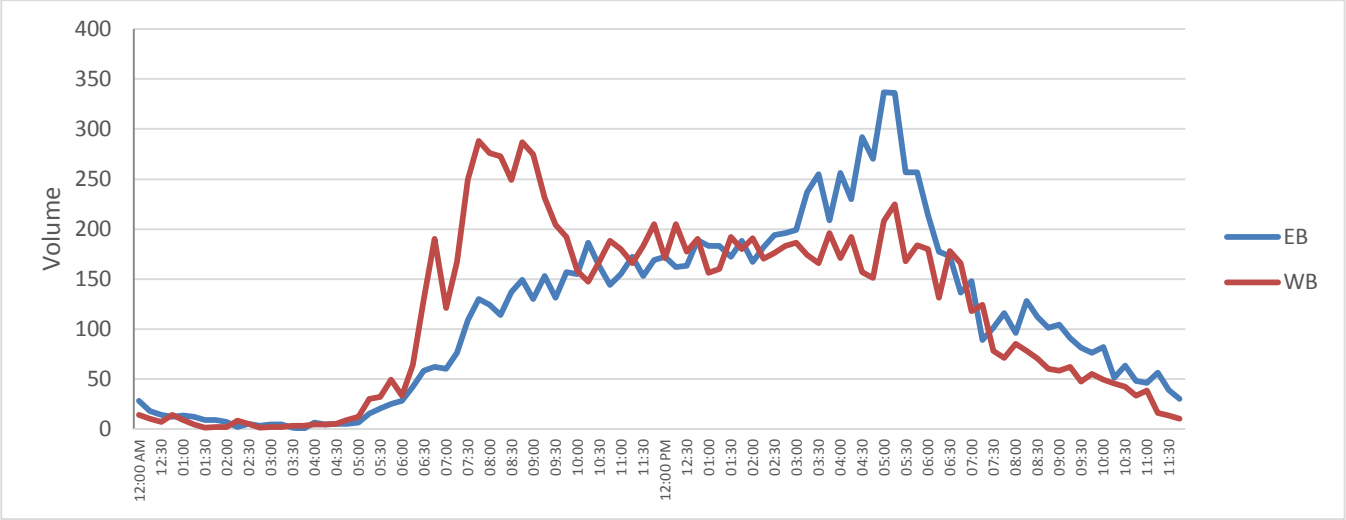
- Inbound traffic to Park City spikes in the evening. This suggests event oriented traffic starting around 5pm, with minor peaks at 7pm and 9:30pm.
- Small outbound peak around 6:30pm, but otherwise there are no major outflow traffic peaks. This suggests visitors arrive in clusters, but then stagger departure times.

Figure 5: SR-224 Hourly Saturday Volume (Winter)



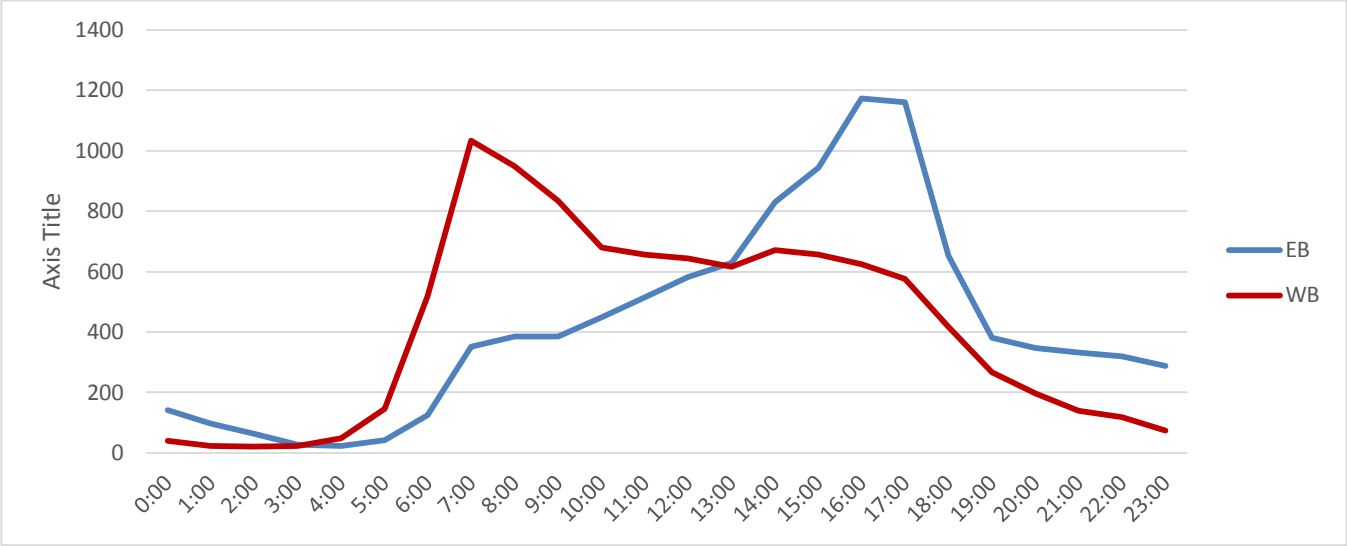
- More pronounced peaks, with inbound traffic to Park City spiking in the morning and outbound traffic spiking in the late afternoon to early evening

Figure 6: SR-248 15-Minute Increment Weekday Volume (Summer)



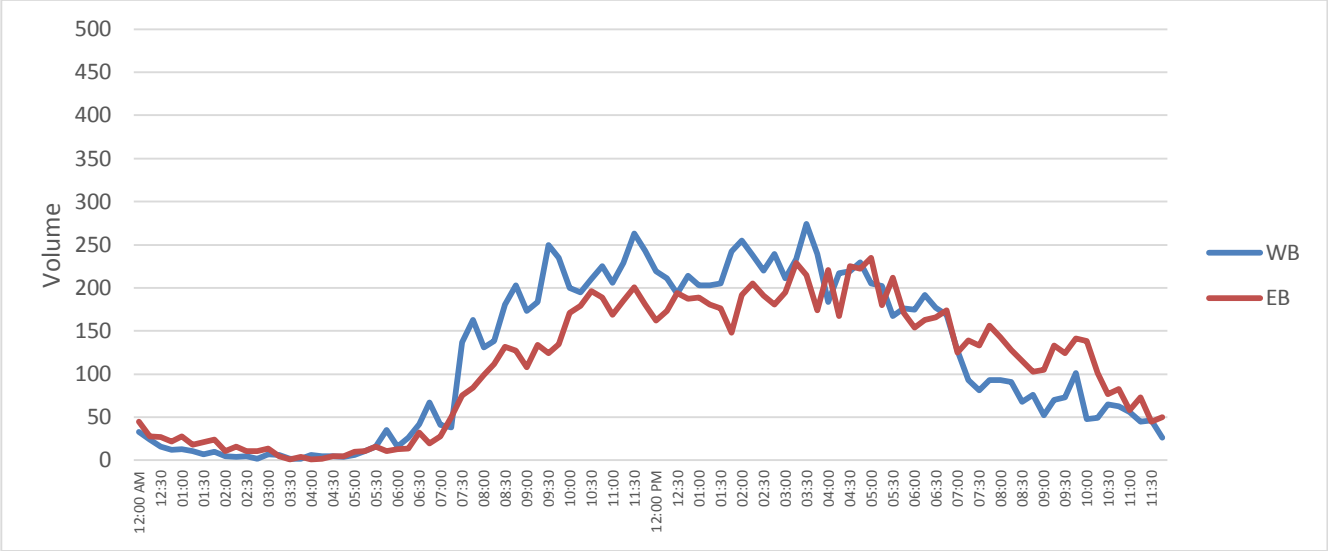
- Two distinct directional peaks during weekdays – a westbound (inbound) morning peak and an eastbound (outbound) evening peak, suggesting that SR-248 is a primary commute corridor

Figure 7: SR-248 Hourly Weekday Volume (Winter)



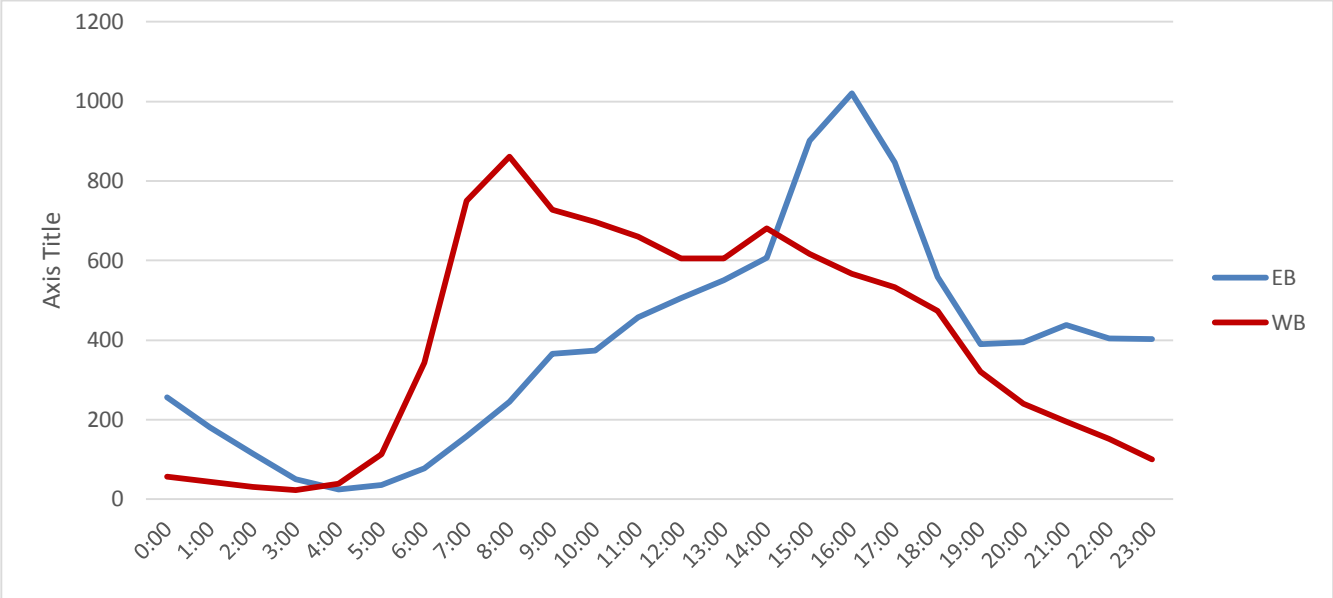
- Similar pattern to Summer weekday analysis

Figure 8: SR-248 15-Minute Increment Saturday Volume (Summer)



- Fairly balanced volumes most of the day, with some observed inbound imbalance in the morning

Figure 9: SR-248 Hourly Saturday Volume (Winter)



- Pronounced peaks, with inbound traffic peaking in the morning and outbound traffic peaking in the late afternoon and early evening

In the summer all corridors appear to have fairly balanced directional traffic flow throughout majority of the day, with exception of more pronounced commuter patterns on SR-248 during weekdays. Winter patterns suggest more traditional peak travel patterns.

VEHICLE CLASSIFICATION COUNTS

Along with volumes, vehicle classification was also collected to better understand the vehicular makeup of traffic on the corridors (see Table 3).

For weekdays on SR-224 approximately 72% of traffic was composed of passenger vehicles and 27% were larger commercial vehicles. On Saturday, the share of passenger vehicles grew slightly higher, making up three quarters of the volume while the share of larger commercial vehicles reduced slightly to 24%.

SR-248 weekday vehicle classification counts demonstrate a lower percentage of passenger vehicles, approximately 64%, while larger commercial vehicles made up 35% of weekday traffic. Similar to SR-224, weekend data a rise in passenger vehicles (~70%) and a lower share of commercial vehicles (29%).

Table 3: Vehicle Types

Corridor/Day	Passenger Vehicles*	Commercial Vehicles**	Other***
224 - Weekday	72%	27%	1%
224 - Saturday	75%	24%	1%
248 - Weekday	64%	35%	1%
248- Saturday	70%	29%	1%

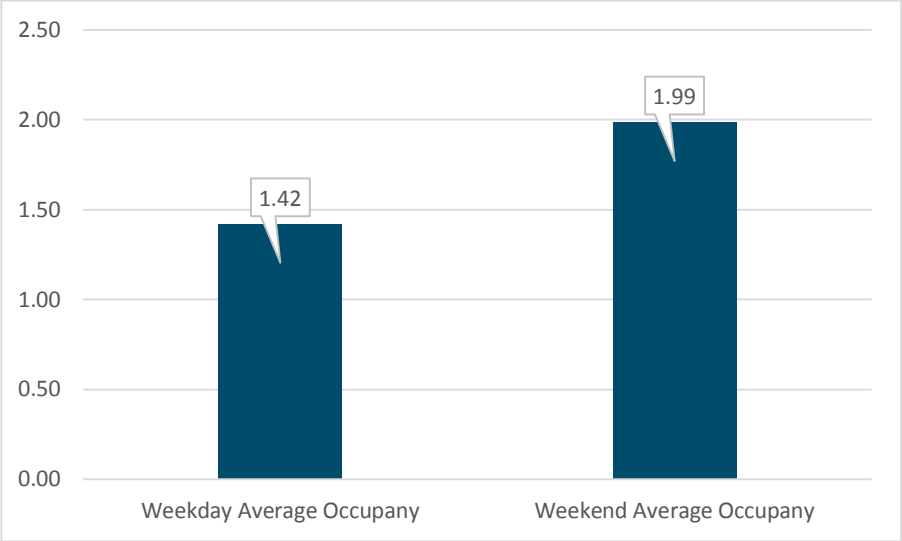
* Includes trailers
** Includes buses
***Motorcycles

VEHICLE PASSENGER OCCUPANCY

Peak-period passenger occupancy counts were also completed on SR-224 and SR-248. Both corridors and averaged together to develop a weekday and weekend average occupancy rate (see Figure 6). Occupancy rates were higher on the weekend than on the weekday. This suggests that many are already utilizing carpooling to access Park City for recreational and shopping trips on the weekends. Data collected by Ski Utah in 2012/2013 suggests that occupancy may be higher in the winter, especially to ski areas, where average occupancy was estimated at 3.1[3].

[3] Ski Utah Skier & snowboarder Survey: recap of 2012/13 Results, Wasatch Summit Transportation Model Presentation, RRC Associates, October 9, 2013.

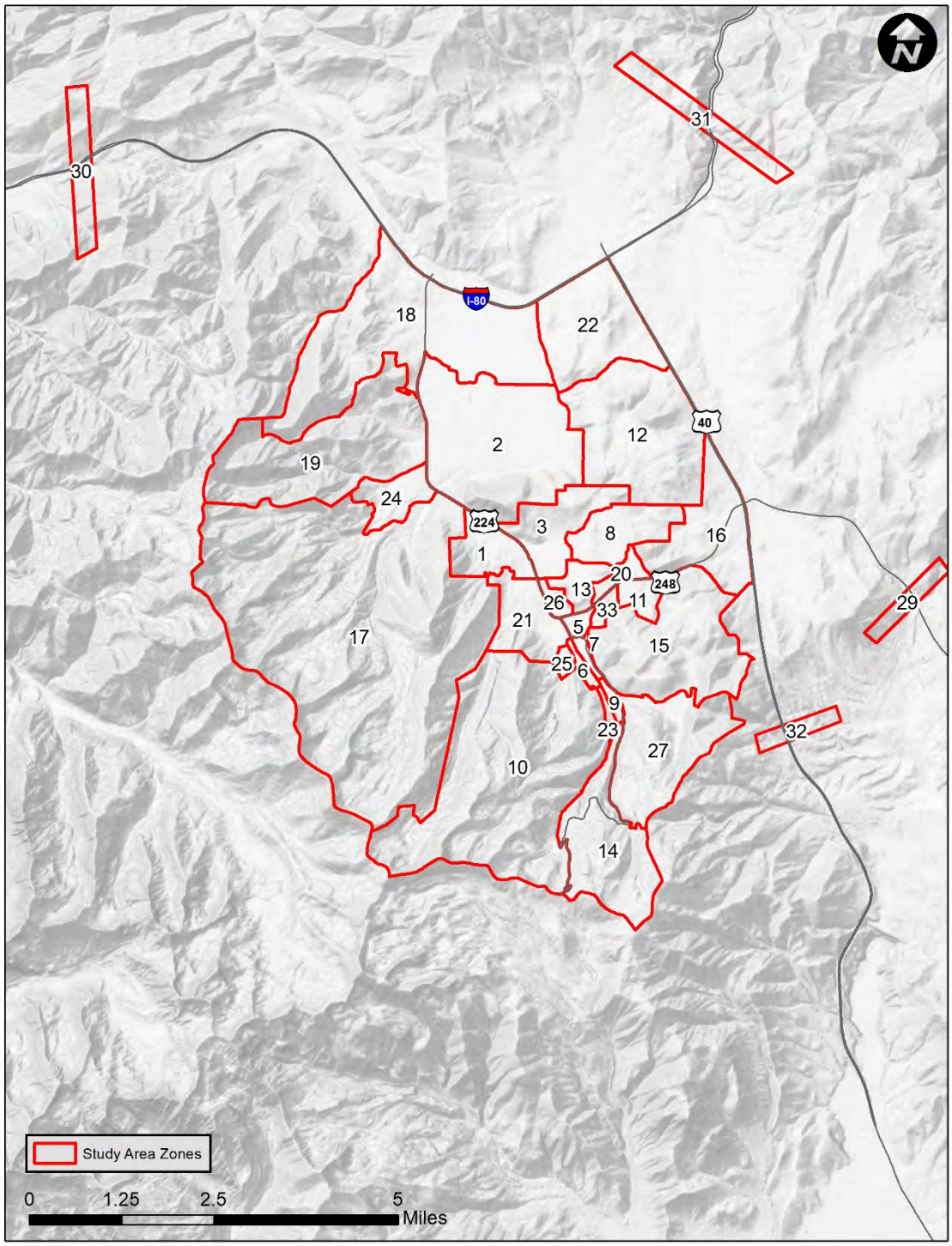
Figure 10: Average Peak Passenger Vehicle Occupancy



CELL PHONE & GPS DATA ANALYSIS

To better understand broader travel trends like common origins and destinations throughout the year, Fehr & Peers analyzed aggregated Global Positioning System (GPS) and cell phone data provided by Streetlight, a data collection firm. This data provides a clearer picture of how trends may or may not change based on season (summer and winter), and day type (weekday and weekend). For this analysis, the study area was broken out into 33 distinct zones (see Figure 11).

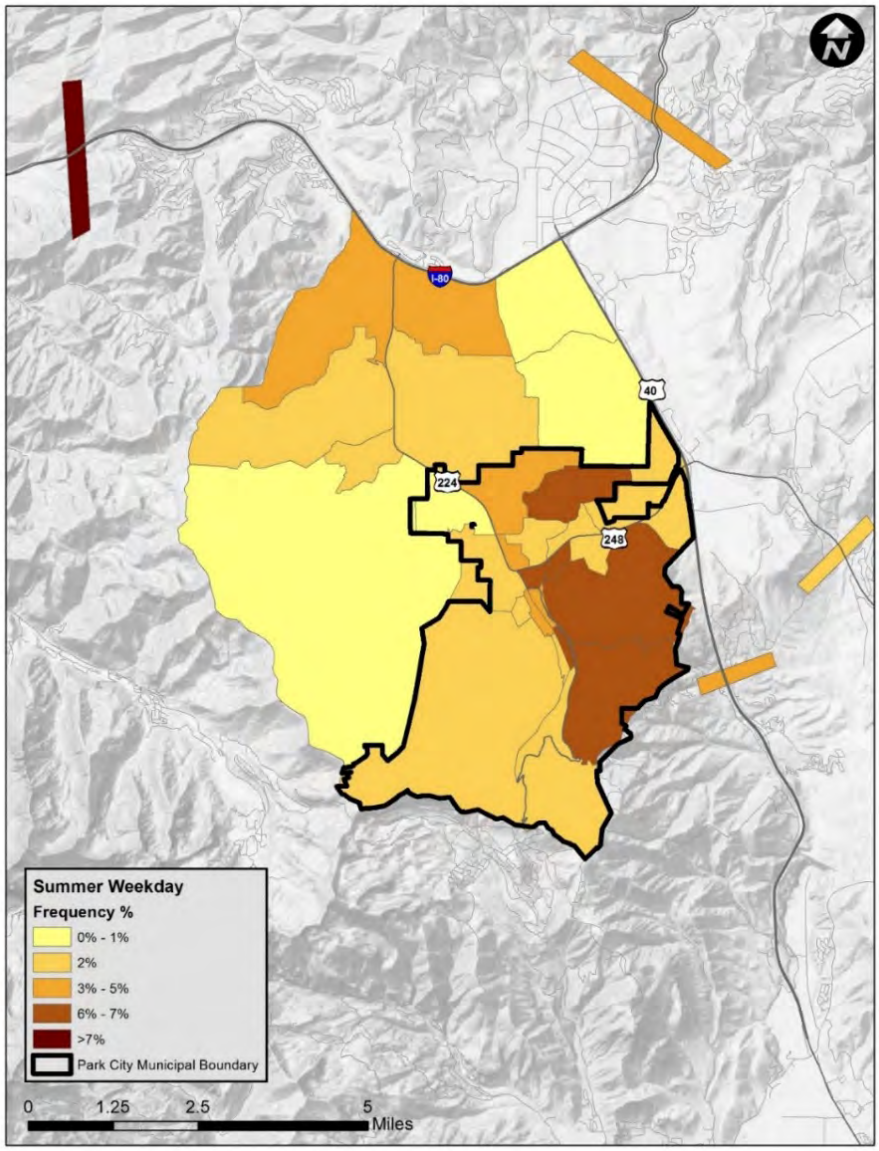
Figure 11: Park City Zones



Where Park City Trips Go

The following figures illustrate origin and destination (OD) frequencies during different time periods and season for each zone. OD frequencies show where trips frequently begin (origin) and end (destination). These maps are based on OD analysis where the origin began within the municipal boundaries of Park City.

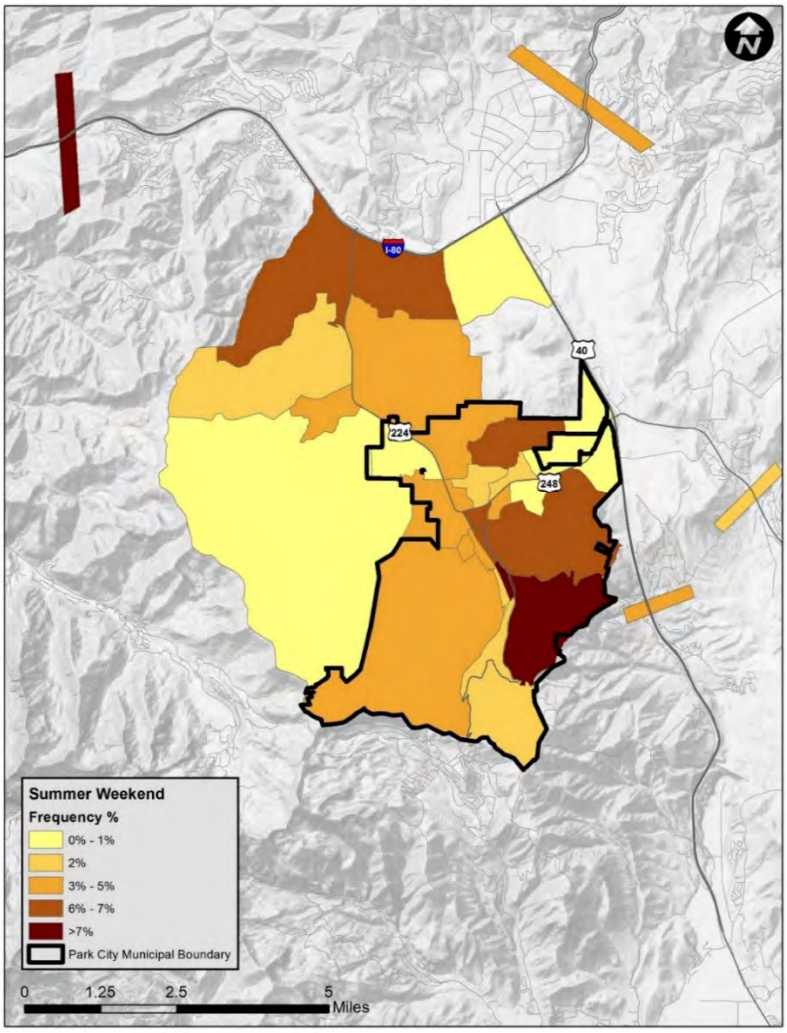
Figure 12: Where Park City Trips Go (Summer Weekday)



- The I-80 "gateway" zone has the highest frequency percentage for an individual zone

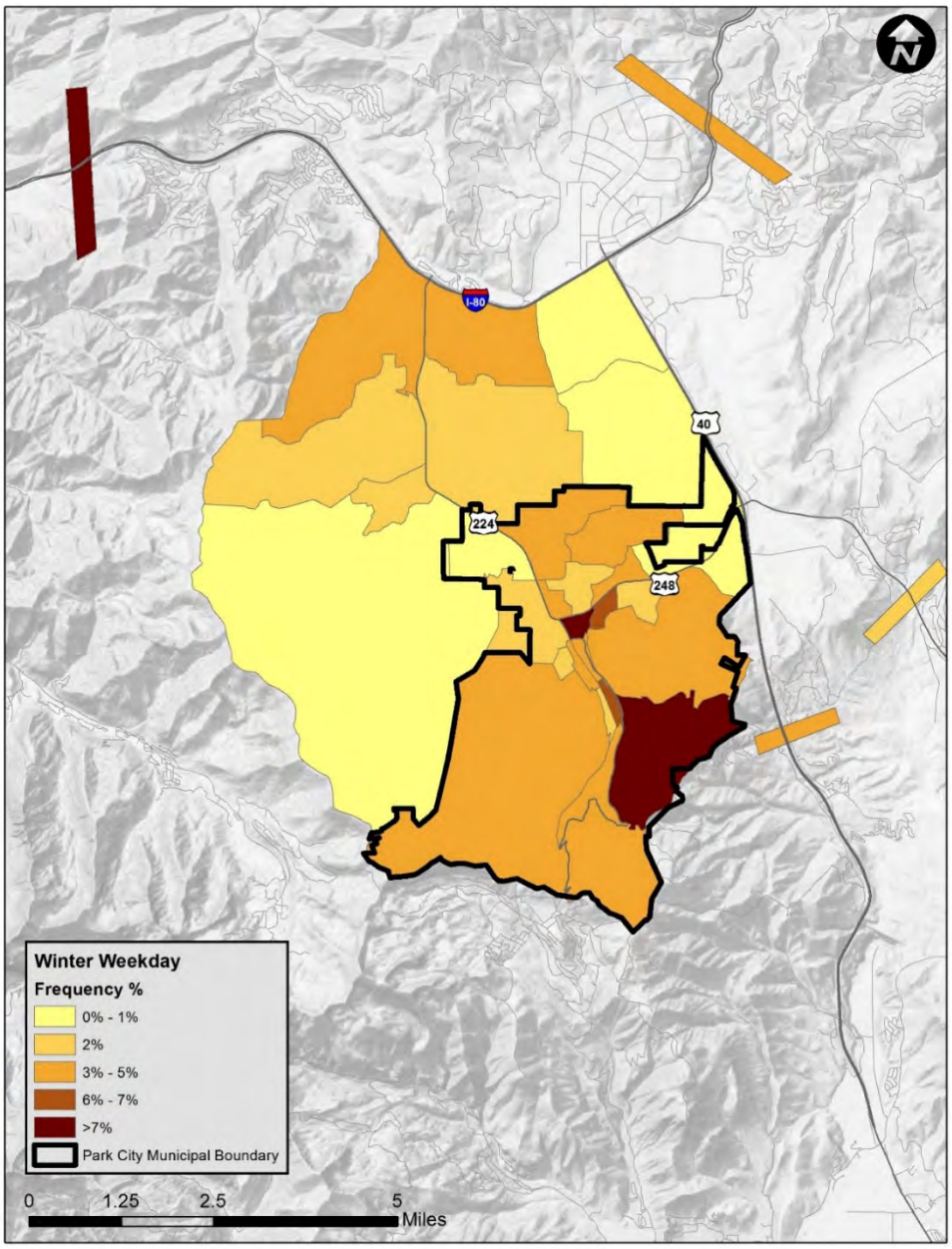
- Central Park City and the Deer Valley Resort area also have higher frequencies
- When added together zones 5, 6, 7, and 9, which represent Lower Park Avenue and Old Town Park City, make up approximately 21% of the frequency

Figure 13: Where Park City Trips Go (Summer Weekend)



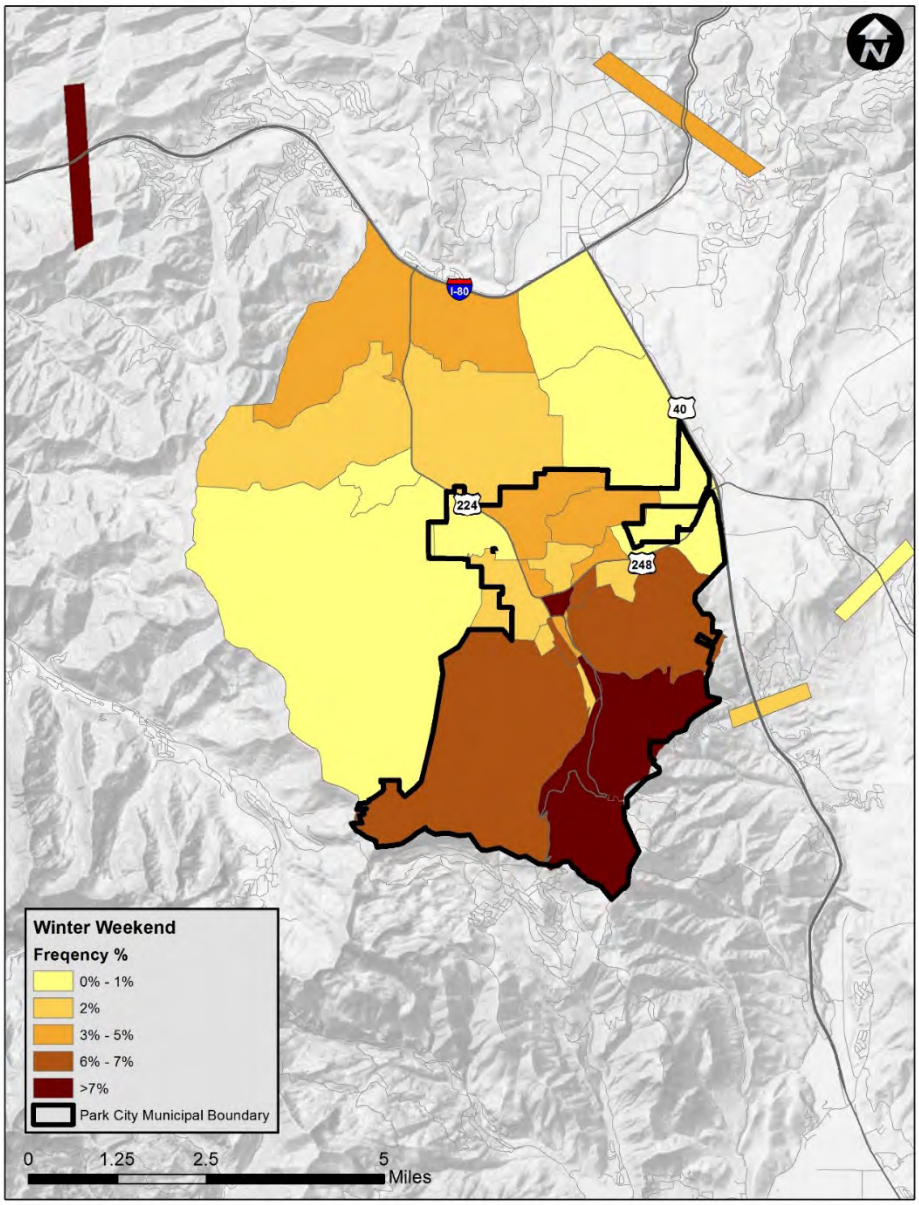
- The I-80 west gateway zone continues to have the highest frequency percentage
- Old Town Park City and Deer Valley and the Kimball Junction area also have higher frequency percentage
- When added together zones 5, 6, 7, and 9 make up approximately 21% of the frequency

Figure 14: Where Park City Trips Go (Winter Weekday)



- Similar to Summer weekdays, I-80 West has high frequencies. However, central Park City and Deer Valley each experience over 7% of OD frequency as well
- When added together zones 5, 6, 7, and 9 make up almost a quarter (23%) of the frequency

Figure 15: Where Park City Trips Go (Winter Weekend)

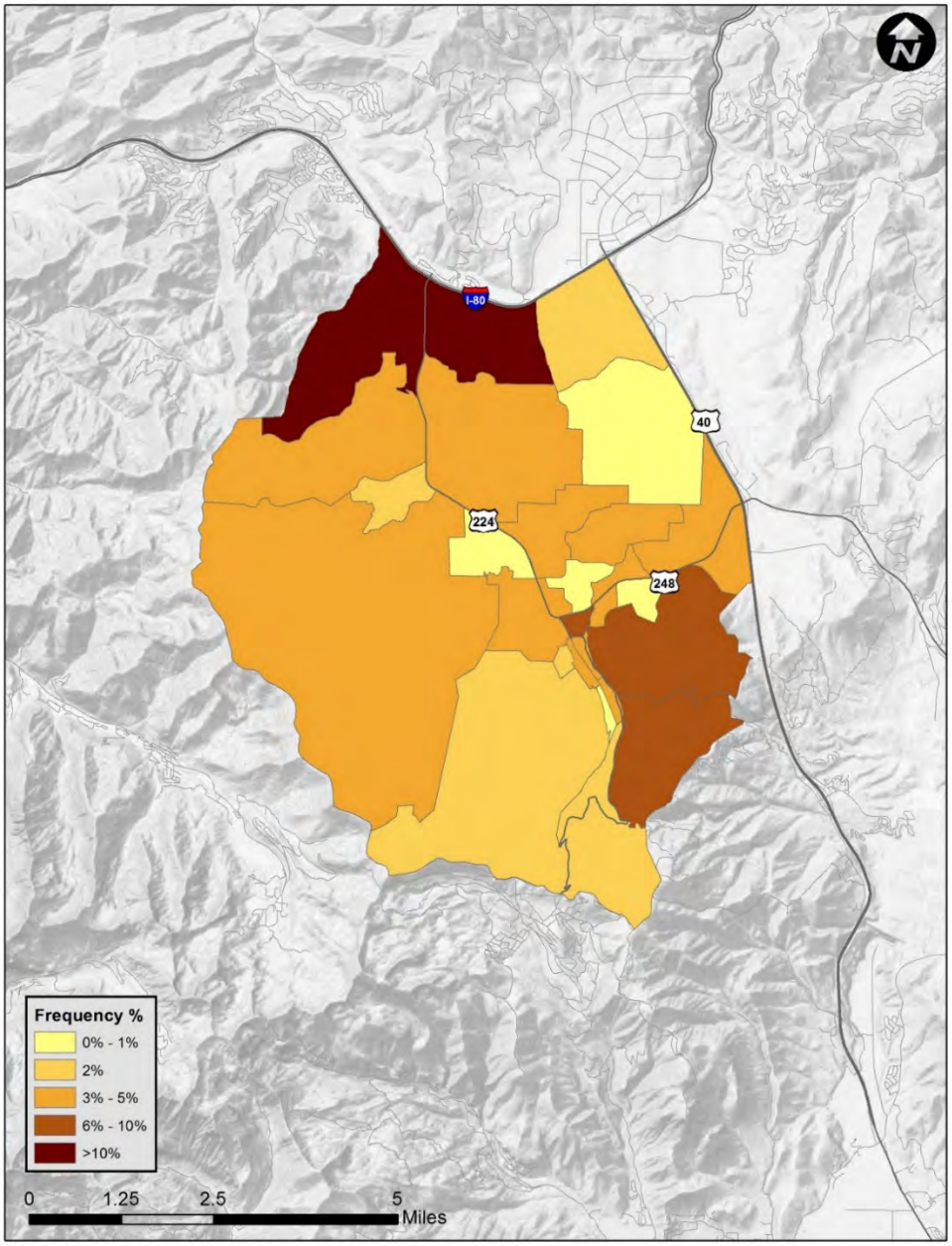


- Not surprisingly, resort areas make up a much higher OD frequency percentage on winter weekends than during other time periods
- When added together zones 5, 6, 7, and 9 make up more than a quarter (26%) of the frequency

Destination Zone Frequencies

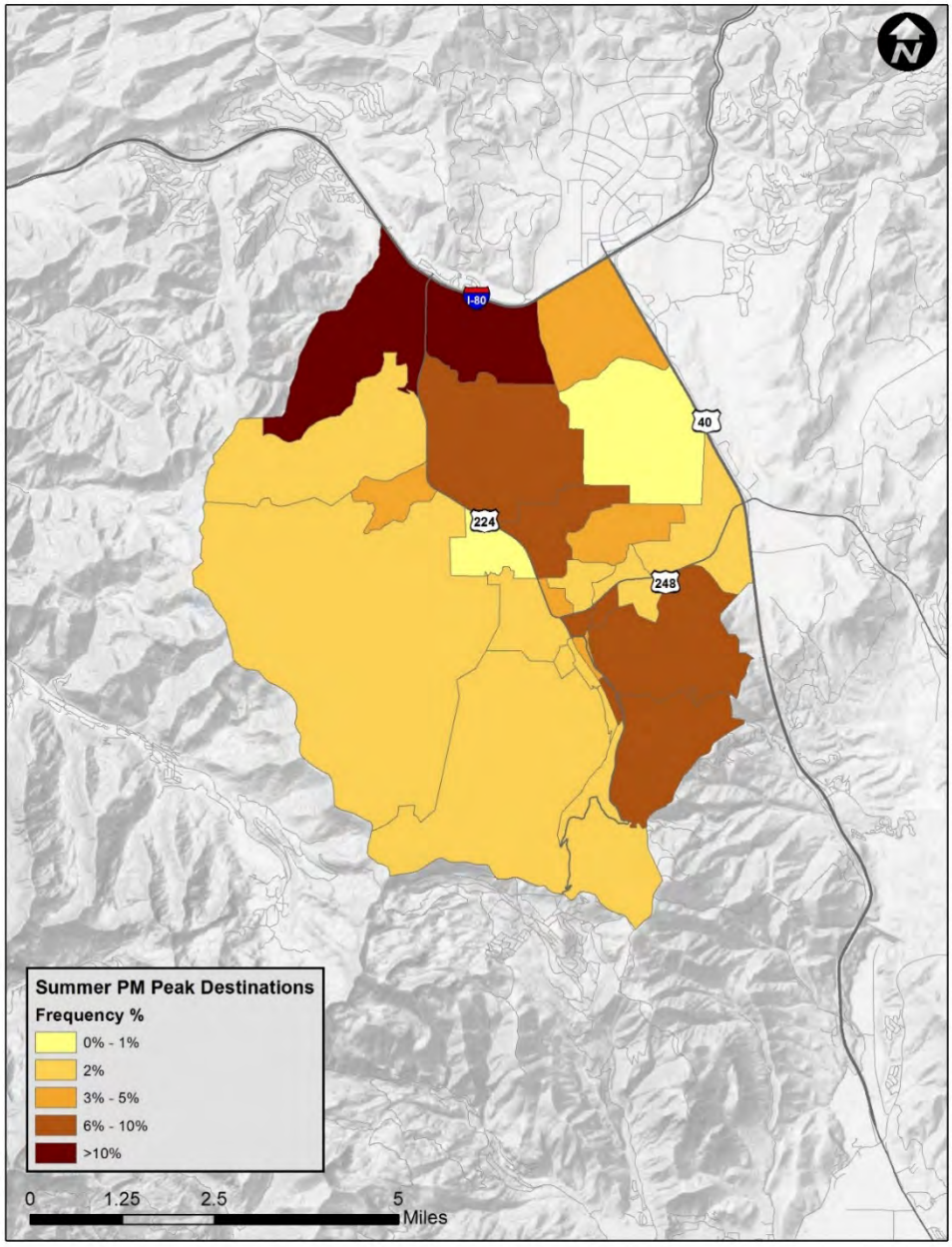
The following Figures provide an analysis of most frequent destination zones, regardless of origin location. This provides a quasi-destination attractiveness analysis based on different seasons, day of week, as well as different times of day (AM and PM peak). Gateway zones were removed from the analysis to provide a better understanding of destination frequencies within the study rather than zones that lead outside of the study area.

Figure 16: AM Peak Frequency Destinations (Summer)



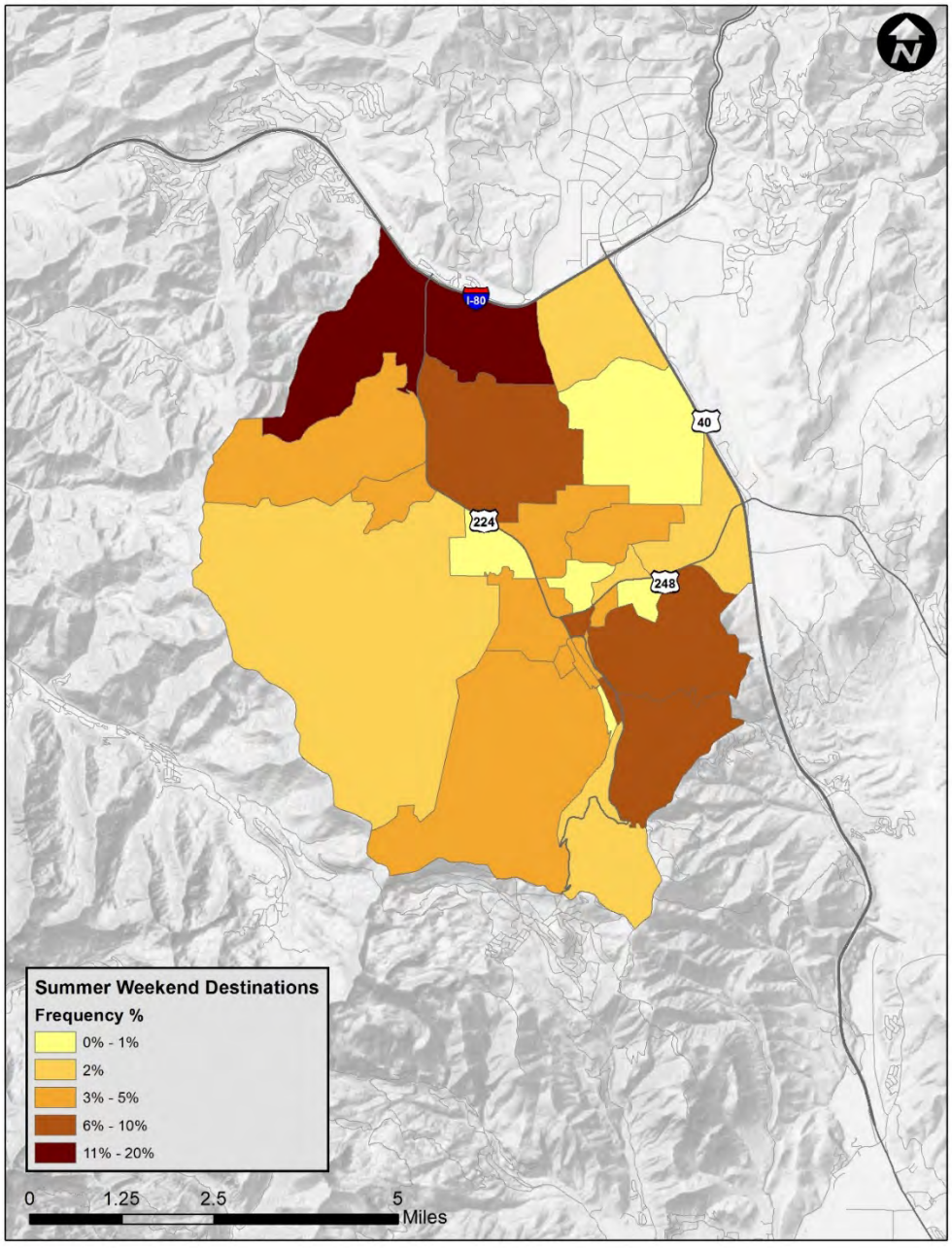
- The Kimball Junction zone has the highest percentage of destination frequencies (~17%)
- Central Park City and the Deer Valley Resort area also have higher AM Peak destination frequencies
- When added together zones 5, 6, 7, and 9 make up approximately 18% of the frequency

Figure 17 PM Peak Frequency Destinations (Summer)



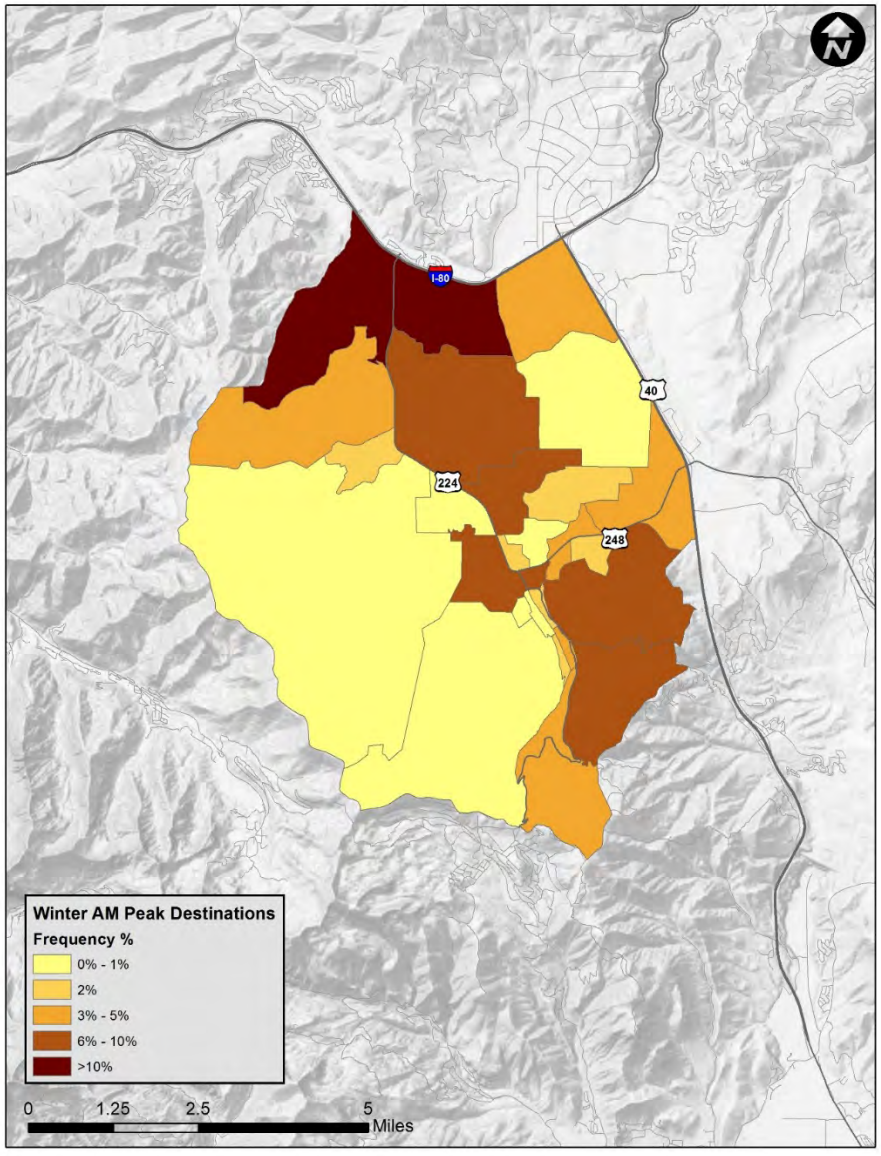
- Similar to the AM Peak period, the Kimball Junction zone has the highest destination frequency (~19%)
- When added together zones 5, 6, 7, and 9 make up approximately 18% of the frequency
- Snyderville, Old Town, Central Park City, and the Deer Valley Resort area also have higher AM Peak destination frequencies

Figure 18: Weekend Frequency Destinations (Summer)



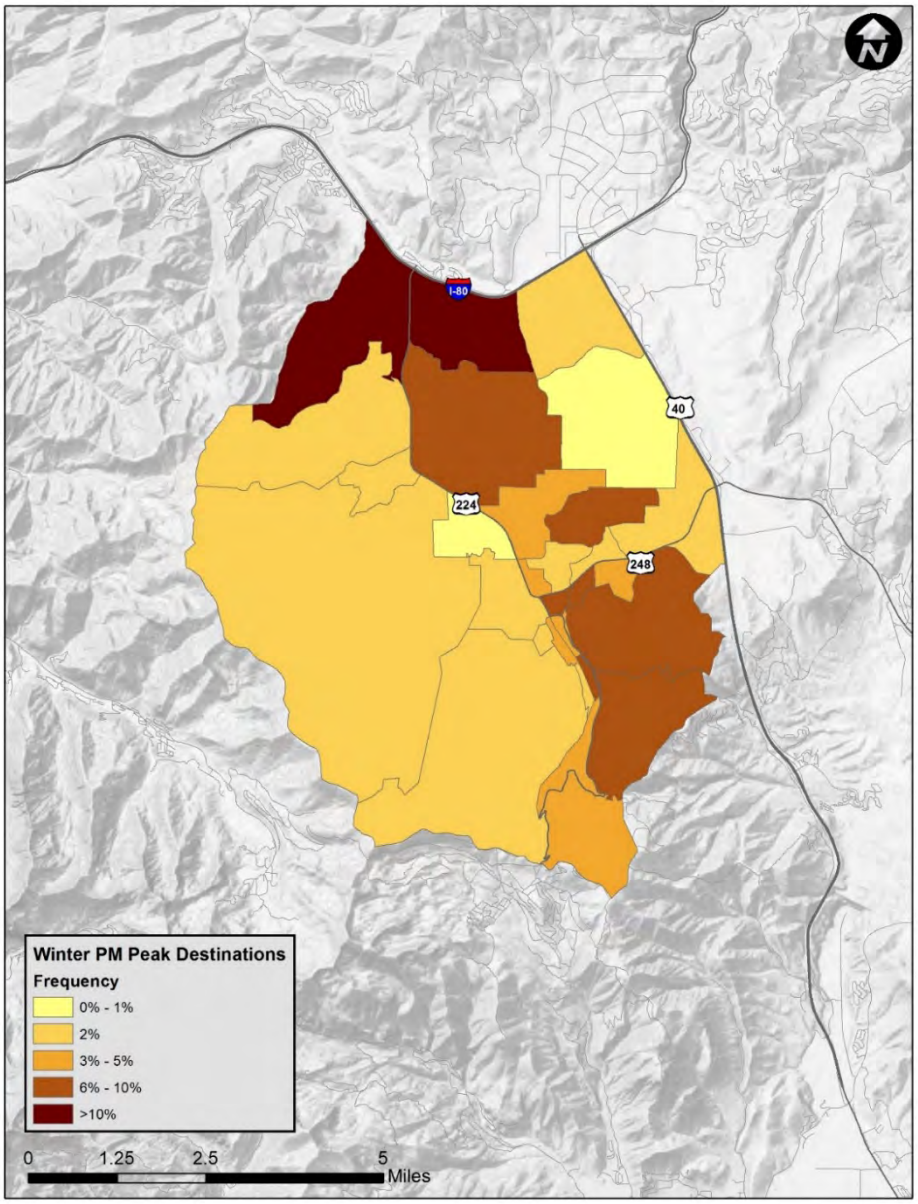
- The Kimball Junction zone continues to have the highest destination frequency of any zone (~ 20%)
- When added together zones 5, 6, 7, and 9 make up approximately 21% of the frequency

Figure 19: AM Peak Frequency Destinations (Winter)



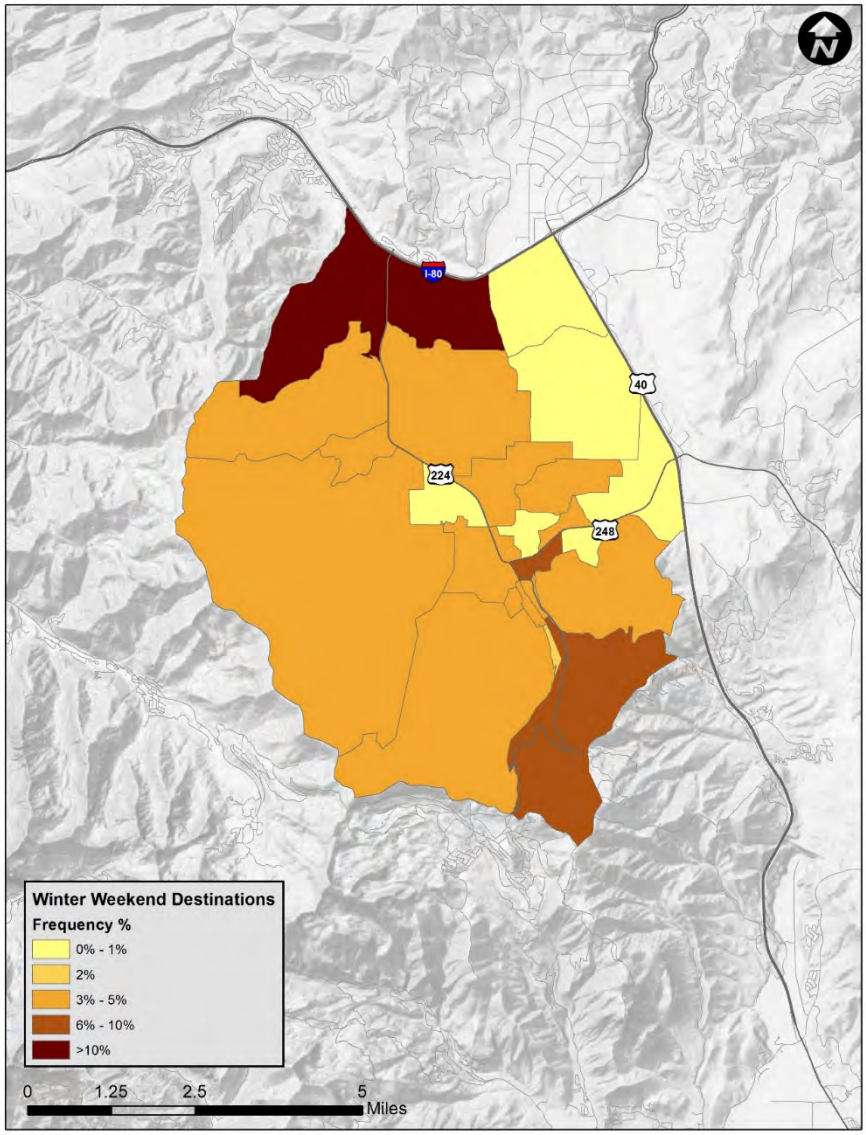
- The Kimball Junction zone continues to have the highest destination frequency of any zone (~24%)
- When added together zones 5, 6, 7, and 9 make up approximately 12% of the frequency

Figure 20: PM Peak Frequency Destinations (Winter)



- The Kimball Junction zone continues to have the highest destination frequency of any zone (~17%)
- When added together zones 5, 6, 7, and 9 make up approximately 22% of the frequency
- Snyderville, Central Park City, the Deer Valley Resort area, also have higher PM Peak destination frequencies

Figure 21: Weekend Frequency Destinations (Winter)



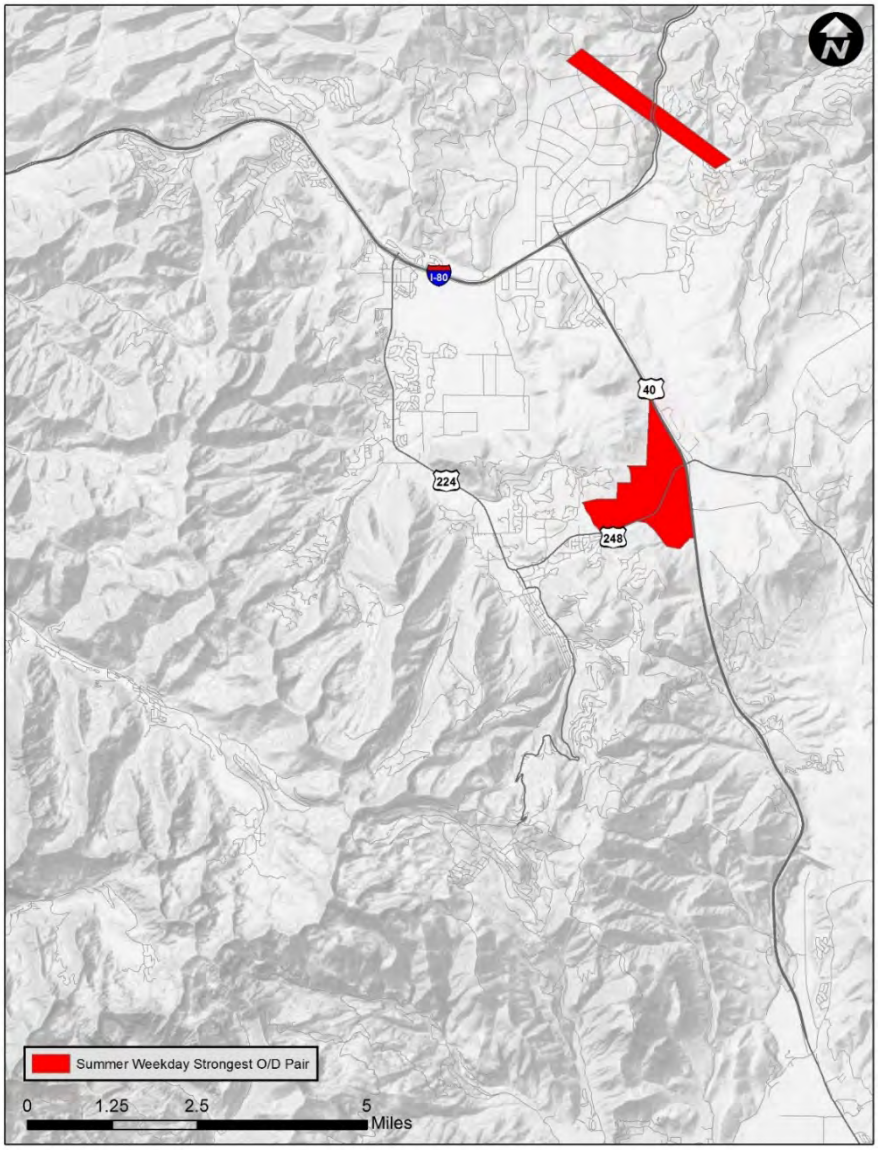
- The Kimball Junction zone continues to have the highest destination frequency of any zone, but is has a lower frequency percentage than other time periods (~17%)
- When added together zones 5, 6, 7, and 9 make up almost a quarter (23%)% of the frequency
- The Deer Valley Resort area zone has the second highest frequency (~6%)

- The central Park City zones also have relatively higher frequency percentages as well as Old Town Park City
- Frequency in other zones is more even than other time periods, except for those along the US-40 corridor

Origin/Destination Strongest Pairs

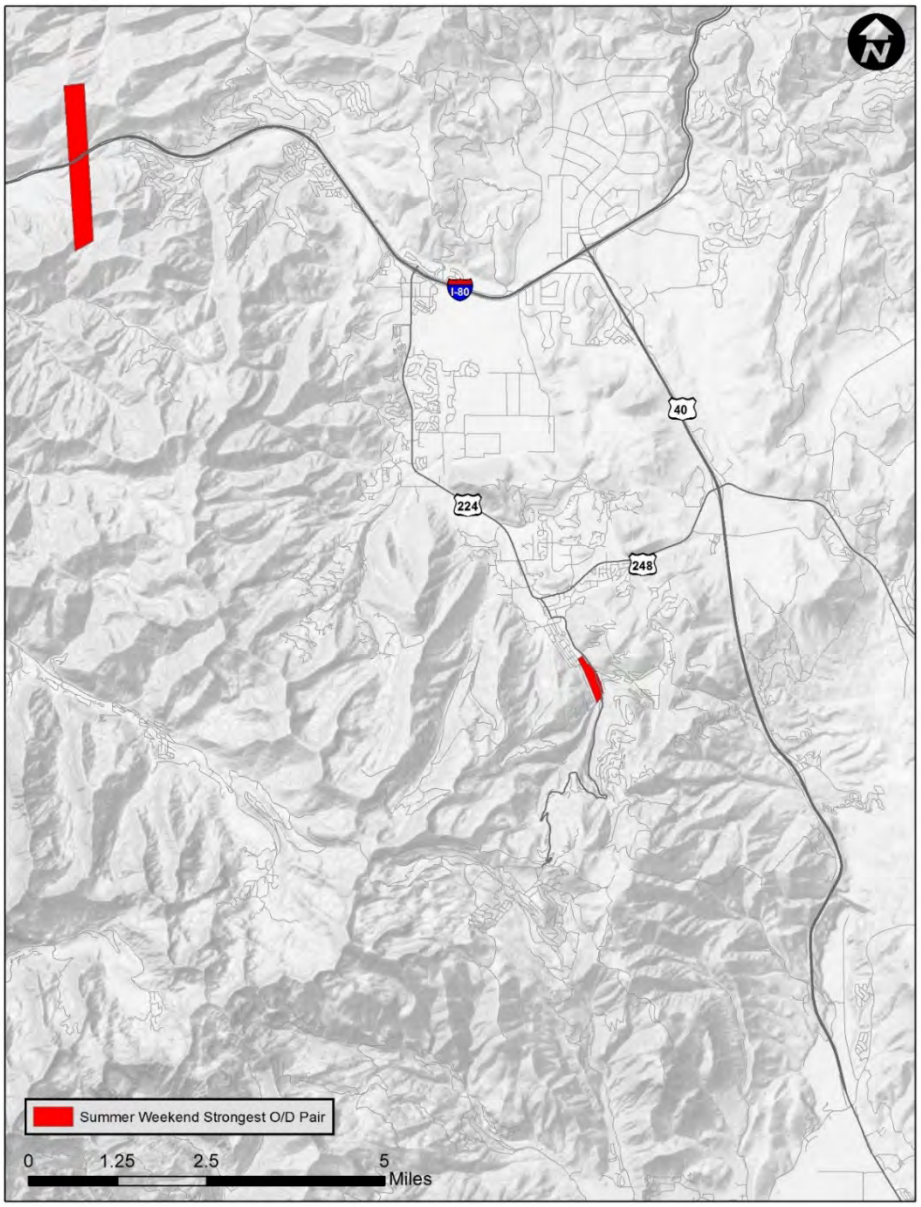
The following Figures demonstrate the strongest Origin and Destination (O/D) pairs when the origin begins within the municipal boundary of Park City. This highlights the two zones that have the strongest frequency relationship with one another.

Figure 22: Strongest O/D Pairs (Summer Weekday)



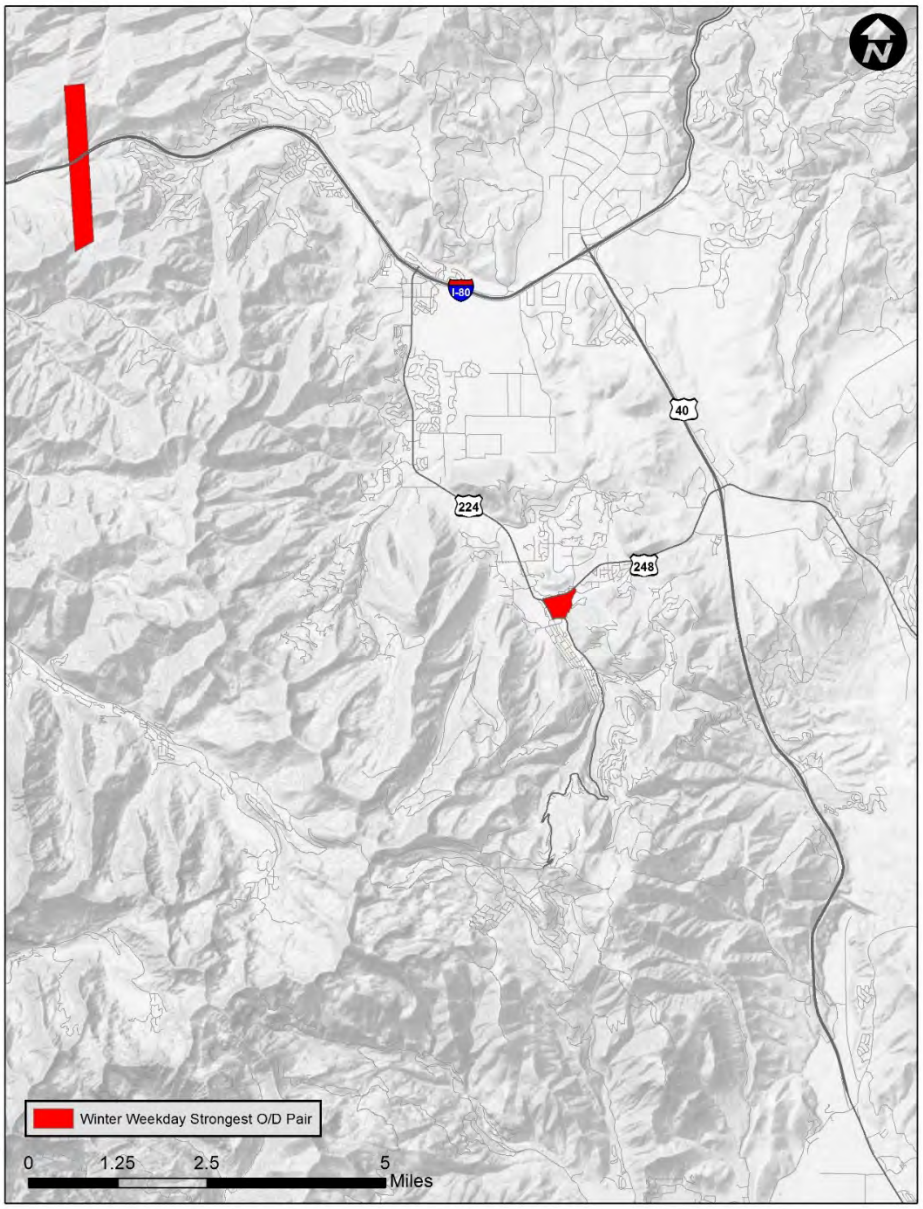
- Approximately 1.39% of total O/D frequencies go between zones 16 and 31. Zone 16 includes the Park City Medical Center and the Park City Ice Arena and Sports Complex. Zone 28 is the external gateway zone for I-80 East. It is important to note that while this pair had the highest frequency, it made up a low percentage (1.39%) and was only 0.01% higher than the next closest pair, which was between zone 5, which includes central Park City.

Figure 23: Strongest O/D Pairs (Summer Weekend)



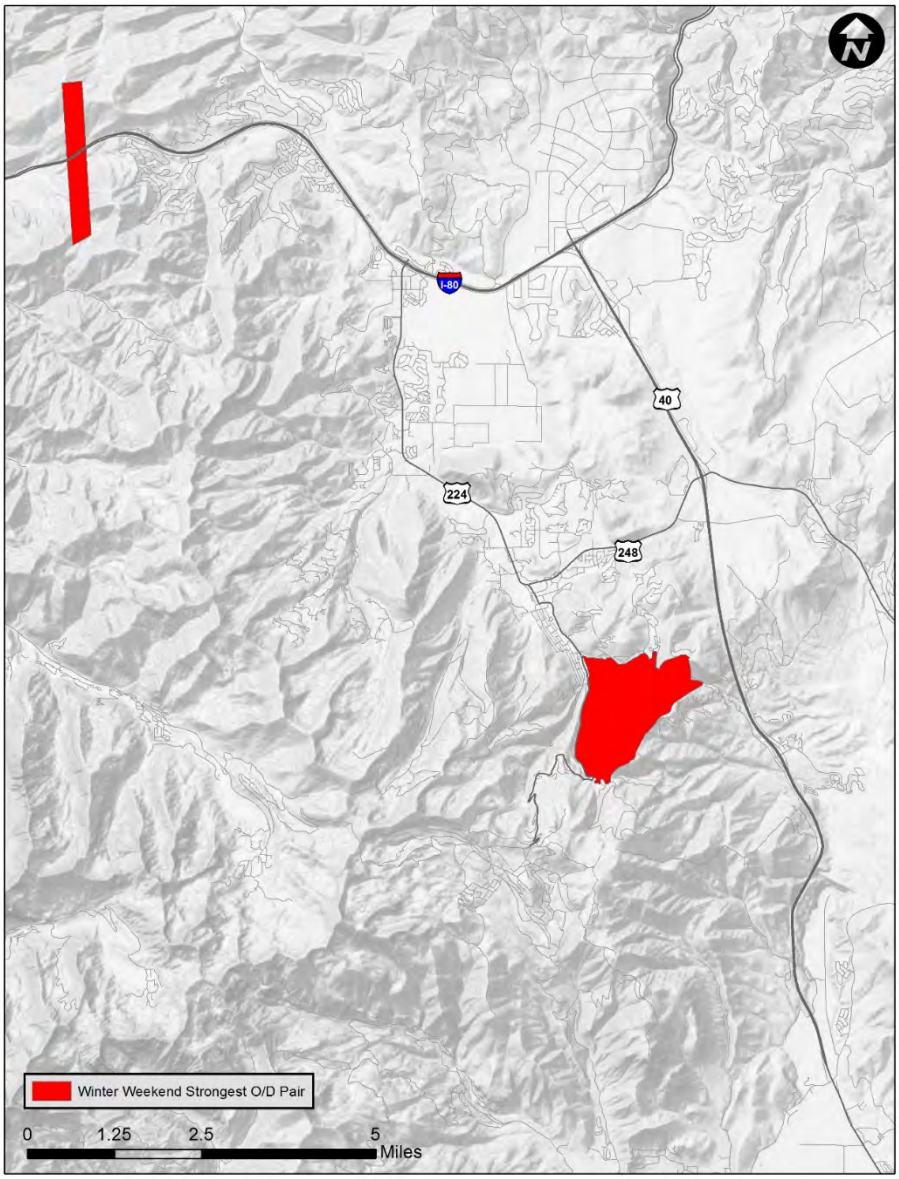
- Approximately 2.95% of total O/D frequencies go between zones 9 and 30. Zone 9 encompasses Old Town Park City. Zone 30 is the external gateway zone for I-80 west and most likely represents visitors from the Salt Lake Valley.

Figure 24: Strongest O/D Pairs (Winter Weekday)



- Approximately 1.39% of total O/D frequencies go between zones 5 and 30. Zone 5 includes the lower Park Avenue area (between Park Avenue and Bonanza Drive and Kearns Blvd. and Deer Valley Dr.). Zone 30 is the external gateway zone for I-80 West.

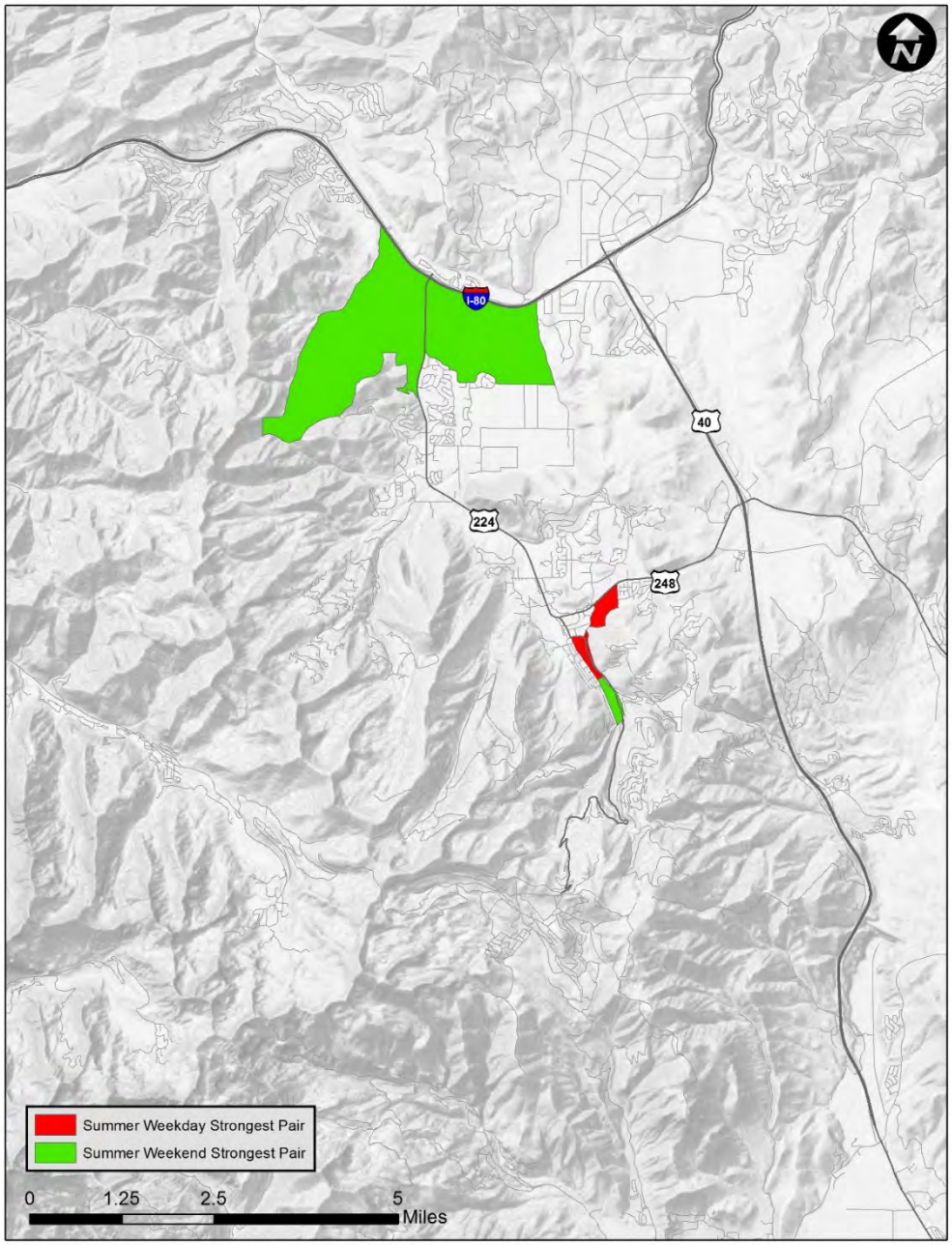
Figure 25: Strongest O/D Pairs (Winter Weekend)



- Approximately 1.54% of total O/D frequencies go between zones 27 and 30. Zone 27 encompasses the Deer Valley resort area. Zone 30 is the external gateway zone for I-80 west.
- This is a different strong pair than the one identified for summer weekdays, suggesting that season does play a role. However, it is worth noting that the pair is stronger in the summer than the winter pair

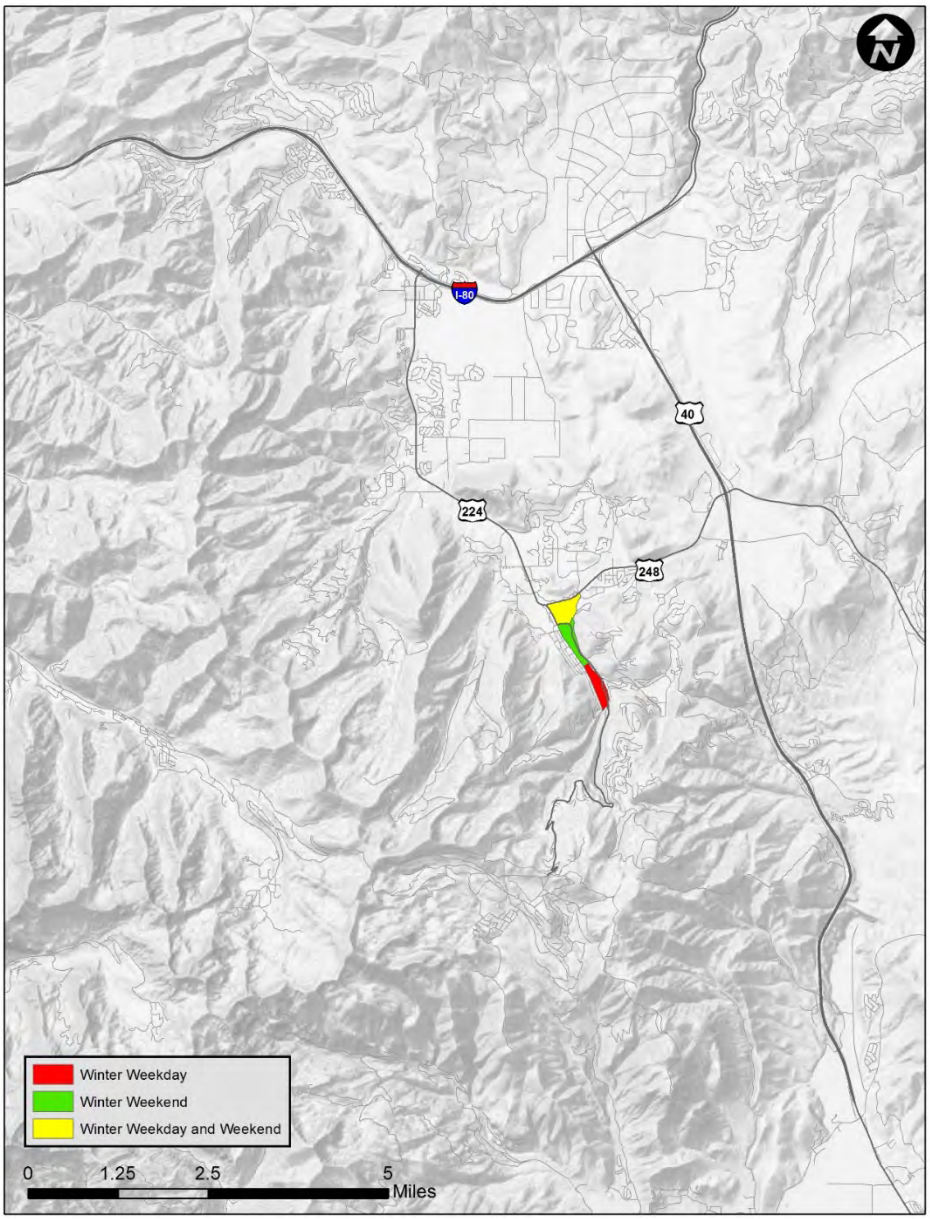
Figure 26 and Figure 27 provide similar maps to those above, but exclude external gateway zones in order to highlight strong pairs that occur within the study area. Again, these summarize pairs where the origin begins within the municipal boundary of Park City.

Figure 26: Strongest O/D Pairs Excluding External Gateways (Summer)



- Both zones during Summer weekdays are within the Park City municipal boundaries
- Kimball Junction and Old Town are the strongest pair form summer weekends (~1.83%)

Figure 27; Strongest O/D Pairs Excluding External Gateways (Winter)



- Central Park City is part of the strongest pair for both weekdays and weekends in the winter
- Each zone that makes up the strongest pair for both weekdays and weekends are within the Park City municipal boundary

EXISTING PUBLIC TRANSIT SERVICES

A key strategy in Transportation Demand Management programs is to encourage a shift in travel to the transit mode. To effectively accomplish this shift, it is crucial to understand the ability of current services to accommodate additional ridership and the service quality factors that affect the attractiveness of transit as a preferable mode. In addition, a review of existing transit ridership characteristics and patterns can yield useful insight into how travelers in the Park City area are already making use of this alternative mode.

PARK CITY TRANSIT

Transit service in Park City began in the winter of 1975-1976, and has grown to provide a robust free fixed-route and demand response service to Park City as well as many areas within western Summit County. Transit in the Park City and Summit County service areas is offered year-round. Fixed-route service is provided through three schedules – early winter, winter and non-winter (spring, fall and summer) – each of which is tailored to the seasonal variations experienced in a resort area. Figure 28 presents the winter route system, while Figure 29 provides the summer routes. The span of service (period of the day served) and frequency of the routes vary by season. Demand response service is available for seniors and disabled persons, and is offered throughout Summit County. In addition, a general public Dial-A-Ride program serves the Quinn's Junction area.

Historical Ridership and Service Levels

Table 4 illustrates total Park City Transit (PCT) ridership for calendar years 2007 through 2014. As shown, over this period annual ridership has decreased by a total of 10.3%, from 2,027,296 to 1,819,321 one-way passenger-trips. Over this period, 2014 experienced the lowest ridership to-date.

Ridership by Month

Table 5 illustrates the seasonal ridership trends by route for PCT routes during FY 2014-15. As shown, January generated the highest system-wide ridership levels with 376,185 one-way passenger trips. January's ridership was substantially higher than any other month, surpassing the next-highest month of ridership by 103,054, or 37.7%, passenger trips. The shoulder season months of November and May saw the lowest number of passenger trips (respectively 60,388 and 52,486 one-way passenger-trips). There was great variation throughout the months among the annual routes.

Figure 28: Summit County Existing Winter Transit Routes

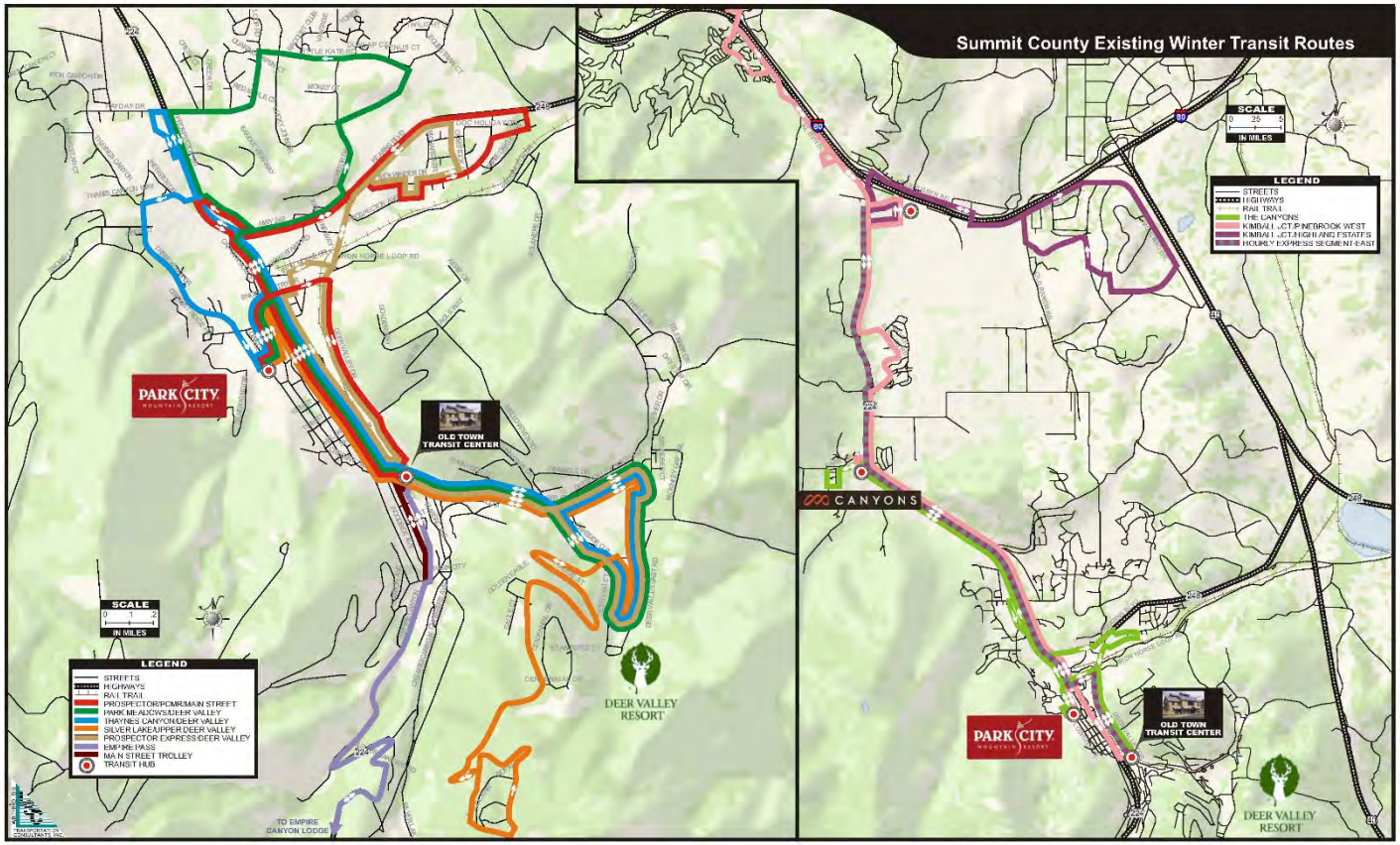


Figure 29: Summit County Existing Summer Transit Routes

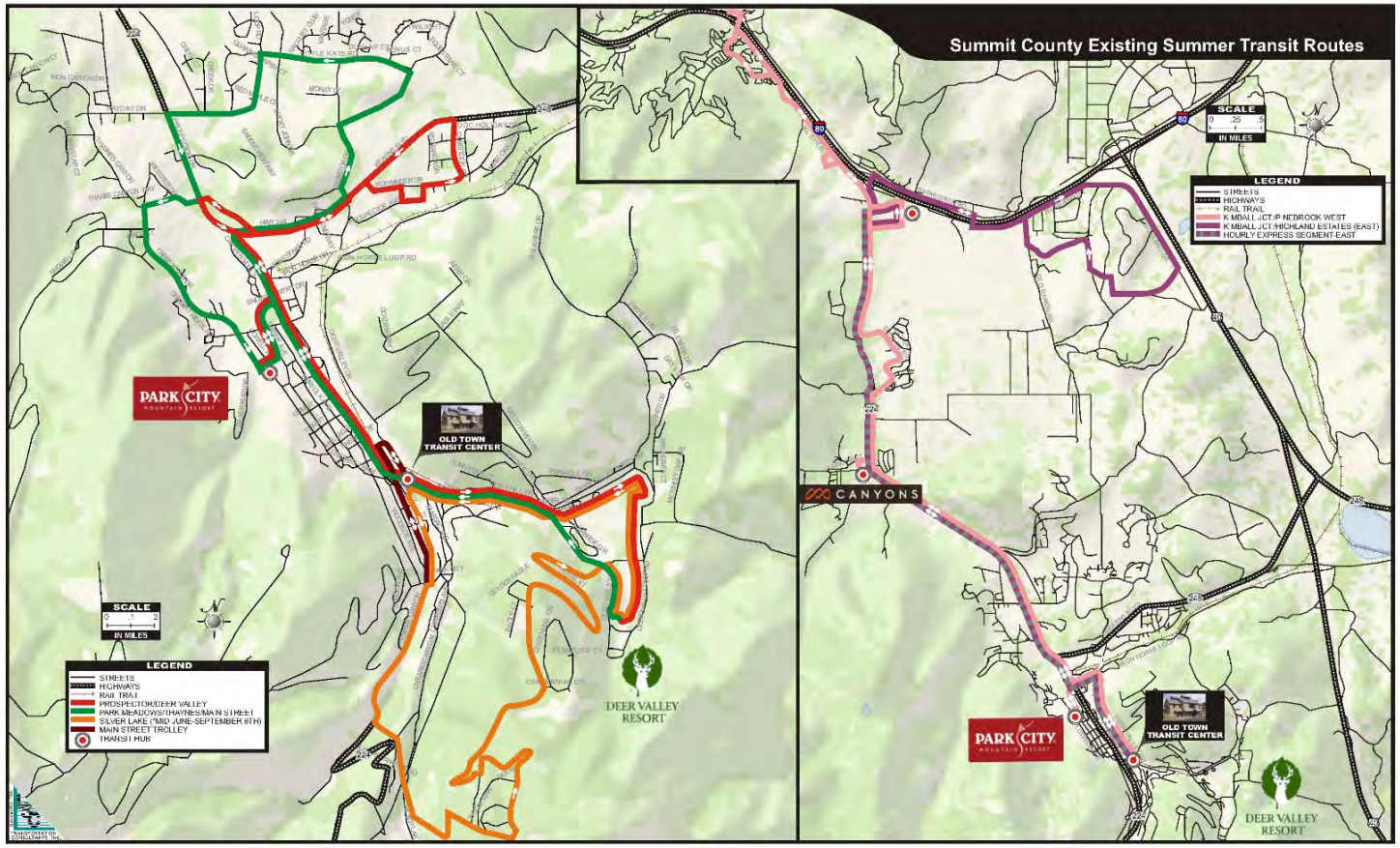


Table 4: Park City Transit Annual Ridership

Calendar Year	Ridership	% Change
2007	2,027,296	--
2008	2,133,996	5.3%
2009	1,923,716	-9.9%
2010	1,887,642	-1.9%
2011	1,984,095	5.1%
2012	1,878,073	-5.3%
2013	1,864,171	-0.7%
2014	1,819,321	-2.4%

Note 1: Ridership includes fixed route and demand response services
Source: Park City Transit

The Canyons' May ridership of 1,614 passenger-trips increased to 20,581 and 20,284 in January and February, making it the line with the greatest variation in ridership. Kimball Junction had a low of 22,753 passenger-trips in May, and a high of 72,312 in January.

Ridership by Route

As shown in Table 5, City routes generated 839,130 passenger-trips, which was far more than any other route, amounting to 47% of total PCT ridership. Kimball Junction route (the Pink Route and Brown Route) also experienced high levels of ridership, constituting 27.5% of total ridership (491,365 one-way passenger-trips). The Silver Lake, Canyons, and Special Services routes each made up respectively 5.7, 5.5, and 5.3% of total ridership. There is substantial difference in ridership on Early AM and Late PM routes, with the services drawing respectively 18,191 and 12,412 one-way passenger-trips. Aside from the Late PM routes, ADA and Dial-A-Ride generated the least amount of ridership (only 0.8% of total ridership), with 13,782 one-way passenger trips.

Table 5: FY 2014-15 Park City Monthly Ridership by Route

	Park City Services							Summit County Services							
	City Routes(1)	Empire Pass (Lavender)	Silver Lake (Orange)	Downtown Trolley	Early AM	Late PM	Total Park City Services	The Canyons (Lime)	Kimball Junction (Pink and Brown)	Total Summit County Services	Special Services	ADA and Dial-A-Ride	Total Systemwide Ridership	FY 2011-12 Ridership by Month	% Change FY 11-12 to FY 14-15
July	55,824	3,459	4,357	9,088	--	--	72,728	4,726	41,005	45,731	2,988	1,194	241,100	116,291	107.3%
August	42,503	3,053	4,171	8,189	--	--	57,916	3,799	35,740	39,539	21,402	1,109	217,421	155,822	39.5%
September	33,900	113	207	3,896	--	--	38,116	3,198	29,413	32,611	276	1,171	142,901	67,718	111.0%
October	27,827	--	--	5,463	--	--	33,290	2,507	27,152	29,659	181	1,191	127,270	59,160	115.1%
November	27,293	296	904	2,865	177	187	31,722	3,083	24,409	27,492	179	995	119,602	63325	88.9%
December	104,966	7,741	14,309	5,275	3,523	2,259	138,073	13,352	50,998	64,350	553	1,062	406,461	236068	72.2%
January	164,335	10,532	24,546	6,867	5,388	3,821	215,489	20,581	72,312	92,893	67,184	619	684,567	420,067	63.0%
February	141,196	8,523	22,432	6,752	4,307	3,072	186,282	20,284	63,613	83,897	1,810	1,142	543,310	307,885	76.5%
March	138,364	8,355	22,284	7,081	4,044	2,685	182,813	17,480	62,397	79,877	--	1,396	526,776	277163	90.1%
April	38,819	1,063	3,778	4,753	752	388	49,553	3,745	27,426	31,171	--	1,371	162,819	96678	68.4%
May	23,553	--	--	3,094	--	--	26,647	1,614	22,753	24,367	--	1,454	103,482	55496	86.5%
June	40,550	3,629	3,883	5,576	--	--	53,638	3,951	34,147	38,098	173	1,078	184,723	77,328	138.9%
Total Ridership by Route	839,130	46,764	100,871	68,899	18,191	12,412	1,086,267	98,320	491,365	589,685	94,746	13,782	1,784,480	1,933,001	-7.7%

Table 5: FY 2014-15 Park City Monthly Ridership by Route

	Park City Services								Summit County Services							
% of Systemwide Total Ridership	47.0%	2.6%	5.7%	3.9%	1.0%	0.7%	60.9%		5.5%	27.5%	33.0%	5.3%	0.8%		100.0%	
FY 2011-12 Ridership by Route	922,743	34,861	103,301	66,309	17,895	16,756	1,161,865		88,962	505,118	594,080	162,637	14,419		3,688,946	
% Change FY 11-12 to FY 14-15	-9.1%	34.1%	-2.4%	3.9%	1.7%	-25.9%	-6.5%		10.5%	-2.7%	-0.7%	-41.7%	-4.4%		-51.6%	

Source: Park City Transit FY 2014-15 Passenger Counts

Note 1: City routes consist of the Park Meadows, Thaynes Canyon and Prospector Square routes.

Boardings by Time of Day

Boarding counts performed by PCT during the summer (4/4/14 through 11/20/14) and winter (11/21/14 through 4/12/15) months provide a valuable source of information on a variety of characteristics regarding transit use. The winter count data shown in Table 6 and Figure 30 presents boarding by hour data for PCT routes (separated by City and County services). As shown, Summit County routes experienced the highest portion of boarding (20.7 percent) from 3-5 PM. Other times with high passenger boardings along County routes were 1-3 PM (13.2 percent of boardings), and 9-11 AM (13.1 percent of boardings). Park City routes experienced the highest portion of boarding (17.5 percent) from 3-5 PM. Other times with high passenger boardings along City routes were 5-7 PM (15.4 percent of boardings), 1-3 PM (12.5 percent of boardings), and 7-9 PM (12.0 percent of boardings). While City routes saw 3.2 percent of boarding after 11PM, County routes only had 1.2 percent of boarding during this time period. For the overall system, 3-5 PM was the busiest winter boarding time, making up 18.5 percent of total boardings.

Table 6: Winter Boardings by Time of Day and Service Type

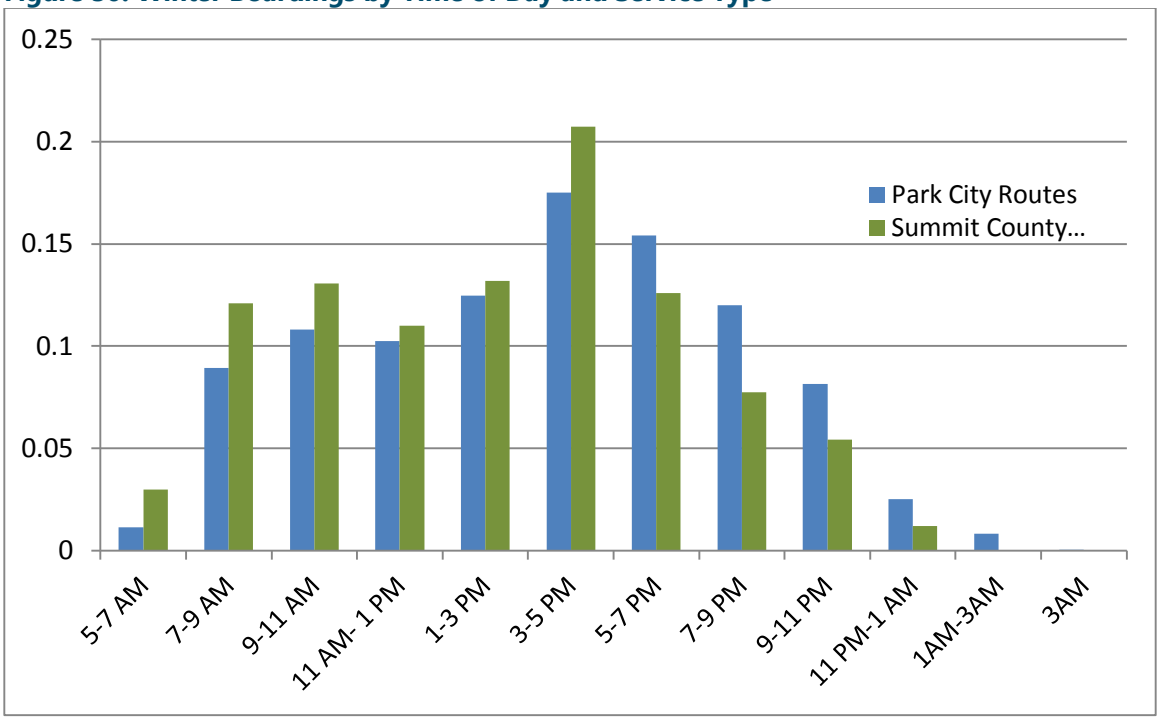
11/21/14 - 4/12/15							
	Park City Routes		Summit County Routes		Total Routes	
	#	%	#	%	#	%
5-7 AM	5,284	1.1%	6,241	3.0%	11,525	1.7%
7-9 AM	41,213	8.9%	25,193	12.1%	66,406	9.9%
9-11 AM	49,850	10.8%	27,200	13.1%	77,050	11.5%
11 AM- 1 PM	47,362	10.3%	22,934	11.0%	70,296	10.5%
1-3 PM	57,632	12.5%	27,475	13.2%	85,107	12.7%
3-5 PM	80,840	17.5%	43,166	20.7%	124,006	18.5%
5-7 PM	71,168	15.4%	26,249	12.6%	97,417	14.5%
7-9 PM	55,400	12.0%	16,093	7.7%	71,493	10.7%
9-11 PM	37,669	8.2%	11,276	5.4%	48,945	7.3%
11 PM-1 AM	11,575	2.5%	2,485	1.2%	14,060	2.1%
1 AM-3 AM	3,768	0.8%	0	0.0%	3,768	0.6%
3 AM	24	0.0%	0	0.0%	24	0.0%

Table 6: Winter Boardings by Time of Day and Service Type

11/21/14 - 4/12/15								
		Park City Routes			Summit County Routes		Total Routes	
Total Respondents		461,785	100.0%		208,312	100.0%	670,097	100.0%

Source: PCT Ridership Data from 11/21/14 to 4/12/15

Figure 30: Winter Boardings by Time of Day and Service Type



The equivalent survey data for the summer is shown in Table 7 and

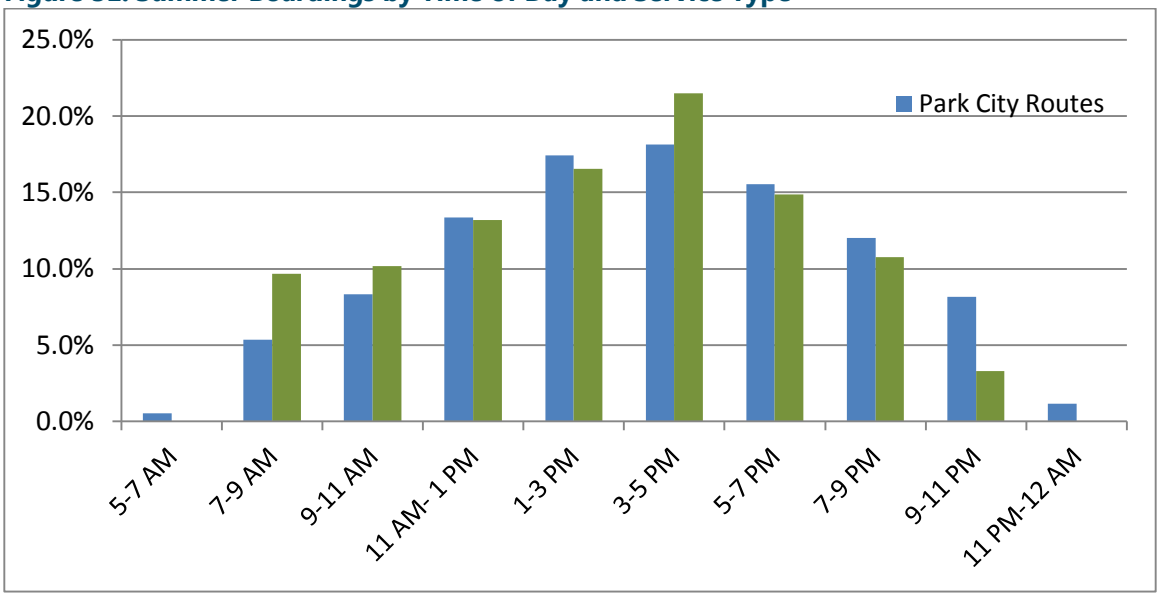
Figure 31. As shown, Summit County routes experienced the highest portion of boarding (21.5 percent) from 3-5 PM. Other times with high passenger boardings along County routes were 1-3 PM (16.6 percent of boardings), and 5-7 PM (14.8 percent of boarding s). Park City routes experienced the highest portion of boarding from 3-5 PM (18.1 percent) and from 1-3 PM (17.4 percent). For the overall system, 3-5 PM was the busiest summer boarding time, making up 19.3 percent of total boardings.

Table 7: Summer Boardings by Time of Day and Service Type

11/21/14 - 4/12/15								
		Park City Routes			Summit County Routes		Total Routes	
		#	%		#	%	#	%
5-7 AM		1,404	0.5%		6	0.0%	1,410	0.3%
7-9 AM		13,988	5.3%		13,859	9.7%	27,847	6.9%
9-11 AM		21,887	8.3%		14,627	10.2%	36,514	9.0%
11 AM- 1 PM		34,997	13.3%		18,929	13.2%	53,926	13.3%
1-3 PM		45,687	17.4%		23,764	16.6%	69,451	17.1%
3-5 PM		47,563	18.1%		30,839	21.5%	78,402	19.3%
5-7 PM		40,801	15.6%		21,317	14.8%	62,118	15.3%
7-9 PM		31,507	12.0%		15,456	10.8%	46,963	11.6%
9-11 PM		21,456	8.2%		4,757	3.3%	26,213	6.5%
11 PM-12 AM		3,080	1.2%		33	0.0%	3,113	0.8%
Total Respondents		262,370	100.0%		143,587	100.0%	405,957	100.0%

Source: PCT Ridership Data from 11/21/14 to 4/12/15

Figure 31: Summer Boardings by Time of Day and Service Type



Ridership by Stop (Boarding & Alighting)

PCT's summer, 2014 and winter, 2015 counts also grant insight into stops with high passenger activity. Table 8 illustrates the most common boarding and alighting locations for Park City Transit during the winter period of 2015. As shown, the most prevalent boarding locations were Old Town Transit Center and Park City Mountain Resort, constituting respectively 18.8 and 12.8 percent of total winter boardings. Other popular boarding locations were the Town Lift and Snow Park Lodge. The most common alighting location was Park City Mountain Resort, with 12.9 percent of total alighting. Other common alighting locations were the Town Lift, Fresh Market, and Snow Park Lodge.

Similarly, Table 9 shows boarding and alighting trends for Park City Transit during the summer period. As illustrated, the most common summer boarding location was Old Town Transit Center, selected by 19.2 percent of total respondents. Other popular boarding locations were Park City Mountain Resort and Park Ave Condos. The most common alighting location was also Old Town Transit Center, with 16.6 percent of total alighting. Other common alighting locations were the Fresh Market and Park City Mountain Resort.

Table 8: PCT Busiest Boarding and Alighting Locations in Winter

11/21/14 - 4/12/15					
	Alighting			Boarding	
Stop	***#***	***%***	***Stop***	***#***	***%***
Old Town Transit Center	165,913	18.8%	Park City Mountain Resort	112,710	12.9%
Park City Mountain Resort	112,758	12.8%	Town Lift	47,884	5.5%
Town Lift	40,945	4.6%	Fresh Market	51,717	5.9%
Snow Park Lodge	49,803	5.6%	Snow Park Lodge	44,159	5.1%
Park Ave Condos	29,328	3.3%	Park Ave Condos	31,657	3.6%
Fresh Market	28,422	3.2%	Canyons	44,482	5.1%
Canyons	46,244	5.2%	Newpark	18,010	2.1%
Montage	15,014	1.7%	Edelweiss Haus	14,811	1.7%
PC Marriott	14,447	1.6%	Tanger Outlets	14,802	1.7%
Newpark	14,410	1.6%	PC Marriott	13,745	1.6%
Tanger Outlets	11,241	1.3%	Peaks Hotel	13,576	1.6%
Lunchroom Shop	11,228	1.3%	Montage	10,858	1.2%
7-11 Park Ave	11,062	1.3%	All Seasons	9,664	1.1%
All Seasons	10,098	1.1%	Lunchroom Shop	9,626	1.1%
Peaks Hotel	9,163	1.0%	Redstone	9,490	1.1%
Other	312,788	35.4%	Other	424,206	48.7%
Total	882,864	100.0%	Total	871,397	100.0%

Source: PCT Ridership Data from 11/21/14 to 4/12/15

Table 9: APC Busiest Boarding and Alighting Locations in the Summer

4/4/14 - 11/20/14					
	Alighting			Boarding	
Stop	***#***	***%***	***Stop***	***#***	***%***
Old Town Transit Center	79,080	19.2%	Old Town Transit Center	68,110	16.6%
Park City Mountain Resort	35,914	8.7%	Fresh Market	34,708	8.5%
Park Ave Condos	26,280	6.4%	Park City Mountain Resort	35,449	8.7%
Newpark	19,799	4.8%	Newpark	23,158	5.7%
Redstone	14,941	3.6%	Canyons	12,948	3.2%
Town Lift	15,480	3.8%	Park Ave Condos	10,742	2.6%
Fresh Market	12,337	3.0%	PC High School	10,953	2.7%
Canyons	11,890	2.9%	Town Lift	10,122	2.5%
Snow Park	9,913	2.4%	Tanger Outlets	8,439	2.1%
Lunchroom Shop	7,851	1.9%	Lunchroom Shop	7,226	1.8%
PC Marriott	7,416	1.8%	Wendys	6,901	1.7%
Tanger Outlets	7,015	1.7%	Snow Park	6,870	1.7%
Silver Lake	5,487	1.3%	Redstone	6,482	1.6%
PC High School	5,512	1.3%	PC Marriott	6,312	1.5%
Grand Summit	5,100	1.2%	Building 7	5,656	1.4%
Other	148,648	36.0%	Other	155,030	37.9%
Total	412,663	100.0%	Total	409,106	100.0%

Source: PCT Ridership Data from 4/4/14 to 11/20/14

Table 10: Busiest Boarding and Alighting Locations on PC – SLC

	Respondents Boarding			Respondents Alighting	
Stop	***#***	***%***	***Stop***	***#***	***%***
Canyons Transit Hub	52	19.2%	1954 S 2100 East Park & Ride	34	12.1%
Kimball Junction/New Park	29	10.7%	SL Central Station	25	8.9%
Park City Old Town Transit Center	19	7.0%	200 S & State St	23	8.2%
Jeremy Ranch Park & Ride	17	6.3%	Medical Center Trax Station	20	7.1%
Park Ave Park City	13	4.8%	700 East	13	4.6%
Redstone	6	2.2%	Parley's Way	11	3.9%
Wendy's	6	2.2%	Foot Hill Dr	9	3.2%
100 S & N Campus Dr	6	2.2%	100 S & N Campus Dr	6	2.1%
SL Central Station	41	15.1%	Park City Old Town Transit Center	15	5.4%
700 East	6	2.2%	Canyons Transit Hub	64	22.9%
200 S & State St	28	10.3%	Park Ave Park City	15	5.4%
1954 S 2100 East Park & Ride	26	9.6%	Kimball Junction/New Park	13	4.6%
Medical Center Trax Station	10	3.7%	Jeremy Ranch Park & Ride	12	4.3%
Foot Hill Dr	7	2.6%	Wendy's	10	3.6%
Parley's Way	5	1.8%	Redstone	10	3.6%
Total	271	100.0%	Total	280	100.0%

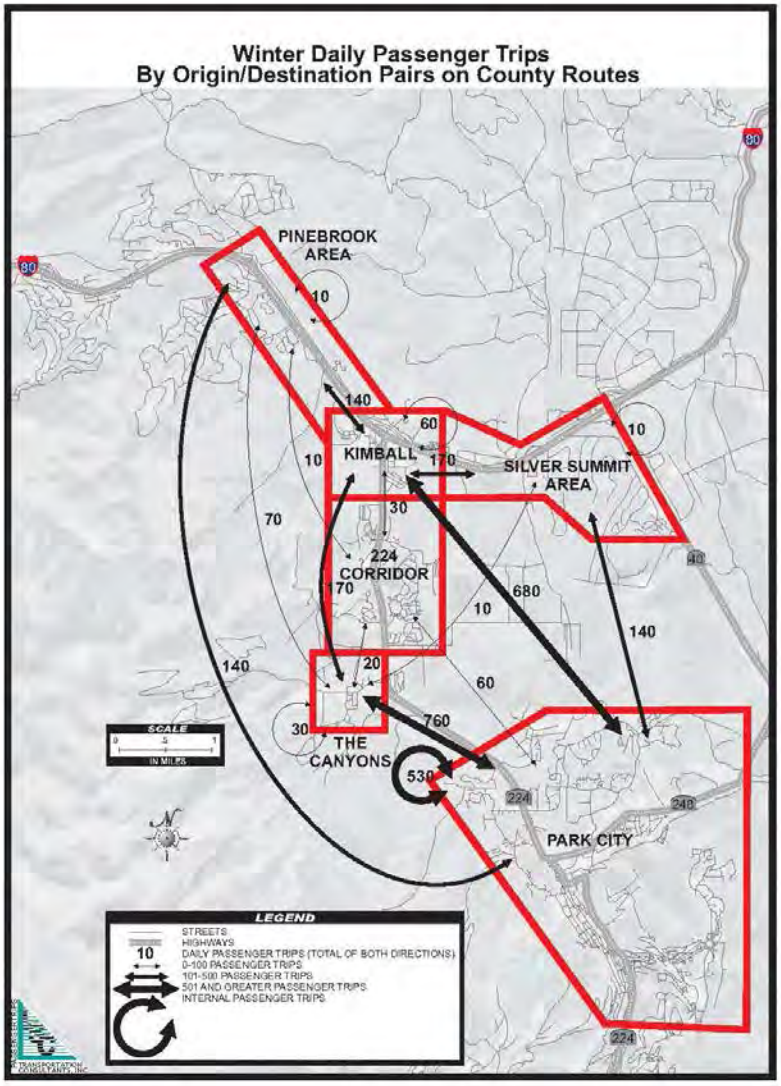
Source: 2012 Onboard Surveys Conducted by LSC Transportation Consultants, Inc.

Trip Pattern

The winter survey data provides a useful picture of trip patterns among riders on the PCT county routes. As shown in Figure 32, the individual survey responses were grouped by origin and destination, and factored by the average daily total ridership to yield the number of transit passenger trips between each portion of the study area. This analysis reflects the strong concentration of trips on the County services along the SR 224 corridor. It is worth noting the relative balance of overall ridership generated in the Pinebrook area versus the Silver Summit area.

Also of note is the low ridership generated along SR 224 north of The Canyons but south of Kimball Junction, as well as the lack of any existing reported ridership between the Pinebrook and Silver Summit areas. Finally, it is worth noting that the county routes carry a substantial number of daily trips wholly within Park City.

Figure 32: Winter Daily Passenger Trips by Origin/Destination Pairs on County Routes



UTA SLC-PC CONNECT TRANSIT SERVICE

The Utah Transit Authority (UTA) began operating the PC – SLC Connect service in October 2011. This route, that connects Park City with downtown Salt Lake City, was the result of a joint effort between Park City, Summit County and the UTA. Buses originate in Park City at the Old Town Transit Center (with some departures originating at Deer Valley during the winter) and travel down Highway 224 to I-80. Stops include Park City Mountain Resort, Fresh Market, Canyons Transit Hub, Kimball Junction, Newpark Center and Jeremy Ranch Park and Ride. Fares are $4.50 each way, and free transfers are permitted to / from local UTA buses, TRAX (light rail in Salt Lake City) and Park City Transit routes. In the summer, buses only operate on weekdays, however weekend service to Park City is offered in winter. The service is designed to accommodate commuters during the week, as well as visitors on weekends during the peak winter season. Annual ridership totaled 47,215 one-way passenger-trips (March 2013 through February 2014), with the greatest ridership (7,293) in January.

EXISTING PASSANGER CHARACTERISTICS

Age

Winter Onboard Survey: The age groups of 18 – 24 and 25 – 34 each compiled roughly 25% of total respondents. Children constituted 9% of respondents and seniors (ages 65 or over) made up 4% of respondents.

Summer Onboard Survey: The highest percentages of systemwide respondents were adults between the ages of 18 and 24 or 25 to 34 (22% each or 44% total). Ten percent of systemwide respondents were children systemwide and only 7% were seniors.

Residents vs. Visitors

Winter Onboard Survey: Passengers were asked if they were a full time resident, a part time resident, or not a resident. While half (48%) of respondents were not residents, the other half was compiled of full-time residents (34%) and part-time residents (18%).

Summer Onboard Survey: Of those responding, nearly half (49%) said they were full-time residents, while 41% said they were not residents and 10% said they were part time residents. Nearly 60% of County Route respondents indicated that they were full time residents while only 42% of City Route respondents were full-time respondents.

Income

Winter Onboard Survey: The most common income brackets among respondents fell on either side of the spectrum (32.6% made less than $20,000 annually and 28.3% made more than $100,000 annually). The remainder of respondents fell between $20,000 and $100,000 in annual income.

Summer Onboard Survey: Over half or 56.0% of systemwide respondents made less than $50,000 per year. One quarter of systemwide respondents made over $100,000 per year.

Employment Status

Winter Onboard Survey: Of the residents, 48.8% were seasonal full-time employees, and 28.3% were year round full-time employees. Out of the part-time employees, 12.5% were seasonal and 4.5% were year-round.

Summer Onboard Survey: Just under half of the resident responses to this question indicated they were year-round, full time employees (49.0%). The next largest group of respondents said they were seasonal full time employees (22.3%), while 14.0% were seasonal part-time, and 5.8% were year-round part time employees.

Trip Purpose

Winter Onboard Survey: Table 8 and Figures 6 and 7 illustrate the trip purposes identified among respondents in the March, 2011 onboard surveys. As shown, work was the most common destination for riders on both City and County routes, representing respectively 30.0 and 31.3% of total respondents' trip purpose. Both City and County routes also had another 29.4-29.5% of respondents using transit to go skiing or snowboarding. The next common trip purpose (accounting for 18.8% of respondents) on City routes was transportation to a restaurant/bar. Only 4.6% of County routes respondents were traveling to a restaurant/bar. On County routes, 15.0% of respondents were headed to "other recreation," whereas 8.3% had the same trip purpose on City routes. Trips to school and medical/dental were the least common trip purposes, accounting for respectively 1.3 and 0.8% of total respondent trip purposes.

SUMMER ONBOARD SURVEY

As shown in Table 11 and Figure 33 and Figure 34, the highest percentage of systemwide respondents were going to work (24.9%), followed by other recreation/social (20.4%). This was consistent with the County Routes where 26.2% responded "work" and 23.5% responded "other recreation/social". On the City Routes, 24.1% of respondents cited work as their trip purpose,

followed by hiking/recreation (21.8%) and other recreation/social (18.5%). Not more than one percent of systemwide respondents cited school or medical dental as their trip purpose.

Table 11: Trip Purposes by Service Type in the Winter

	Ski/ Board	Other Rec	Work	School	Restaurant/Bar	Shopping	Medical/Dental	Personal Bus.	Total Respondents
Park City Routes									
# Respondents	157	44	160	8	100	41	4	19	533
% Respondents	29.5%	8.3%	30.0%	1.5%	18.8%	7.7%	0.8%	3.6%	100.0%
Summit County Routes									
# Respondents	96	49	102	3	15	38	3	20	326
% Respondents	29.4%	15.0 %	31.3%	0.9%	4.6%	11.7%	0.9%	6.1%	100.0%
Total Routes									
# Respondents	253	93	262	11	115	79	7	39	859
% Respondents	29.5%	10.8 %	30.5%	1.3%	13.4%	9.2%	0.8%	4.5%	100.0%
Source: March, 2011 Onboard Surveys Conducted by LSC Transportation Consultants, Inc.									

Figure 33: Winter Trip Purposes on Park City Routes

Figure 34: Winter Trip Purposes on Summit County Routes

Table 12: Trip Purposes by Service Type in the Summer

	Hiking/ Recreation	Restaurant/Bar	Other Rec/Social	Shopping	Work	Medical/Dental	School	Personal Bus.	Total Respondents
Park City Routes									
# Respondents	66	51	56	37	73	3	4	13	303
% Respondents	21.8%	16.8%	18.5%	12.2%	24.1%	1.0%	1.3%	4.3%	100.0%
Summit County Routes									
# Respondents	24	19	44	40	49	1	1	9	187
% Respondents	12.8%	10.2%	23.5%	21.4%	26.2%	0.5%	0.5%	4.8%	100.0%
Total Routes									
# Respondents	90	70	100	77	122	4	5	22	490
% Respondents	18.4%	14.3%	20.4%	15.7%	24.9%	0.8%	1.0%	4.5%	100.0%

Source: July, 2011 Onboard Surveys Conducted by LSC Transportation Consultants, Inc.

Figure 35: Summer Trip Purposes on Park City Routes

Figure 36: Summer Trip Purposes on Summit County Routes

Mode to Transit

Winter Onboard Survey: Table 13 and Figure 37 and Figure 38 illustrate the modes of transportation to the bus (by service type) identified among respondents in the March, 2011 onboard surveys. A substantial 90.2% of systemwide survey respondents walked to the bus. While 2.5% of City routes respondents drove alone to the bus, there were no County routes respondents that did so. An

average 2.7%of respondents were dropped off at the bus, 0.5% took a taxi, and 0.1% carpooled. Notably, 3.8% of respondents used transfers to get to the bus.

Summer Onboard Survey: Table 14 and

Figure 39 and Figure 40 show the modes of transportation to the bus for both City and County routes identified among respondents in the July, 2011 onboard surveys. In congruence with the winter onboard survey responses, an overwhelming majority of systemwide respondents (91%) said they walked. The next more prevalent mode was biking to the bus stop (5.9% for City routes and 5.3% for County routes).

Overall, these results reflect the importance of sidewalks and bike paths to the transit system for the "first and last mile" connection.

Table 13: Transportation to the Bus by Service Type in the Winter

	Walked	Taxi	Drove Alone	Carpool	Dropped Off	Other	Transfer	Total Respondents
Park City Routes								
# Respondents	483	1	13	0	12	7	14	530
% Respondents	91.1%	0.2%	2.5%	0.0%	2.3%	1.3%	2.6%	100.0%
Summit County Routes								
# Respondents	282	3	0	1	11	3	18	318
% Respondents	88.7%	0.9%	0.0%	0.3%	3.5%	0.9%	5.7%	100.0%
Total Routes								
# Respondents	765	4	13	1	23	10	32	848
% Respondents	90.2%	0.5%	1.5%	0.1%	2.7%	1.2%	3.8%	100.0%

Source: March, 2011 Onboard Surveys Conducted by LSC Transportation Consultants, Inc.

Figure 37: Modes to Bus on Park City Routes in the Winter

Figure 38: Modes to Bus on Summit County Routes in the Winter

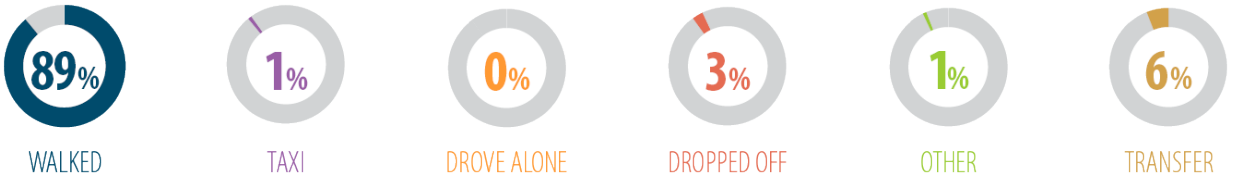
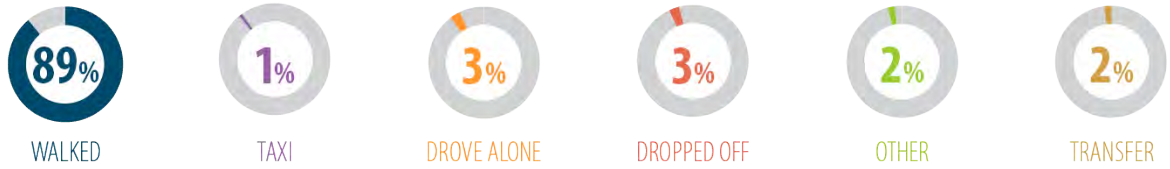


Table 14: Transportation to the Bus by Service Type in the Summer

	Walked	Taxi	Drove Alone	Carpool	Dropped Off	Other	Transfer	Total Respondents
Park City Routes								
# Respondents	259	0	5	5	7	6	2	284
% Respondents	91.2%	0.0%	1.8%	1.8%	2.5%	2.1%	0.7%	100.0%
Summit County Routes								
# Respondents	154	2	6	0	5	4	3	174
% Respondents	88.5%	1.1%	3.4%	0.0%	2.9%	2.3%	1.7%	100.0%
Total Routes								
# Respondents	413	2	11	5	12	10	5	458
% Respondents	90.2%	0.4%	2.4%	1.1%	2.6%	2.2%	1.1%	100.0%
Source: July, 2011 Onboard Surveys Conducted by LSC Transportation Consultants, Inc.								

Figure 39: Modes to Bus on Park City Routes in the Summer

Figure 40: Modes to Bus on Summit County Routes in the Summer



Ridership Frequency

Winter Onboard Survey: When asked how often they ride Park City Transit, a high amount of respondents (43% on City Routes and 50.8% on County Routes) indicated that they use transit six or more times per week. First-time riders also constituted a significant portion of respondents (17.3% on City Routes and 13.5% on County Routes).

Summer Onboard Survey: In the summer surveys, 29.9% of City route respondents and 31.1% of County route respondents said they rode six or more times per week. On the City Routes, 19.8% of respondents said they were riding for the first time, while the number of first time riders on County Routes was only 11.5%.

Vehicle Status

Winter Onboard Survey: Systemwide, 70% of respondents did not have a vehicle available for the trip.

Summer Onboard Survey: Systemwide respondents were split fairly evenly on whether or not a car was available for the trip (49% "yes" and 51% "no").

Disability Status

Winter Onboard Survey: Only 2% of respondents had a disability that inhibited driving.

Summer Onboard Survey: Consistent on both the City and County Routes, very few of the respondents (4%) stated that they have a disability which limits driving.

SURVEY COMMENTS

At the end of each survey, space was provided for respondents to provide any other suggestions for improvements. Below is a list of the common requests for improvements within both the summer and winter surveys (in particular order).

- On-time issues
- More buses on busy lines
- Later service
- More frequent service
- Service to more destinations
- Signage and Info for new transit users or visitors
- Sheltered and heated bus stops
- Ski/snowboard racks and hand holds
- Better tracking technology
- Cleaner buses
- Year-round service on various lines
- More express routes to eliminate length of trips

EXISTING PRIVATE PASSENGER TRANSPORTATION SERVICES

As a resort community, Park City has numerous private transportation providers, which are described below.

Lewis Stages

Lewis Stages is a multi-state private charter company in the mountain west, with a central hub in Salt Lake City. Lewis Stages offers motor coaches, mini buses, and transit buses for various events. The vehicles available can maintain capacities of 24 to 56 passengers.

Park City Transportation

Park City Transportation offers private car, van shuttle, and airport shuttle services throughout Park City and to the SLC airport. Service is also available to Deer Valley and The Canyons.

Fastaxi

Fastaxi, also known as Park City Taxi, offers private taxi services throughout Park City, surrounding rural areas, and to the SLC airport. Fastaxi specializes in transportation to local public and private events.

Uber

Uber service is available in the Park City area. Fares vary depending upon demand, but are typically $10 to $15 for service within Park City/western Summit County, and $30 to $40 for trips to Salt Lake City or the airport.

Peak Transportation

Peak Transportation offers luxury private car and shuttle services. The SUV services can accommodate six passengers and the van and shuttle services can accommodate 14 passengers.

Powder Transport

Powder Transport provides taxi service, airport shuttles, and event transportation. The taxi service ranges from $10-$20 in Park City and will travel to outlying areas for an additional $10.

Ski Taxi

Ski Taxi specialized in private taxi service between the SLC airport and Park City. Ski Taxi also offers transportation to ski areas.

Ace Limousine Transportation

Ace Transportation provides luxury private transportation in Salt Lake City and Park City areas.

Four Seasons Transportation

Four Seasons Transportation offers group car and shuttle service between the airport and Park City, as well as throughout Salt Lake City. Point-to-point travel is offered as well.

All Resort Transportation

All Resort Transportation serves regions throughout Utah, with service available in Park City and its outlying areas. In addition to private shuttle and car service, All Resort Transportation also offers shared transportation services.

My Shuttle

My Shuttle offers flat rate pricing between the SCL airport, Park City, and Deer Valley Area. Trips can accommodate a range of 1 to 6 passengers.

FEHR PEERS

CHAPTER TWO

PEER COMMUNITY RESEARCH & NEW TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

Overview

To develop a list of potential TDM strategies for Park City, Fehr & Peers built on existing, peer-reviewed research based on a literature review prepared by Fehr & Peers for the California Air Pollution Control Officers Association (CAPCOA) in 2010. The strategy list and effectiveness estimates were updated based on recent work that the consultant team has conducted for other clients, including the City of San Francisco, major employers in the San Francisco Bay Area, and transit operators in the Sierra Nevada. Fehr & Peers also interviewed four peer communities that have implemented successful TDM programs to learn what strategies these communities are pursuing and if similar strategies would be applicable in Park City.

PARK CITY 1884

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KEY FINDINGS

Several key themes emerged from our research on cities which have successful TDM programs and face similar geographic and transportation challenges to Park City:

- **Collaboration** is key between public agencies and private employers
- The most successful programs **provide a variety** of TDM strategies and alternatives to driving alone
- The unique conditions in resort towns require that TDM program managers **adapt typical TDM strategies to user needs**
- **Ongoing monitoring** is essential to ensure that TDM programs respond to changing user needs over time
- Several successful programs use paid parking to subsidize TDM strategies

Drawing on existing peer-reviewed research we identified several potential strategies for

- **Bicycle-oriented strategies** should include bicycle sharing, secure bicycle parking, safe and separated bicycle facilities, and programs to encourage bicycling among visitors and short- and long-term residents. The effectiveness of these strategies will be limited by season.
- **Parking management**, including policies that use pricing to encourage people not to drive to work or own multiple cars, and "smart parking" strategies that use dynamic, demand-based parking, can be highly successful at reducing vehicle trips and Vehicle Miles Traveled (VMT)
- **Commute Reduction Programs** provide comprehensive TDM marketing, outreach, management and implementation programs, ensuring that TDM strategies are implemented in a coordinated and effective fashion

PEER COMMUNITY AND ACADEMIC RESEARCH

To better understand the potential opportunities and challenges in developing a TDM program for Park City, we spoke to transportation planners and program managers from four cities and regional agencies:

- Aspen, Colorado – Lynn Rumbaugh, Transportation Programs Manager, City of Aspen

- Tahoe (Nevada/California) – Karen Fink, Principal Transportation Planner, Tahoe Regional Planning Agency/Tahoe Metropolitan Planning Organization
- Boulder, Colorado – Chris Hagelin, Senior Transportation Planner, GO Boulder/City of Boulder and Amy Oeth, Transportation/Transportation Demand Management Planner II, Boulder County Transportation
- Whistler, British Columbia – Emma Dal Santo, Transportation Demand Management Coordinator

SELECTION CRITERIA

In selecting peer cities to study, we prioritized factors that would ensure and meaningful comparison with Park City's current environment and potential for TDM. Many of the selected cities have similar travel markets, resort-based economies, constrained infrastructure and a higher percentage of second home ownership. No single city perfectly embodied all these factors; so we identified a group of peer cities that together provide

- **Mountain resorts** Given its mountain resort-driven economy and weather related challenges, Park City has several unusual travel characteristics, which were considered when selecting peer cities:
  - Travel patterns that reflect fluctuating seasonal demand for travel and seasonal differences in opportunity to use active travel modes
  - A transportation user population that includes visitors, locals, and resort employees, and international workers
  - Atypical traffic patterns associated with recreation based trips, where traffic congestion may be event-driven, weekend-driven, or vary based on ski conditions, as opposed to the morning and evening rush hours typical of many cities
- **Similar transportation & geographic context** Park City is approximately one hour from the Salt Lake City, with constrained access via I-80, SR 224 and U.S 40. The city has a traditional small-town character, and most trips are taken by private automobile. To reflect these characteristics, we identified the following criteria for potential peer cities:
  - Local geography limits access
  - Engaged environmentally conscious constituency
  - Initiatives focused on sustainability and environmental stewardship

- Most travel takes place by automobile
- City acts as a recreation "satellite" to a major city and employment center
- Small-town pattern of development

- **Strong TDM programs** To serve as models for Park City's proposed TDM program, peer cities have
  - History of implementing TDM strategies, such as organized carpooling, providing free transit passes, encouraging bicycling and walking, requiring payment for parking, etc.
  - Presence of a Transportation Management Association (TMA) or other organization to manage TDM programs
  - Regulations and funding structures to support TDM programs as well as program managers and staff, such as a TDM ordinance for employers or TDM requirements for new development

PEER COMMUNITY PROGRAMS

No single community perfectly embodied the criteria identified above, so we selected a group of peer cities that provide a combination of these factors.

Aspen, Colorado

Aspen, Colorado was identified as a potential peer city due to its status as an international ski resort destination, limited access via Colorado SR 82, and existing TDM programs, including a fare-free transit within the city, regional bus service including Bus Rapid Transit (BRT), and privately-administered shuttles and employee commute incentive programs. Aspen's TDM programs are partially funded by revenue from its paid parking programs.

Lake Tahoe (Nevada/California)

Like Park City, the Tahoe region is a major destination for mountain sports, attracting both winter and summer visitors. Similar to Park City, there is limited access, with essentially one highway serving the lake areas. There are currently two TMA's, the South Shore TMA whose members include the State DOTs and Vail Resorts, and the Truckee/North Tahoe TMA. The South Shore TMA is less formal and no longer charges dues or acts as an operator, while the Truckee/North Tahoe TMA has an Executive Director, by-laws, and charges dues. They also fund transit service and assist ski resorts with traffic management efforts. Several ski resorts serve on their board.

Tahoe has had an employer trip reduction ordinance in place since 1993. The ordinance requires that all businesses provide information about transportation alternatives to employees. Larger employees, those with 100 or more employees, must meet additional requirements. Those businesses must have an Employee Transportation Coordinator on staff, be an active member of the TMA, provide preferential carpool/vanpool parking spaces, and prepare a trip reduction plan that includes TDM measures. The Tahoe Regional Planning Compact also mandates reducing dependency on the private automobile by increasing capacity through alternative modes and transit over traditional highway capacity.

Boulder, Colorado

Boulder was selected as a peer city because of its longstanding and successful TDM program. TDM programs have operated at the business-district level TDM since 1970, when the Central Area General Improvement District was founded. TDM requirements and programs are also administered through the Boulder Junction Parking and TDM District (founded 2014).

Whistler, British Columbia

Whistler has long been identified as a potential example for transportation demand management in Park City due to its similar geographic and economic setting. Like Park City, Whistler is a mountain resort town that has been a Winter Olympics venue, and roadway access is similarly limited. Its highly successful transit system has provided service since 1991. Although the TDM program has been significantly reduced recently due to budget constraints following the 2010 Olympics, the City still employs a Transportation Demand Management Coordinator and the city's Comprehensive Transportation Strategy Plan provides a framework for addressing transportation challenges. The City is currently in the process of updating an advisory committee to develop long-term transportation goals. Whistler's housing authority also plays a crucial role in reducing regional travel demand by developing affordable workforce housing.

KEY TAKEAWAYS

Several common themes were identified in the peer city research; they are summarized below.

Collaboration

The most successful TDM programs we studied were based on partnerships between public and private sectors.

Tahoe staff noted that many TDM strategies makes business sense for employers, and that while there are technically penalties for employers that don't comply with TDM ordinances, a fine of

$5,000 per day per violation, agency staff find that focusing on collaboration rather than enforcement is most effective.

Close work with transit agencies is also typical. Employers in Lake Tahoe jointly fund transit shuttles and Whistler, BC splits transit service costs 50/50 between municipality and regional transit agency.

Provide a variety of alternatives

Each successful program provides a variety of TDM strategies to support alternative mode travel.

- **Aspen, Colorado** provides a carpool matching site accessible to general public, fare-free transit service, car share, and bikeshare.
- **Tahoe** provides rideshare matching, subsidies for people who carpool, vanpool and take transit, various shuttle programs, and measures to reduce the need for travel once people arrive at their destination. TMAs are also advocates for alternative transportation and provide marketing, traveler awareness, and events coordination including peak ski day, travel holidays.
- **Boulder, Colorado** offers a commuter website, subsidized car share memberships, discounted transit passes, bikeshare, and freeway express lanes between Boulder and Denver.
- **Whistler, British Columbia** has few funded TDM programs, but planners note that summer use of the city's trail network for bicycling and walking is supplemented by winter use of transit. They also expressed that the housing authority's efforts to develop affordable real estate within the city has been key, by allowing 75% of the workforce to both live and work in Whistler. It is important to note that since Whistler operates under Canadian laws, these strategies may not be directly applicable to Park City; however, they demonstrate one potential response to Park City's policy goal of creating workforce housing.

Adapt to user needs

Resort areas have a unique mix of transportation system users which often vary by season. The most successful resort community TDM programs recognize those needs and preferences.

- **Fare-free transit attracts visitors:** Similar to what Park City has in place already, Aspen offers eight fare-free transit routes. Often fare-free transit will attract users, such as vacationers or short-term employees, who may not use transit in their day-to-day lives.

- **Customized transit service hours:** In Whistler, The Mountain resort provides free late night/early morning transit service for employees who are not served by public transit, which has limited overnight hours.
- **Employer-sponsored passes**: Boulder's Transportation Management Organization (TMO), similar to a TMA, provides support for an employer-sponsored transit pass program. This program (EcoPass) offers the transit passes at a substantial discount for over 250 participating employers. Private resorts in Whistler and Tahoe also provide transit passes to their employees. Conduct ongoing monitoring

All of the TDM program managers we spoke with cited a need for more regular and comprehensive monitoring of their TDM programs. That stated, several peer cities do some kind of program monitoring:

- **Boulder** conducts regular survey of employees in Boulder Valley
- **Tahoe** gathers information from TDM reporting, also conducts mode share surveys biannually for major recreation areas, as well as monitoring trail and transit use. Tahoe also has an environmental threshold carry capacity for regional VMT that is required to be monitored and in attainment. The threshold is 10% below the 1981 baseline. They also monitor traffic counts on U.S. 50 near state line.
- **Whistler** monitors program effectiveness and has conducted surveys to understand how skiers access lifts
- **Aspen** monitors a critical access point (Caste Creek Bridge on SH 82) to the city in order to determine the need for expanded TDM programs

User paid parking to subsidize TDM programs

A few of the peer cities use parking meter revenue to finance the broader TDM program. The City of Aspen, CO uses parking fees to subsidize other TDM programs. Paid parking acts two ways as a result: directly, it acts as a disincentive for driving alone, and indirectly, it supports alternatives to driving alone. Within the Central Area General Improvement District (Boulder, CO) metered parking revenue has funded TDM measures.

In addition to these strategies, providing monetary incentives for employees who choose not to park onsite discourages driving alone and preserves scarce parking for visitors and customers.

ACADEMIC RESEARCH

This section provides a comprehensive list of potential TDM strategies that Park City may consider implementing as part of a TDM program. It also summarizes current transportation demand management (TDM) literature reviewed by Fehr & Peers staff for a TDM project conducted for the San Francisco region in 2015. This effort built off of a previous literature review published by the California Air Pollution Control Officers Association (CAPCOA) in 2010.

KEY STRATEGIES

While the tables below provide a comprehensive list of potential strategies, three key strategies, outlined below, should be carefully considered.

Bicycle-Oriented Strategies

Several bicycle focused strategies could be effective in Park City, particularly during summer months. It is important to note that these strategies will not less effective during winter months than during spring, summer, and fall. Bicycle strategies are most effective when they are implemented together. Such strategies include:

- **Bicycle share**: A bicycle share system can be operated at the municipal level, as seen in Boulder and Aspen, or provided at the hotel/resort and employer level for guests and employees. Again, this would not be feasible during winter months. Topography challenges should also be considered.

Bicycle connections to key transit nodes: Providing safe, low-stress bicycle facilities to transit can make both bicycle and transit use more attractive to users.

- **Secure bicycle parking**: Providing secure bike parking in non-residential and multi-family residential development projects, and transit stops and centers as well as providing end of trip facilities that include showers, lockers, and changing areas.
- **Bicycle encouragement and education programs**: Employer- and resort-based bicycling education and encouragement programs can supplement Park City's existing bicycle programs and encourage use of Park City's existing facilities

While quantifying the impacts of these individual strategies on their own, research suggests that when used together these, and other bicycle strategies like safe, highly-visible, and well maintained bicycle facilities (i.e. bike lanes, routes, and shared use paths) can replace vehicle trips and reduce vehicle miles traveled (VMT).

Parking Strategies

Parking demand management strategies should also be considered. Similar to bicycle strategies, parking strategies should be used together to reduce single-occupancy vehicle use. Two specific strategies that may considered are encouraging developers to unbundle parking costs from property costs and encouraging employee parking cash out programs.

- **Unbundled parking**: "Unbundling" parking from rents provides a monetary benefit to people and businesses who do not wish to utilize a parking space. Parking is priced separately from purchase prices, housing rentals, or office leases. This practice not only creates an incentive for residents to own fewer cars, thereby reducing their vehicle trips, but can help make housing more affordable. Literature suggests that these programs can reduce VMT by up to 13 percent.
- **Parking cash out:** "Cash-Out" programs allow employers to offer employees with a choice of free parking or a cash payment equivalent to the cost of the parking space to the employer. Literature suggests that these programs can reduce VMT by nearly eight percent.
- **Smart Parking/Dynamic parking pricing:** On-street parking can be priced to reflect demand, as in the highly successful Old Town Pasadena and SF Park programs. Dynamic parking pricing, which changes by time of day in response to user demand, can be included as parking fee technology is updated.
- **Shared Parking agreements and maximum parking code standards**: City planning policy can be updated to encourage shared parking between compatible uses, where parking demand peaks at different times of day or on different days of the week.

These strategies should be considered in conjunction with neighborhood parking permits to avoid parking spillover into surrounding developments and neighborhoods.

Commute Reduction Program

Establishing a Commute Trip Reduction Program (CTR) should also be considered. CTR programs typically include a combination of TDM strategies and provide a formal program for employers and/or developers to follow. The program can include both marketing efforts to employers and developers as well as assistance with ride-matching and vanpool sign-up. These programs can be voluntary or involuntary and can either encourage or require the use of alternative modes of transportation by setting a specific goal or performance standard. In the case of a required CTR program, ordinances establish performance standards as well as regular monitoring and reporting

processes. According the CAPCOA review, CTR programs should include all of the following to see effective VMT reductions of up to 6% (for voluntary programs) and up to 20% (for required programs):

- Carpooling encouragement
- Ride-matching assistance
- Preferential carpool parking
- Flexible work schedules for carpools
- Half time transportation coordinator
- Vanpool assistance
- Bicycle end-trip facilities (parking, showers and lockers)

FULL TDM STRATEGY LIST

Additional strategies and their effective rates in reducing VMT determined through literature review are provided below. Table 15, includes a summary of TDM strategies from the CAPCOA publication and lists an associated VMT or trip reduction efficacy range, if applicable. The table also includes notes or caveats that the city should consider when evaluating whether the strategy fits the context of the Park City area and the city's needs. Table 16 lists TDM strategies that do not have efficacy ranges identified in peer-reviewed literature but which should also be considered for inclusion in Park City's TDM program.

Table 15: TDM Strategies with Ranges of Efficacy

TDM Toolkit Strategy	CAPCOA Strategy Name	CAPCOA Efficacy Range	Updated Methodology Source	Updated Efficacy Range	Notes/Caveats
Bicycle share system	Implement Bike-Sharing Programs (p 256)	Strategy was evaluated in CAPCOA, but no quantification method was recommended	Capital Bikeshare Reports (2011 and 2013)	10% of respondents would take taxi or personal/company auto for trip surveyed about if bike share weren't available (2013 report) or 13% (2011 report)	There is a risk of less accurate results when relying on stated preference surveys without corroboration through surveys of revealed behavior changes, as is the case with the new methodology provided.
Provide free bike share membership	Implement Bike-Sharing Programs (p 256)	Strategy was evaluated in CAPCOA but no quantification method was recommended	Capital Bikeshare Reports (2011 and 2013)	10% of respondents would take taxi or personal/company auto for trip surveyed about if bike share weren't available (2013 report) or 13% (2011 report)	There is a risk of less accurate results when relying on stated preference surveys without corroboration through surveys of revealed behavior changes, as is the case with the new methodology provided.
Provide fleet of resident/employee bicycles	N/A	N/A	"CityCycle Program 2012 Report" (SF Environment 2013)	Auto-based at-work commute trips reduced by 4.8% for 0-3 mi trips and 5.9% for 3-6 mi trips, while they *increased* 1.4% for 6-12 mi trips, as a result of CityCycle (report estimates VMT reduction based on results)	Observed efficacy is low.
Car share parking (off-street)	Implement Car-Sharing Program (p 245)	0.4 - 0.7% reduction in VMT for entire car share program	CARB Policy Brief - Impacts of Carsharing on Passenger Vehicle Use and Greenhouse Gas Emissions	CARB policy brief identified a reduction in car-share member annual VMT as a range of 27% - 68%.	
Provide car share memberships to employees/visitors	None	None	CARB Policy Brief - Impacts of Carsharing on Passenger Vehicle Use and Greenhouse Gas Emissions	CARB policy brief identified a reduction in car-share member annual VMT as a range of 27% - 68%. Determine a deployment level (e.g. 1, 3, 5 years) and estimate a low/medium/high level adoption rate to apply to effectiveness shown in literature.	Carshare parking strategy should be required before getting credit for this strategy.
On-Site Retail/Neighborhood-Serving Retail Bonus	Increase Diversity of Urban and Suburban Developments (Mixed Use) (p 162)	9% - 30% reduction in VMT	N/A	N/A	
Parking Demand Management	(1) Unbundle Parking Costs from Property Cost (p 210) (2) Implement Employee Parking "Cash-Out" (p 266)	(1) 2.6% - 13% reduction in VMT (2) 0.6% - 7.7% reduction in VMT (Preferred: 3.0% - 7.7%)	N/A	N/A	
Parking Supply Management (Off-street Parking Supply Reduction, Public and Private) - aka Reduced Parking	Limit Parking Supply (p 207)	5% - 12.5% reduction in VMT		N/A	
Dynamic Parking Pricing	Implement Market Price Public Parking (p. 213)	2.8-5.5%	N/A	N/A	Parking price increases should be at least 25% over current meter rates; VMT reductions cannot be estimated for rate increases over 50%.

Table 15: TDM Strategies with Ranges of Efficacy

TDM Toolkit Strategy	CAPCOA Strategy Name	CAPCOA Efficacy Range	Updated Methodology Source	Updated Efficacy Range	Notes/Caveats
Shuttle Bus Service	(1) Provide Employer-Sponsored Vanpool/Shuttle (p 253) (2) Provide Local Shuttles (p 286)	(1) 0.3% - 13.4% reduction in commute VMT (2) Strategy was evaluated in CAPCOA but no quantification method was recommended	"GHG Impacts for Commuter Shuttles Pilot Program" (ICF, 2014)	Stated preference survey of ~1K intra-city shuttle users reported that 27% would have driven alone and 2.7% would have carpooled.	CAPCOA methodology is based wholly on data for vanpool programs. Care should be taken with the stated preference survey. Perhaps this could be used as a cap on effectiveness while still maintaining a similar methodology as CAPCOA.
School-oriented carpools	Implement School Pool Program (p. 250)	7.2%-15.8%	N/A	N/A	Denver SchoolPool program used carpool match software and GIS to identify potential carpool matches among families and private schools across the Denver metro area. 16% of families in databased joined carpools.
Traditional school bus	Implement School Bus Program (p 258)	38% - 63% reduction in school VMT	N/A	N/A	
Transit subsidy	Implement Subsidized or Discounted Transit Program (p 230)	0.3% - 20.0% reduction in commute VMT	N/A		
Vanpool program	(1) Provide Employer-Sponsored Vanpool/Shuttle (p 253) (2) Provide Local Shuttles (p 286)	(1) 0.3% - 13.4% reduction in commute VMT (2) Strategy was evaluated in CAPCOA but no quantification method was recommended	N/A	N/A	
Rideshare Program	Provide Ride-Sharing Programs (p 227)	1% - 15% reduction in commute VMT (Preferred: 5% - 15%)	N/A	N/A	This strategy should only be required as part of a TMA or in conjunction with brokerage services to ensure ongoing compliance.
Require TDM Coordinators at major employers	Implement Commute Trip Reduction (CTR) Marketing (p 240)	0.8% - 4.0% reduction in VMT (Preferred: 4% - 5% commute vehicle trip reduction from full-scale employer support)	"Long-Term Evaluation of Individualized Marketing Programs for Travel Demand Management" (Dill and Mohr 2010)	N/A	Maintain current methodology. Range of efficacy in CAPCOA study is corroborated by Dill and Mohr's study (which includes post-program surveys administered a year after the program.)
Provide tailored information and promotions	Implement Commute Trip Reduction (CTR) Marketing (p 240)	0.8% - 4.0% reduction in VMT (Preferred: 4% - 5% commute vehicle trip reduction from full-scale employer support	"Long-Term Evaluation of Individualized Marketing Programs for Travel Demand Management" (Dill and Mohr 2010)	N/A	Maintain current methodology. Range of efficacy in CAPCOA study is corroborated by Dill and Mohr's study (which includes post-program surveys administered a year after the program.)

Table 16: TDM Toolkit Strategies without Peer-reviewed Research Support

TDM Toolkit Strategy	CAPCOA Methodology
Bicycle parking	(1) Provide bike parking in non-residential projects (p 202) (2) Provide bike parking in multi-family residential projects (p 204) (3) Provide bike parking at all transit stops
Bike Room/Secure Bike Parking	(1) Provide bike parking in non-residential projects (p 202) (2) Provide bike parking in multi-family residential projects (p 204)
Bike showers/lockers	Provide End of Trip Facilities (p 234)
Bike share free rides (hotels)	Implement Bike-Sharing Programs (p 256)
Valet bicycle parking for event venues	None
Bike Repair Station	None
Transit impact development fee (TIDF)/Transportation sustainability fee (TSF)	Required Project Contributions for Transportation Infrastructure Improvement Projects (p 297)
On-site day care or day-care brokerage services	None
Density Bonus for Parking Reduction	None
Efficient Parking (Joint, Flex, Satellite, and Space-Efficient Parking)	None
Charter buses for large events	None
Real Time Transit Arrival Displays	None
Carpool/Vanpool Parking	None
Multimodal Wayfinding Signage	None
Facilitate taxi and TNC (rideshare app) access and use	None
Private facilities/Retail Services (Delivery service/loading spaces)	None
TDM Annual Compliance Statement	None
Walking/Biking School Bus (seasonal)	None
Student-targeted transit guidance	None
Parent-targeted mobile apps showing student whereabouts	None

FEHR PEERS

CHAPTER THREE

MARKETS & OPPORTUNITIES

Overview

A key component of a successful TDM program is matching strategies to different markets. For example, some strategies may be more effective for commuters than residents and vice versa. To define and understand the different markets and opportunities in Park City, the consultant team conducted several surveys.

PARK CITY 1884

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KEY FINDINGS

Intercept Survey

- Driving a personal vehicle was the primary mode of access for both event days and the non-event day, although this made up a higher percentage for event days.
- The majority of respondents were both starting and ending their day in Park City, regardless of whether it was a weekday or an event day
- Primary trip purposes were largely related to recreation and social activities
- Transit was the most selected alternative identified by survey respondents
- The majority of visitors from out of state began and anticipated ending their day in Park City

Employee Survey

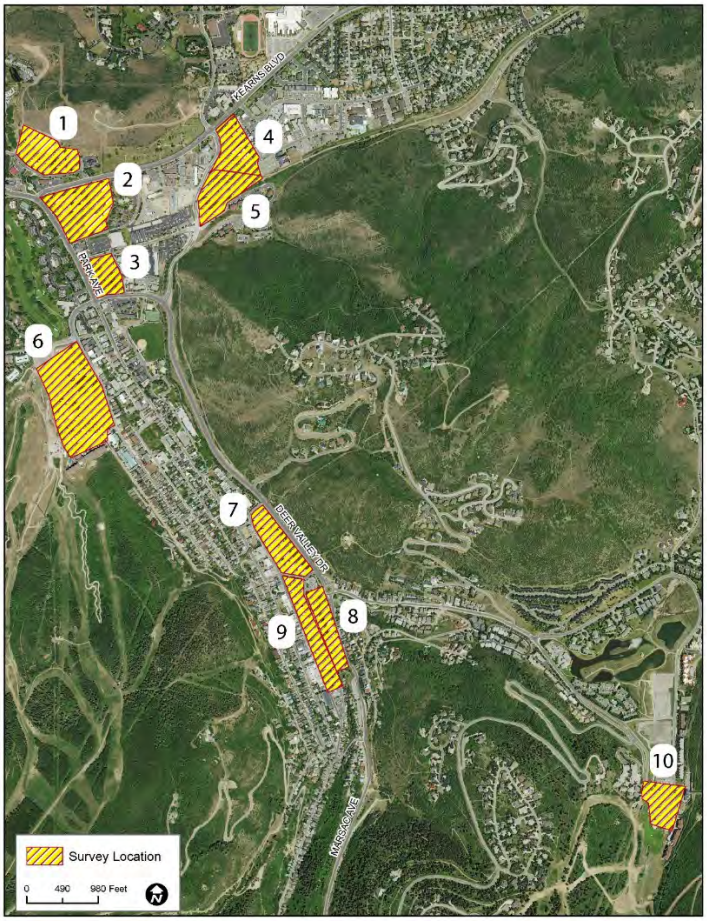
- 10% of respondents live within two miles from work, a reasonable bike distance.
- Over half (55%) live 10 miles or more from work.
- 77% get to work between 7AM and 9AM (Peak Hours).
- 74% leave work between 4PM and 6PM (Peak Hours).
- Overwhelming majority (90%) of respondents had access to a car for commuting.
- The majority of respondents (84%) do not have to drop off or pick up children during their commute trip.
- Those who drive alone tend to do so five days or more a week.
- Many respondents use alternatives once a week, with telecommuting being the highest one day alternative.
- Transit was the most selected alternative to driving alone.
- Overall, responses demonstrate the employees do not understand what benefits, if any, are offered by their employer
- Commute allowance/subsidy garnered the most interest
- Target Audience Segments
- Five segment groups within the Park City area to focus TDM strategies on

- Residents – Living in Park City
  - Primarily use their car to get around, they are willing to use alternative modes of transportation such as transit or biking, as long as it is convenient and time effective.
- Part–Time Residents – own a second home in Park City
  - While their car is their main mode of transportation, they are more likely to carpool then to drive alone and are willing to try transit and biking to get around.
- Commuter – work in Park City but live outside of Park City
  - Like others in Park City, their car is their main mode of transportation and they typically drive alone. They are willing to try alternatives modes as long as they are convenient and time efficient, meaning they are more willing to carpool than to take transit.
- Visitors / Tourists
  - Their car is their main mode of transportation to and from Park City, but they are likely to carpool to get in and out of town. Inside of town, they will walk or take transit to get around.
- Employees
  - They prefer to have access to their car during the day, whether it is needed or not. Convenience is a motivating factor in their travel choices, however they are willing to consider taking transit, biking, or carpooling, particularly if their employer offered an incentive to do so.

INTERCEPT SURVEY

Fehr & Peers conducted a series of intercept surveys at ten locations in Park City to obtain information on travel behaviors and transportation perceptions (see Figure 41).

Figure 41: Intercept Survey Locations



Collections occurred during an average weekday (August 4th, 2015) and during two event days (Silly Sunday Market and Softball World Series on July 26th and the Arts Festival on August 1st). A total of 1,232 surveys were completed. The following summarizes the results. Additional information can be found in the Appendix of this report.

WHO RESPONDED

- Commuters made up a larger share of respondents on the average weekday
- Visitors/Tourists made up a slightly larger share of event day respondents
- Part-time residents made up a larger share of event day respondents

MODE OF ACCESS

- Driving a personal vehicle was the primary mode of access for both event days and the non-event day, although this made up a higher percentage for event days
- Carpooling (i.e. passenger in a personal vehicle) was the second highest mode of access for both event and the non-event day
- The Park City bus was the third highest mode for the non-event day, while a rental vehicle was the third highest mode for event days

NUMBER OF TRAVELERS

- Event day respondents identified traveling with one other person more than non-event day respondents.
- 40% of weekday respondents traveled with two or more people
- 46% of event day respondents traveled with two or more people

WHERE THEY STARTED AND ENDED THEIR DAY

- The majority of respondents were both starting and ending their day in Park City, regardless of whether it was a weekday or an event day

Table 17 provides a breakdown of how visitors responded where they started and ended their day.

Table 17: Visitor Response to Starting and Ending Day Location

Respondent Type	Starting in Park City	Staying in Park City
Visitor/Tourist (Weekday)	56%	58%
Visitor/Tourist(Event Day)	48%	49%

- Less visitors/tourists are beginning and ending their day in Park City on event days, suggesting that day trip visitors make up more visitors participating in day trips to the area on event days.

TRIP PURPOSE

- Primary trip purposes were largely related to recreation and social activities
- Outdoor recreation was the highest response on the weekday

HOW THEY TYPICALLY GET AROUND PARK CITY

- Driving alone was the primary response, especially for those surveyed on event days, where 70% stated that they typically drive alone. This question was separate from the mode they took that day and instead asked out how they typically get around the city.
- Weekday respondents identified a willingness to use an alternative mode more than respondents during event days
- Walking and the Park City bus were the second and third highest identified typical modes with the private auto being the primary

ALTERNATIVES VISITORS WOULD CONSIDER

- Transit was the most selected alternative identified by respondents
- Carpooling was identified the lowest alternative mode

Table 18 provides a breakdown of the data by highlighting the differences between residents, commuters, and visitors.

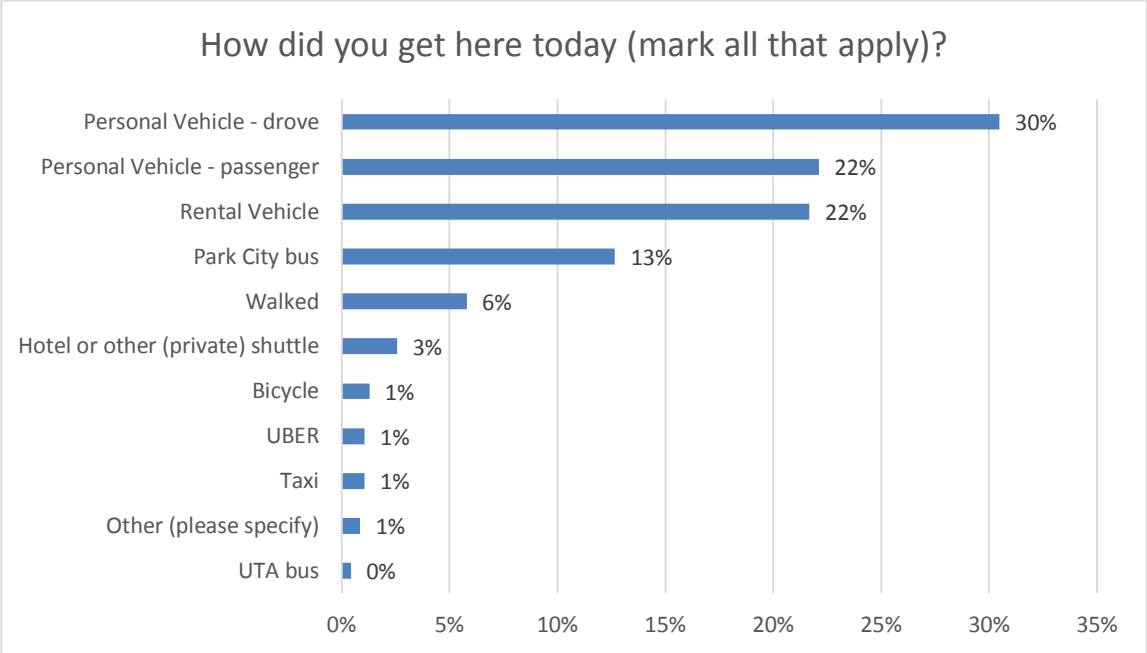
Table 18: Alternative Mode Interest by Respondent Type

Respondent Type	Transit	Walk	Bike	Carpool
Visitor/Tourist	70%	44%	34%	23%
Commuter – Work in Park City but live outside of Park City	52%	19%	27%	58%
Resident – Live in Park City	65%	56%	60%	31%

OUT OF STATE VISITORS

Out of state visitor answers were analyzed to provide additional information on how this subset.

Figure 42: Mode of Access (Out of State Visitors)



- While personal vehicle was still the highest result, the overall percentage was lower
- Hotel and other private shuttles made up a fairly low percentage

Figure 43: Out of State Visitors – Where Did You Start Your Day?

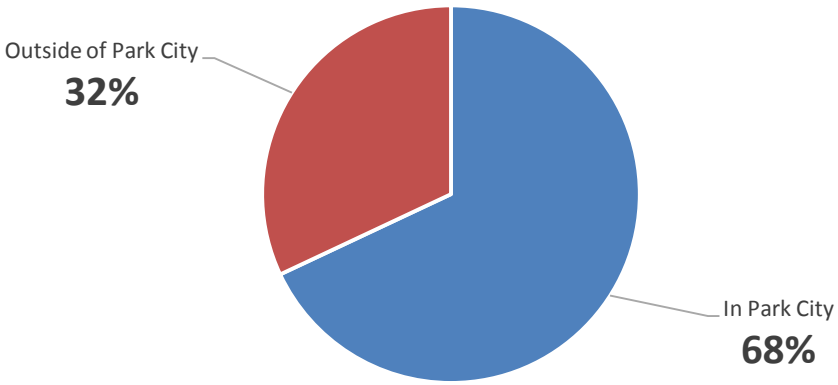
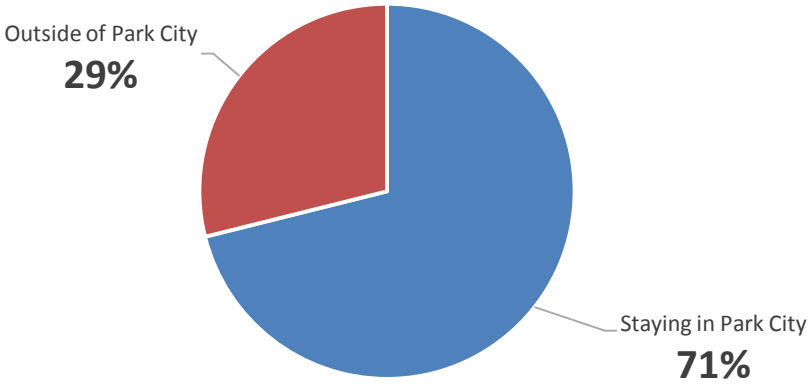


Figure 44: Out of State Visitors – Where Will You End Your Day?



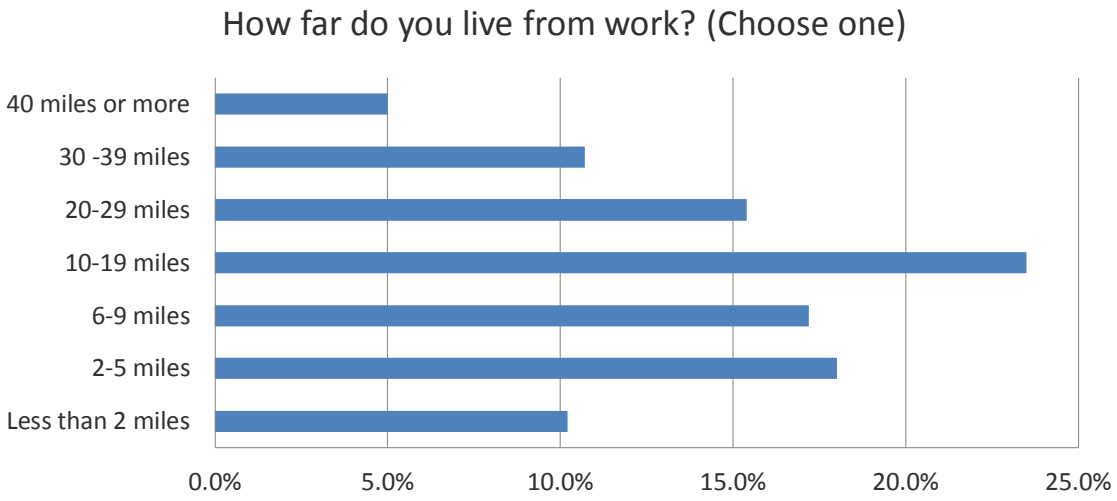
- The majority of visitors from out of state began and anticipated ending their day in Park City

EMPLOYEE SURVEY

To better understand employee travel in the study area, Fehr & Peers coordinated with Park City, Deer Valley, the Park City School District, Kimball Junction, the Historic Park City Alliance, and the Park City Chamber to conduct an online Employee Survey. A total of 605 responses were received. The following section summarizes the results. Additional information can be found in Appendix B.

DISTANCE FROM WORK

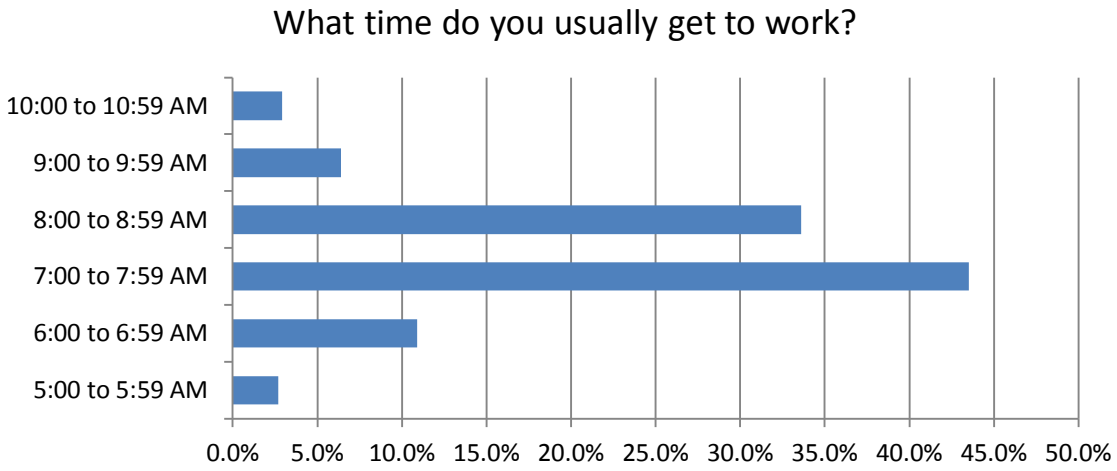
Figure 45: Distance from Work



- 10% live within two miles from work, a reasonable bike distance
- Over half (55%) live 10 miles or more from work

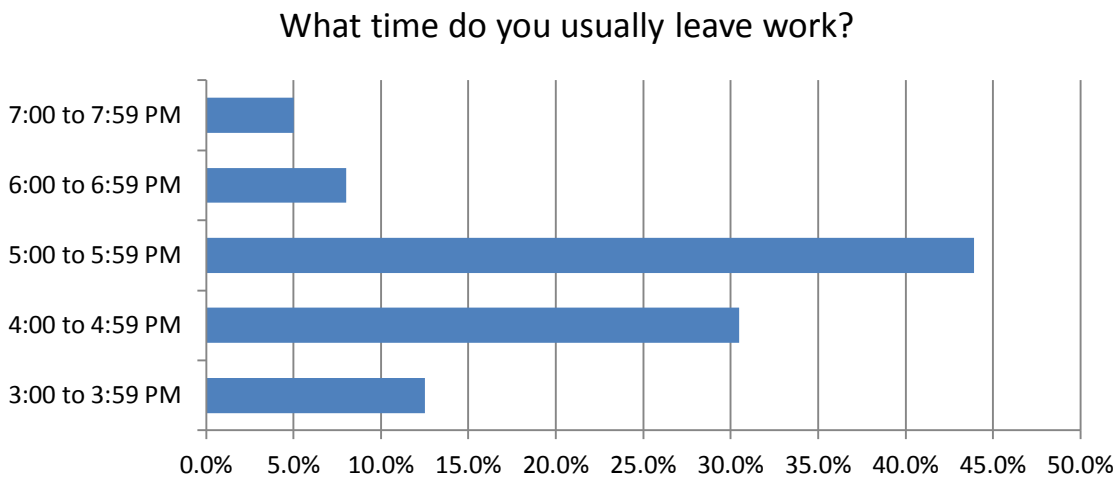
ARRIVA/DEPARTURE TIME AND TYPICAL WORK HOURS

Figure 46: Time Arriving at Work



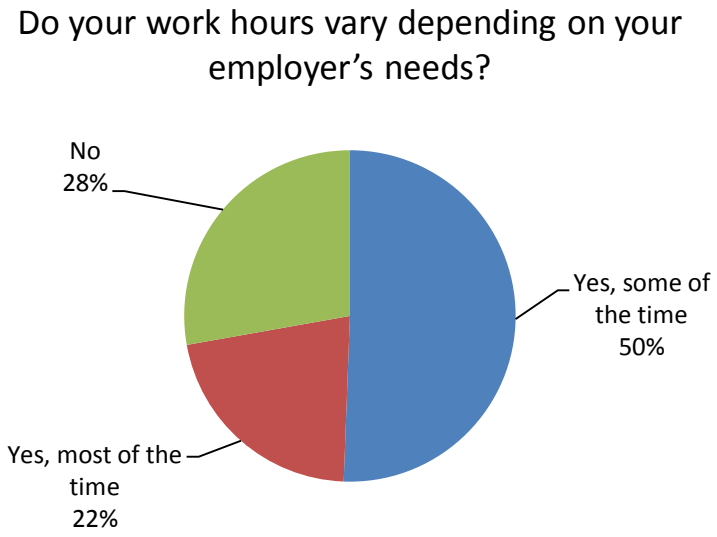
- 77% get to work between 7AM and 9AM (Peak Hours)

Figure 47: Time Leaving Work



- 74% leave work between 4PM and 6PM (Peak Hours)
- 13% leave work before 4PM
- 13% leave work after 6PM

Figure 48: Varied Work Hours



- 72% have work hours that may vary depending on employer's needs

AVAILABILITY OF A VEHICLE AND CHILD PICK UP/DROP OFF RESPONSIBILITIES

Figure 49: Availability of a Car for Commute

- Overwhelming majority of respondents had access to a car for commuting

Figure 50: Drop Off/Pick Up Children Responsibilities

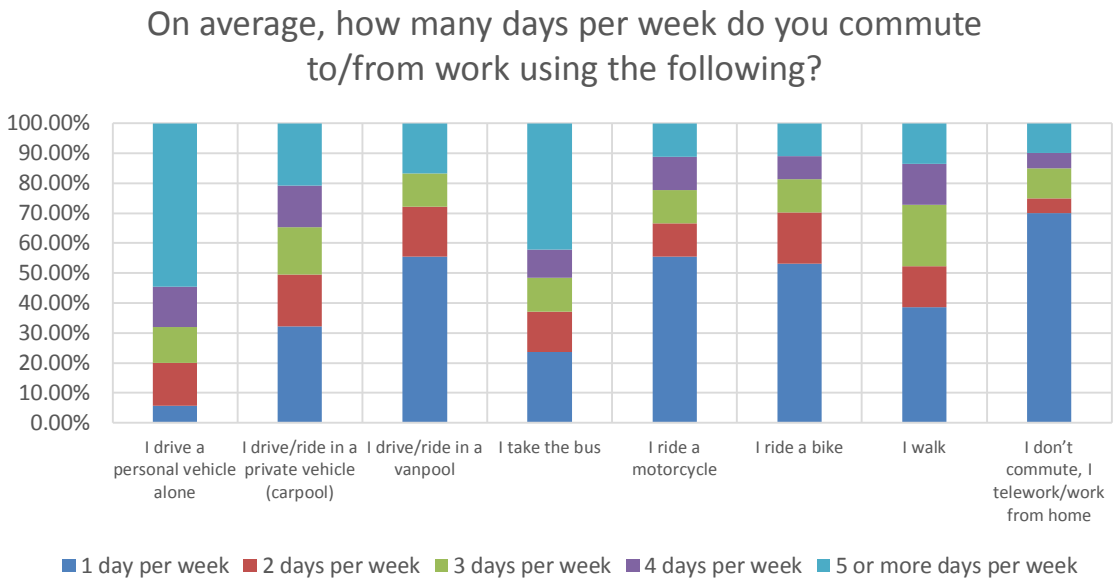
- The majority of respondents do not have to drop off or pick up children during their commute trip. This may assist TDM strategy implementation as this responsibility can often make alternatives more difficult. This suggests that many employees do not have this responsibility.

EMPLOYMENT STATUS

- The majority of respondents to this survey were permeant year-round. Given the resort nature of Park City, a similar survey would likely have different results.

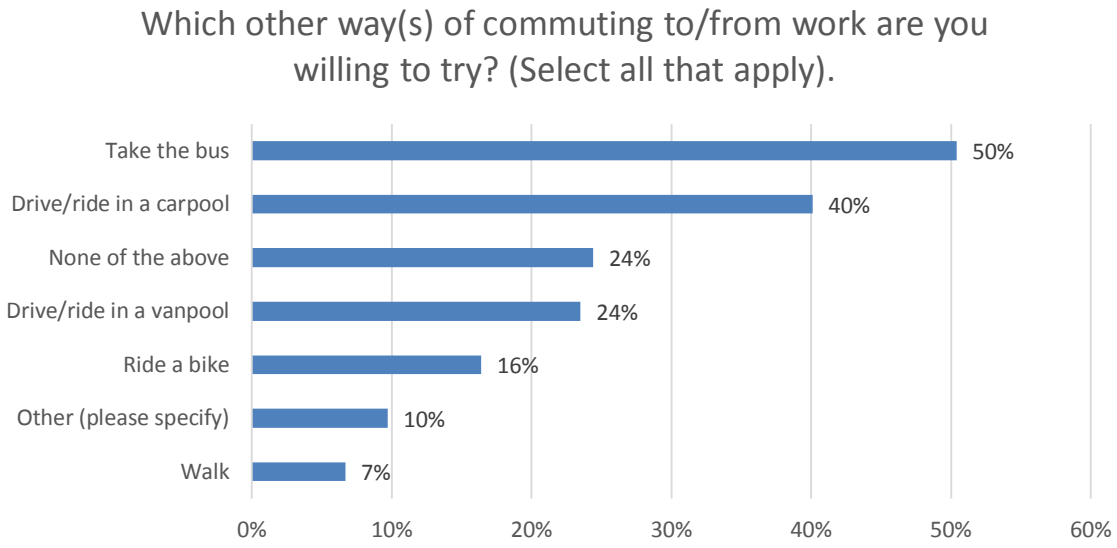
MODE OF WORK ACCESS AND ALTERNATIVES THEY WOULD CONSIDER

Figure 51: Mode of Access to Work



- Those who drive alone tend to do so five days or more a week
- About half of those who take transit do so at least three days a week or more
- Many respondents use alternatives once a week, with telecommuting being the highest one day alternative

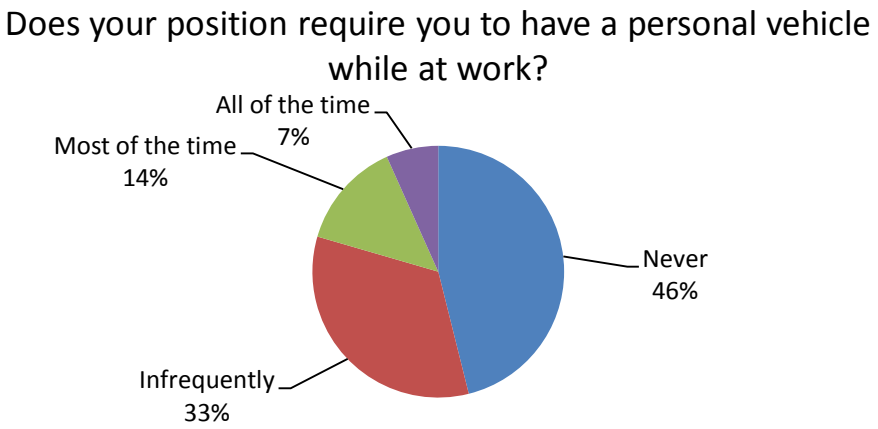
Figure 52: Potential Alternatives



- Transit was the most selected alternative
- Nearly a quarter of the responses suggested that none of the alternatives would be considered

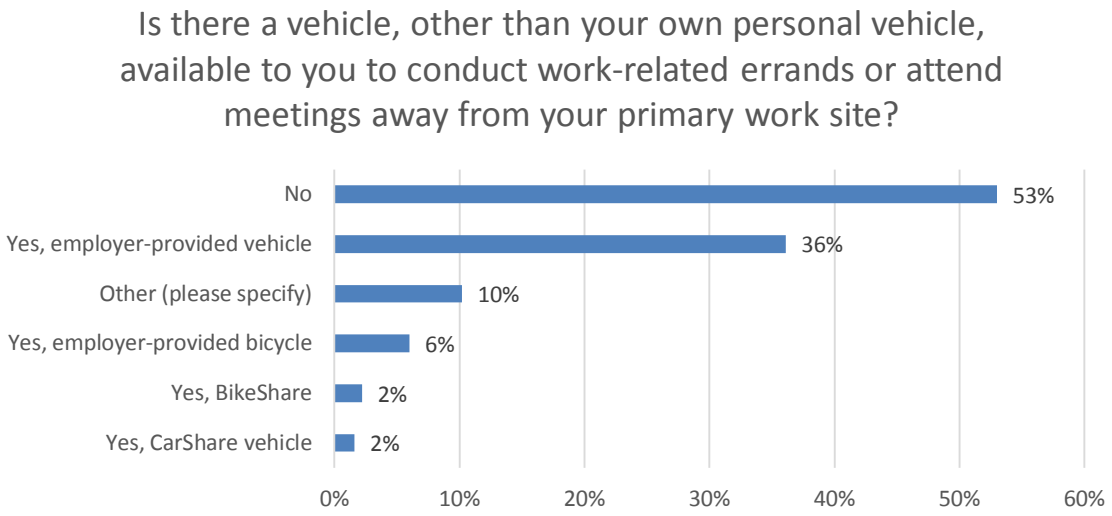
VEHICLE REQUIREMENTS FOR EMPLOYMENT

Figure 53: Work Requires Vehicle



- Almost half of the respondents identified that their position does not require a personal vehicle while at work. This may make certain TDM strategies more feasible since they do not require a vehicle during the day.

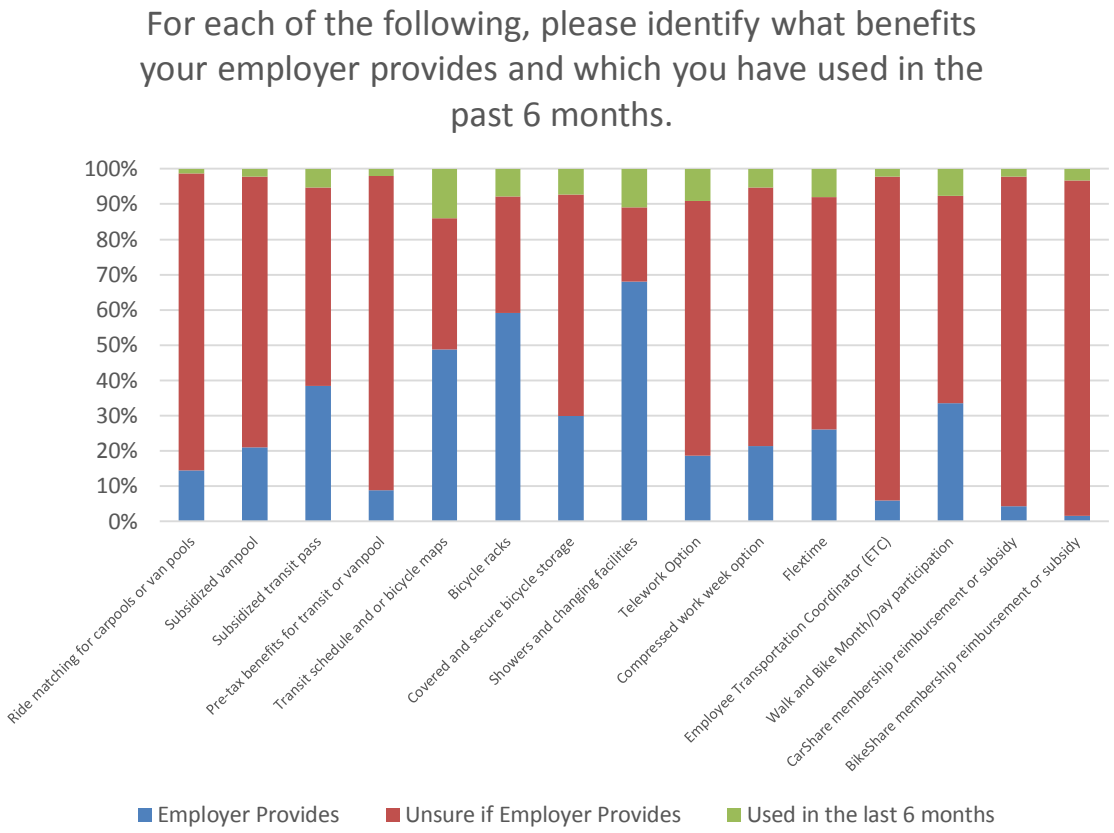
Figure 54: Availability of Shared Vehicle for Work Trips



- More than half of the respondents identified that a shared vehicle is not provided by their employer as an alternative to their own personal vehicle for work-related errands and meetings.

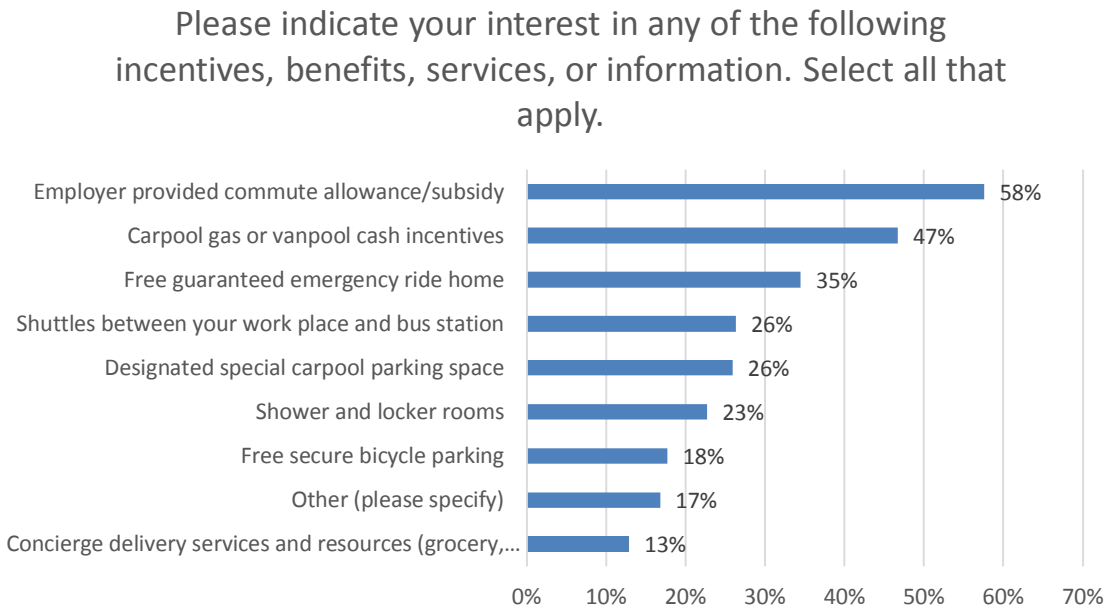
AVAIALABILITY OF TRANSPORTATION BENEFITS AND INTEREST IN BENEFITS

Figure 55: Available Transportation Benefits



- Transit schedule and bicycle maps was the most frequently used in the last 6 months
- Showers and changing facilities were the most frequent benefit cited
- Overall, responses demonstrate the employees do not understand what benefits, if any, are offered by their employer

Figure 56: Interest in Benefits



- Commute allowance/subsidy garnered the most interest

TARGET AUDIENCE SEGMENTS

The following pages segment the target audiences into five groups within the Park City area. As we work on the forthcoming marketing and communications plan, we will continue to study these audiences and drill down into values and trends we think have potential to determine and explain how to approach each of these audiences in order to achieve the plan's goals and objectives.

1) Residents – Living in Park City
2) Part–Time Residents – own a second home in Park City
3) Commuter – work in Park City but live outside of Park City
4) Visitors / Tourists
5) Employees

RESIDENTS LIVING IN PARK CITY AUDIENCE

While Park City residents primarily use their car to get around, they are willing to use alternative modes of transportation such as transit or biking, as long as it is convenient and time effective. Park City residents take pride in their community and enjoy the variety of activities that Park City has to offer. They are middle aged, social, engaged, and physically active.

Table 19: Residents Living in Park City

Demographic Trends	
Geographic location	• Live in Park City and commute to and from work
Travel characteristics	• The car is their main mode of transportation. • They commute to and from work alone in their car and typically, also drive alone on personal trips
Age	• 45-54 years
Gender	• Almost equally split male and female
Socio-economic factors	• Education: likely to have Bachelor's Degree • Average income for Park City
Household Size	• Likely to have children at home
Employment	• Employed locally in Park City
PSYCHOGRAPHIC TRENDS	
Values	• Family values: Sociable and hard-working • Environmentally minded
Behavior	• Commuting daily on State Highway and local Park City roads • Creatures of habit and routine • They enjoy shopping and dining, outdoor recreation and visiting family and friends • Entertainment and special events are a bonus of living in Park City
MOTIVATING SELF-INTERESTS THAT INFLUENCE TRAVEL CHOICES	
	• Convenience seems to be factor in their travel choices • Typical commute time is 17. 7 minutes
STATUS OF RELATIONSHIP WITH PARK CITY	
	• Love where they live and take pride in their community

Table 19: Residents Living in Park City	
INFLUENCERS	
	• Peers & colleagues • Family members • Friends who reside in Park City
TDM STRATEGIES THAT RELATED TO THIS AUDIENCE	
	• Primary: Transit • Secondary: Biking

PART–TIME RESIDENTS – OWN A SECOND HOME IN PARK CITY

Part-time residents are in Park City area with a more vacation-oriented mindset; yet consider themselves locals. They are in Park City for a special event, visiting family and friends or for outdoor recreation. While their car is their main mode of transportation, they are more likely to carpool then to drive alone and are willing to try transit and biking to get around.

Table 20: Part-Time Residents - Own a Second Home In Park City	
DEMOGRAPHIC TRENDS	
Geographic location	• They are in Park City for social purposes, either visiting family or friends
Travel characteristics	• The car is their main mode of transportation • They are more likely to carpool than other Park City residents • Most likely to use alternative modes of transportation in general
Age	• 45-64 years
Gender	• Predominately male
Socio-economic factors	• Average to higher-than-average income • Likely to own primary residence outside of Park City
Household size	• Likely to be empty nesters or have older children living at home
Employment	• Self-employed or retired
PSYCHOGRAPHIC TRENDS	
Values	• Sociable

Table 20: Part-Time Residents - Own a Second Home In Park City	
Behavior	• They enjoy shopping and dining in Park City and outdoor recreation • Entertainment and special events are a bonus while in Park City
MOTIVATING SELF-INTERESTS THAT INFLUENCE TRAVEL CHOICES	
	• They consider themselves locals • They seem to have more of a leisurely approach to their travel while in Park City
STATUS OF RELATIONSHIP WITH PARK CITY	
	• They live in Park City part-time, coming seasonally and/or to visit family
INFLUENCERS	
	• Family members • Friends or family who reside in Park City
TDM STRATEGIES THAT RELATED TO THIS AUDIENCE	
	• Primary: Transit • Secondary: Biking

COMMUTERS WORKING IN PARK CITY BUT LIVING OUTSIDE OF PARK CITY

Commuters in and out of Park City are there solely for work purposes. They may shop or dine while they are in Park City, but their primary purpose is to arrive for work and depart for home. Like others in Park City, their car is their main mode of transportation and they typically drive alone. They are willing to try alternatives modes as long as they are convenient and time efficient, meaning they are more willing to carpool than to take transit.

Table 21: Commuters Working in Park City but Living Outside of Park City	
DEMOGRAPHIC TRENDS	
Geographic location	• They live outside of Park City, but spend the majority of their day in Park City at work

Table 21: Commuters Working in Park City but Living Outside of Park City	
Travel characteristics	• The car is their main mode of transportation • Commute to and from work alone in their car and typically, also drive alone on personal trips • They are more likely to carpool then take transit
Age	• 25-34 years
Gender	• Predominately male
Socio-economic factors	• Some college/ Bachelor's Degree
Household size	• Likely to be single or have young families
Employment	• Employed at Park City Businesses
PSYCHOGRAPHIC TRENDS	
Values	• Sociable
Behavior	• Time spent in Park City is predominately for work; however they will shop or eat while they are there. • Outdoor recreation and visiting family and friends is a secondary to work
MOTIVATING SELF-INTERESTS THAT INFLUENCE TRAVEL CHOICES	
	• Convenience and time seems to be a factor in their travel choices—they are in and out • Quality family time • Time with friends • Time enjoying hobbies or activities outside of work
STATUS OF RELATIONSHIP WITH PARK CITY	
	• They are in Park City solely for work purposes.
INFLUENCERS	
	• Family members • Peers • Colleagues
TDM STRATEGIES THAT RELATED TO THIS AUDIENCE	
	• Primary: Carpool • Secondary: Transit

VISITORS / TOURISTS

Visitors and Tourists are looking for a break from their everyday life and to enjoy a different environment and culture. They are in Park City to play and have fun. They may only be visiting for the day, or stay a few nights, but they will enjoy all that Park City has to offer while they are there. Their car is their main mode of transportation to and from Park City, but they are likely to carpool to get in and out of town. Inside of town, they will walk or take transit to get around.

Table 22: Visitors/Tourists

DEMOGRAPHIC TRENDS	
Geographic location	• They live outside of Park City, but enjoy visiting Park City for special activities
Travel characteristics	• The car is their main mode of transportation to and from Park City • They are likely to carpool with friends or family • Once they are in Park City, they are likely to walk to get around
Age	• 25-64 years
Gender	• Slightly more females than males
Socio-economic factors	• Average income
PSYCHOGRAPHIC TRENDS	
Values	• Family values, cost sensitivity, information access, self-reliance, service • Sociable and active
Behavior	• Time in Park City is for entertainment / special events and/or visiting family and friends • They will likely shop or dine while in Park City • They may or may not stay the night in Park City
MOTIVATING SELF-INTERESTS THAT INFLUENCE TRAVEL CHOICES	
	• Variety, fun, entertainment • Time with family and friends • Break from everyday life/work/responsibilities
STATUS OF RELATIONSHIP WITH PARK CITY	

Table 22: Visitors/Tourists	
	• They are out of town visitors on day trips or short / overnight getaways
INFLUENCERS	
	• Family members • Peers • Friend or family who reside in Park City
TDM STRATEGIES THAT RELATED TO THIS AUDIENCE	
	• Primary: Transit • Secondary: Walk

EMPLOYEES: PERMANENT YEAR-ROUND

Similarly to residents, year-round employees live and work in Park City. Their routine doesn't change much and they drive — by themselves — directly to and from work without the need for side trips or stops. They prefer to have access to their car during the day, whether it is needed or not. Convenience is a motivating factor in their travel choices, however they are willing to consider taking transit, biking, or carpooling, particularly if their employer offered an incentive to do so.

Table 23: Employees: Permanent Year Round	
DEMOGRAPHIC TRENDS	
Geographic location	• They live and work in Park City • They live within 10-19 miles of work
Travel characteristics	• They drive to work five days a week but occasionally will take the bus • Their routing is regular and work hours and commute times rarely change
Socio-economic factors	• Education: Some college / bachelor's degree • Average income
Employment	• Employed locally in Park City
PSYCHOGRAPHIC TRENDS	
Values	• Hard-working

Table 23: Employees: Permanent Year Round	
Behavior	• They drive directly to work and directly home, without the need for side trips or stops
MOTIVATING SELF-INTERESTS THAT INFLUENCE TRAVEL CHOICES	
	• Convenience seems to be a factor in their travel choices. • They seem willing to use an alternative mode, but would like an employer incentive to do so. • They occasionally need a car for work related purposes, but infrequently. They prefer to have their own card available than use an employee provided vehicle or bike • Cost
STATUS OF RELATIONSHIP WITH PARK CITY	
	• They live and work in Park City
INFLUENCERS	
	• Family members • Peers • Colleagues
TDM STRATEGIES THAT RELATED TO THIS AUDIENCE	
	• Primary: Transit • Secondary: Carpool

EMPLOYEES: SEASONAL

Seasonal employees are just that — seasonal. They live and work part of the year in Park City and move elsewhere during the "off season." Seasonal workers tend to live a little closer to work, some less than 2 miles, however they still prefer to drive alone in their car to work, though they will occasionally take transit. Like their year-round counterparts, they are willing to take transit or carpool, particularly if their employer offered an incentive to do so.

Table 24: Employees: Seasonal	
DEMOGRAPHIC TRENDS	
Geographic location	• They live and work in Park City part-time • During their time in Park City, they live within 2-19 miles of work
Travel characteristics	• They drive to work five days a week and will occasionally take transit • Their routing is regular and work hours and commute times rarely change
Gender	• Slightly more females than males
Socio-economic factors	• Education: High school/some college • Below average income • Likely to rent of live in employee provided housing while in Park City. • Likely to rent out-of-state during "off season."
Employment	• Employed locally in Park City
PSYCHOGRAPHIC TRENDS	
Values	• Hard-working
Behavior	• They drive directly to work and directly home, without the need for side trips or stops
MOTIVATING SELF-INTERESTS THAT INFLUENCE TRAVEL CHOICES	
	• Convenience seems to be a factor in their travel choices • They seem willing to use an alternative mode, but would like an employer incentive to do so. • Their job does not require a vehicle but they prefer to have access to their personal car during the day. • Cost
STATUS OF RELATIONSHIP WITH PARK CITY	
	• They live and work in Park City part of the year
INFLUENCERS	
	• Managers/executives • Friends • Peers & Colleagues
TDM STRATEGIES THAT RELATED TO THIS AUDIENCE	
	• Primary: Transit • Secondary: Carpool

OPPORTUNITIES

We suggest an initial focus on the following travel markets:

1. Employees who live in Salt Lake City who may benefit from several TDM strategies. Among the likely most effective are:

- Existing "express" bus service is already in place. Modifying the hours of operation and frequency to accommodate shift times that start between noon and 6pm and end between 9pm and 2am would make this an attractive option for many, particularly in the winter, when driving late at night can be treacherous. Evaluating where this service stops in Salt Lake City (relative to where seasonal and year-round employees live), as well as stops at other central locations such as Park and Ride lots may also be appropriate. If existing service cannot be sufficiently extended, perhaps an Express Shuttle could be launched that coincides with specific start/stop shift times.
- Additional analysis of where workers live within the Salt Lake City area may also inform locations for Express stops and potential ridesharing, casual carpooling, vanpools, etc.
- Marketing the availability of these transportation services (and offering a seasonal pass at a deep discount from a per-ride fee) is something that can easily be included in the new hire process. This may also help encourage seasonal employees to live in locations well-served by these transportation alternatives. It should be marketed both in the 'pre-hire' phase as well as during new employee orientations.

2. Employees who live in the Park City and its environs is the second market niche. Transportation alternatives for this group have the added benefits of serving many in the residential community. Among the likely most effective strategies to pursue are:

- Add bus capacity during peak times. Through adding additional buses during peak times and seasons, PCT could eliminate overcrowding. In staggering these additional buses, PCT could offer more frequent service during bus periods. As evident in the 2014 and 2015 ridership data, busy times are 3-5 PM in the winter, and 1-5 PM in the summer. According to the FY 14-15 ridership by route, the City Routes and Kimball Junction routes have the highest ridership, and should be considered as possible routes for additional frequency. Since 36% of the Park City employees are seasonal, increasing transit during peak season times can help to accommodate both local commuters and the visitor populations.

- Reconfiguring hours of operation to reflect a higher need for afternoon-late night service. Providing nighttime service will benefit not only employees, but residents and visitors, as well. If existing local transit is not sufficient in other 'non-peak' times such as mornings, we suggest looking into how this need may be handled by a demand-response service to balance the higher frequencies needed later in the day and evening.
- Establishing casual carpools and rideshare opportunities through technology that run along key 'corridors' and between specific areas/resorts; and offering discounted parking passes for such high occupancy vehicles. These same alternatives must be available in the return direction late at night and be supported with a robust Guaranteed Ride Home program for added reliability.
- Safe and pleasant bike routes (summer). Again, these facilities benefit the entire community.

3. The schools was an area where dangerous 'bottlenecks' were cited. Adjusting school start and stop times by a matter of 15 or 20 minutes can be very effective in improving safety and traffic flows. Other strategies like walking school bus programs, carpool programs or transit service focused on serving this market present additional opportunities.

4. Visitors who are staying in Park City for several days are receptive to a 'car-free' experience. The recent Intercept Surveys indicate that this group of travelers is open to using transit, ridesharing, walking and biking. Needed for this market niche are programs such as:

- Car-sharing and car rentals within Park City
- Good connections (private and public) from the airport to Park City
- Shuttle and/or bus services that run "24/7" within Park City and connect between various hubs and destinations
- Safe walking conditions
- Safe and enjoyable biking conditions (for the summer months)
- Marketing and information provided at the time reservations are booked (i.e. a pop-up on Expedia). This is also an opportunity to align closely with the Lodging Association and other travel/hospitality associations to make sure information is readily available.

5. Lastly, Park City is home to many local, regional and national "events." Events management is critical as more and more days in the year have some type of event occurring. Strategies may include:

- Certain levels of traffic safety/direction (officers directing traffic) on duty for crowds of certain sizes which allow priority for high occupancy vehicles to get in and out as quickly as possible; maintain control of crowded intersections and minimize conflicts between pedestrians, private automobiles and buses.
- Satellite parking facilities with shuttles running to destinations.
- Extra shuttles running (locally and from Salt Lake City).
- Transit pass sales in conjunction with event ticket purchase.

The research in this report also suggests that other opportunities also exist, including focusing on visitors who only spend the day in Park City as another key travel market. Strategies like dynamic parking pricing, additional transit service, and efforts to have people park once and then use other modes to get around the area all offering an opportunity to improve transportation demand management.

By starting with a focus on converting single occupant vehicle (SOV) drivers (both employees and visitors) coming into Park City from major origins such as Salt Lake City to higher occupancy modes, there is an opportunity to improve bottlenecks and help make existing transit services more efficient. Programs which help those SOV drivers who live, work, visit, or are staying in Park City use higher occupancy and/or more active transportation modes will help reduce demand for parking and possibly the need to build more parking.

As Park City partners with existing service providers and the business community to design these services, it will be important to remember that essential values must include: convenience, pricing, frequency and reliability, ease of use, and providing choices – as not just one mode can provide a total solution.

FEHR PEERS

CHAPTER FOUR

TDM STRATEGIES

Overview

To develop a list of proposed TDM strategies for Park City, Fehr & Peers used the analysis of existing conditions, national research, peer community review and market and opportunity information. The estimates of TDM strategy effectiveness are based on a literature review prepared by Fehr & Peers for the California Air Pollution Control Officers Association (CAPCOA) in 2010. The strategy list and effectiveness estimates were updated based on recent work that the consultant team has conducted for other clients, including the City of San Francisco, major employers in the San Francisco Bay Area, and transit operators in the Sierra Nevada. The estimates were further refined using planning judgment and local knowledge. Lastly, Fehr & Peers coordinated with Park City staff to refine which strategies they believe would be most effective.

PARK CITY 1884

PHOTO: WIKIPEDIA USER MRS KEYSER SOZE

PROPOSED STRATEGIES

Table 25 presents a list of proposed TDM strategies for Park City to pursue. For each strategy, the table identifies target travel markets and the primary parties responsible for implementation, presents estimates of timing, effectiveness, and costs, and notes caveats or limitations. Strategies are also classified by primary mode type.

Bicycling/Walking Strategies

Bicycling strategies were identified by reviewing successful strategies from other regions. These strategies are primarily focused on providing support facilities for bicyclists and removing common barriers to cycling for commute trips.

- **Bicycle Parking at Key Destinations and Transit Stops:** Provides safe and convenient locations to park and store bicycles, encouraging their use and removing barriers such as frustration in finding secure parking and bicycle theft. This includes providing: 1) short-term parking in highly visible at destinations and transit stops, and 2) long-term parking, such as indoor or sheltered parking cages and bicycle lockers at workplaces and residential developments. Bicycle parking should be required at all new developments. Parking should also be provided at key destinations for year-round and seasonal residents and employees, such as: resorts, hotels, downtown restaurants and shops, grocery stores, coffee shops, the library and Post office, etc.
- **Bicycle Repair Stands:** Do-it-yourself bicycle repair stands offer an air pump and basic tools to make minor bicycle repairs. This encourages bicycle use by removing concerns related to common maintenance and repair issues. Repair stands should be located near short-term and long-term bicycle parking. The City could look to partner with existing local bike shops to reduce costs while generating new exposure opportunities and business for the shops.
- **Electric Bicycle Share System:** Public bikeshare systems offer accessible shared bicycles for first-and-last mile trips, longer trips, or both. While the majority of bikeshare operators charge for use (membership and fees), some community-based bikeshare organizations do not. Bikeshare systems typically permit both one-way trips and round-

trips, as well as instant access (without a reservation) via a network of docking stations for retrieving and parking bikes.

- **Bike Showers/Lockers:** Showers and lockers help promote bicycling and walking as a commute options by providing storage and hygiene facilities after active transportation commuting. Bike showers and lockers can be required at new office and retail developments, but can also be added to areas that already provide multimodal facilities. The Old Town Transit Center is a logical place for such facilities.
- **Walking/Biking School Bus (seasonal):** A program that coordinates volunteers to provide adult supervision to groups of children that either walk or bicycle to school, reducing safety-related concerns. Programs can include multiple routes and schedules.

DEMAND MANAGEMENT/PEAK SPREADING STRATEGIES

Demand Management/Peak Spreading strategies are centered on reducing volumes during peak travel times – especially during winter ski season. Volumes in the winter are highest in the late afternoon and early evening as people leave resort areas. By providing resort users with information on travel times and conditions and giving them opportunities to do something until conditions improve can reduce PM peak volumes and spread this peak. These strategies should be used in tandem to achieve peak spreading.

- **Real-Time Information Gathering and Messaging:** Providing information on travel conditions and travel times can help resort users make more informed decisions on when they leave. If they understand that travel times are growing the can instead choose to linger longer and avoid adding to congested roadways. VMS signs can be used at key locations to provide this information as well as mobile applications that allow users to both view and participate in providing travel time information and conditions.
- **Additional Evening Recreation Opportunities/Amenities:** While information can help users decide to wait to travel, if there is little to do while waiting few will choose to do so. Providing additional opportunities and amenities at resort locations can provide another activity for visitors and tourists, allowing them to leave later in the day or evening, relieving peak congestion and spreading peak PM travel.

POLICY STRATEGIES

Land use strategies were identified by reviewing successful strategies from other regions and that could be implemented through land use development code modifications.

- **Policy: Density Bonus for Parking Reduction:** A density bonus for parking reductions offers an incentive for a developer to add units or square footage to a project beyond what would normally be allowed under existing zoning if they lower the average number of parking spaces provided for the project.
- **Policy: TDM Requirements for New Developments or Redevelopment of a Certain Size:** This policy would require new development or redevelopment over a certain size to include TDM strategies and programs as part of the entitlement process. Typically developments must submit an annual report to track TDM program performance. It is recommended that this strategy be used for employers that have 20 or more employees.

- **Policy: Provide Affordable Employee Housing**: Providing affordable housing for Park City employees can support trip-reduction goals as well as supporting the needs of local businesses and employees. Employees who live near work are more able to use transit, walk or bicycle, and locating employees in Park City reduces highway congestion even if they drive alone or carpool to work. Affordable housing can be required as portion of new housing development or developed as a public-private partnership with employers. Resorts can also include affordable housing, beyond requirements of development approvals. For example, Vail resorts recently announced it would spend $30 million on employee housing projects across their locations, which includes Park City Mountain Resort.

PARKING STRATEGIES

Parking strategies were identified by reviewing strategies used in other resort communities.

- **Efficient Parking (Joint, Flex, and Satellite Parking):** Joint, often called shared parking, allows multiple developments to utilize one parking lot or structure rather that building separate facilities. This is particularly beneficial when uses with differing periods of peak parking demand can share the space, such as a theater and office uses. Satellite parking allows users to "park once" away from congested corridors and use other modes to access sites. A facility located off of I-80 where users could access transit would help reduce demand on SR-224, while additional use of the Richardson Flat Park and Ride would help manage demand on SR-248.
- **Parking Demand Management:** Parking demand management can be done in several ways. Two common methods include: 1) unbundling parking at new multifamily and condo developments, and 2) implementing employee parking "cash-out" programs. 1) Unbundling parking separates parking from property purchase and/or costs, requiring those who wish to purchase or rent parking spaces to do so at an additional cost from the property cost. This removes the burden from those who do not wish to utilize a parking space, and incentivizes reduced auto ownership. 2) With parking "cash-out," employees receive the cash equivalent of employer-provided parking if they elect to forgo parking. This provides a financial incentive to use a mode other than driving alone to work.

- **Parking Supply Management:** When combined with companion TDM measures, reduced parking supply discourages drive-alone commuting by making parking somewhat less easy and convenient.
- **School Parking Management:** Reducing the amount of vehicle parking, especially for students at high-school locations, incentivizes the use of other modes like walking, biking or transit.

PROGRAM STRATEGIES

Program strategies are not specifically related to a particular mode of transportation, but support and incentivize the use of alternative transportation options by promoting their use and offering services that can reduce travel needs. The strategies below are common programs that are used in successful TDM programs. Please note that following strategies are also ranked in order of importance.

- **Require TDM Coordinators at Major Employers:** Transportation coordinators are responsible for developing, marketing, implementing, and evaluating TDM programs. Having dedicated personnel on staff helps to make the TDM program more robust, consistent, and reliable. Depending on the size of the employer and the transportation services they already offer, the TDM coordinator could be a member of existing staff. Park City staff of the Park City Chamber of Commerce can provide TDM coordination services for smaller employers. The major ski resorts are also good candidates for implementing this strategy.
- **Provide Tailored Information and Promotions:** Targeted messaging and promotions ensure that different market segments (commuters, parents, residents, visitors) are aware of the TDM measures most relevant to their needs.
- **On-site Day Care or Day Care Brokerage Services:** Providing on-site child care allows greater flexibility for employee commuter schedules. It also reduces the number of trips that employees must make during the day, making use of transit and other modes more feasible. Major resorts and hotels in Park City and Kimball Junction already provide licensed drop-in child care centers; expanding or subsidizing child care access for employees at existing facilities would be a near-term first step for this strategy.

RIDESHARE STRATEGIES

Rideshare strategies were identified by reviewing the elements of successful TDM programs.

- **Carpool/Vanpool Parking:** Designating parking spaces for carpools and vanpools near building entrances at workplaces prioritizes non-drive-alone modes, incentivizing their use. Designated carpool and vanpool spaces can be added to both existing and new commercial developments. This strategy may be especially useful in the resort areas where convenient parking is at a premium.
- **Rideshare Program:** Rideshare programs help carpools to form by matching drivers and passengers.
- **Vanpool Program:** Vanpool programs help pools to form by matching drivers and passengers and by providing or subsidizing vans. In addition to subsidized vans, a vanpool matching program can coordinate incentives for riders, such as pre-tax commuter benefits.
- **School-oriented Carpools:** A rideshare program that focuses on matching parents and students to reduce SOV use and traffic congestion at schools within Park City.

TRANSIT STRATEGIES

Transit strategies were identified by evaluating origin and destination data for people traveling to Park City and by reviewing gaps in existing transit coverage and schedules. Cost estimates were developed based on the cost of current transit service and similar service in other resort towns.

- **Charter Buses for Large Events:** Using charter buses during large events allows for the temporary addition of capacity to the transit system without having to maintain those assets on an ongoing basis. The Sundance Film Festival could benefit from the use of more charter buses to provide additional capacity and service.
- **Expanded Commute Options (improvements to regional transit service):** Providing bus service to pick up and drop off employees from home to work can replace drive-alone trips. Comfortable seats and a wireless internet connection, especially during trips that travel longer distances, provide an attractive alternative to driving in congested conditions. A range of potential service options stretch from commuter-only service in winter only, to a comprehensive commuter/general public service operating year-round. Estimated combined ridership for new service to Heber City, Kamas, and Coalville is

133,700 annual trips, or a roughly seven percent increase over current Park City Transit ridership levels.

- **Increase Transit Frequency to Kimball Junction:** Increased transit frequency can expand capacity during peak hours and make transit use more convenient. Current capacity was noted as a clear issue during the review of existing conditions. Increased transit frequency to Kimball Junction is estimated to increase transit ridership (one-way passenger-trips) by 84,000 over the course of the 119-day winter season, or an average of 651 per day. This is equivalent to a 28% growth in transit ridership over the key SR-224 corridor.
- **Shuttle Bus Service:** Operation of shuttle service to nearby transportation hubs and major destinations (such as SLC Airport and Kimball Junction) makes it easy for visitors and commuters to use transit.
- **Subsidized Transit for Inter-City Commuters:** Employer-subsidized transit passes, either through pre-tax benefit programs such as Commuter Check or by purchasing passes directly, provide a financial incentive for employees to use transit.
- **Transit Jump Queue Lanes:** Transit-only lanes allow transit vehicles to bypass congestion and reduce delay at intersections, giving transit vehicles priority access through intersections, which reduces transit travel times and improves reliability. Previous studies by Fehr & Peers have identified several bottleneck intersections that would benefit from transit priority treatments. Those key intersections as well as others that should be included are SR-224/Meadows Dr., SR-224/Holiday Ranch Loop Rd., SR-224/Snow Canyon Dr., SR-224/SR-248**,** SR-224/Deer Valley Dr./Empire Ave., SR-248/Bonanza Dr., and SR-248/Comstock Dr.
- **Transit Vehicle Signal Pre-emption:** Signal pre-emption allows the normal operation of signals to be pre-empted for transit vehicles by either holding green light phases longer or by starting them earlier through wireless communication between the transit vehicle and signals. This gives transit vehicles priority access through intersections, which reduces transit travel times and improves reliability. Locations for this type of improvement are the same as those cited for transit jump queue lanes.

Table 25: Park City TDM Strategy Shortlist

Strategy	Travel Market Focus	TMA Involved	Primary Implementation Parties	Timeframe	Estimated Efficacy	Cost Range	Notes/Caveats
Bicycling/Walking Strategies							
Bicycle Parking	Residents Part-Time Residents Commuters Employees	Yes	City	Ongoing	(1) 0-1% reduction in VMT when parking is provided at commercial developments[1]	$400-$700 per rack, including equipment and installation[2]	-
Bicycle Repair Stands	Residents Part-Time Residents Commuters Employees	No	City	Near-term	Supports other bicycling/walking strategies	$800-$1,500 per stand[3]	Piloted during Bike to Work Week; consider installing at key destinations and bicycle parking around Park City
Electric Bicycle Share System	Residents Part-Time Residents Visitors/Tourists	Yes	City, Businesses	Near-term	10% of Capitol Bikeshare strategies respondents would take taxi or personal/company auto for trip surveyed about if bike share were not available (2013 report)[4]	$1.5-2.5 M for capital and operating costs of a three-year pilot program (25 stations, 90 bicycles)[5]	Effectiveness estimates for standard (non-electric) bicycle share systems.
Bike Showers/Lockers	Commuters Employees	No	City, Businesses	Ongoing	0-5% reduction in commute VMT[1]	Lockers: $1,000 to $2,500 per bicycle, including materials and installation.[2]	-
Walking/Biking School Bus	Residents	No	City, County, Schools	Immediate	Supports other trip reduction strategies	-	Seasonal: Fall and Spring only
Demand Management/Peak Spreading							

Table 25: Park City TDM Strategy Shortlist

Strategy	Travel Market Focus	TMA Involved	Primary Implementation Parties	Timeframe	Estimated Efficacy	Cost Range	Notes/Caveats
Real-Time Information Gathering and Messaging	Visitors/Tourists	No	UDOT	Near-term	-	-	-
Additional Evening Recreation Opportunities/Amenities	Visitors/Tourists	No	Resort Businesses	Near-term	-	-	-
Policy Strategies							
Policy: Density Bonus for Parking Reduction	Residents Part-Time Residents	No	City	Long-term	Supports parking strategies	-	-
Policy: TDM for New Developments	Residents Part-Time Residents Commuters Visitors/Tourists Employees	No	City	Long-term	Supports other TDM strategies	-	-
Policy: Provide Affordable Employee Housing	Employees	No	City	Long-term	0.04-1.20% reduction in vehicle miles traveled[1]	-	Affordable housing could be required as portion of new housing development or developed as public-private partnership
Parking Strategies							
Efficient Parking (Joint, Flex, and Satellite Parking)	Commuters Visitors/Tourists Employees	Yes	City, County, Businesses	Near-term	Supports other parking strategies	-	-

Table 25: Park City TDM Strategy Shortlist

Strategy	Travel Market Focus	TMA Involved	Primary Implementation Parties	Timeframe	Estimated Efficacy	Cost Range	Notes/Caveats
Parking Demand Management	Residents Part-Time Residents Commuters Employees	Yes	City, Businesses	Long-term	Unbundled parking: 2.6% - 13% reduction in VMT Parking Cash-out: 3.0% - 7.7%	-	-
Parking Supply Management	Commuters Visitors/Tourists Employees	Yes	City, Businesses	Long-term	5% - 12.5% reduction in VMT	-	Requires a shift in parking policy
School Parking Management	Residents	No	City, County, Schools	Near-term	Supports other school strategies	*Marketing Cost:* $7.50-12.50/per person targeted, includes staff time and materials[7]	Potential strategies would include: - No pick-up zones around school - Park & ride lots to consolidate trips - Marketing and incentives to encourage student transit use
Program Strategies							
Require TDM Coordinators at Major Employers	Commuters Employees	Yes	City, Businesses	Near-term	4% - 5% commute vehicle trip reduction from full-scale employer support	-	Threshold for classification of major employers to be determined (example 50 employees or more).

Table 25: Park City TDM Strategy Shortlist

Strategy	Travel Market Focus	TMA Involved	Primary Implementation Parties	Timeframe	Estimated Efficacy	Cost Range	Notes/Caveats
Provide Tailored Information and Promotions	Residents Part-Time Residents Commuters Visitors/Tourists Employees	Yes	City, Businesses	Near-term	4% - 5% commute vehicle trip reduction from full-scale employer support	*Marketing Cost:* $7.50-12.50/per person targeted; includes staff time and materials[7]	-
On-site Day Care or Day-Care Brokerage Services	Commuters Employees	Yes	Businesses	Ongoing	Supports other commute strategies	No fixed cost; employers may choose to subsidize on-site or nearby daycare for their employees	Major resorts and hotels in Park City and Kimball Junction already provide licensed drop-in daycare centers
Rideshare Strategies							
Carpool/Vanpool Parking	Residents Part-Time Residents Commuters Visitors/Tourists Employees	Yes	City, County, Businesses	Near-term	Supports other rideshare strategies	*Capital Cost:* $150-300 per designated space (pavement markings)[2]	-
Rideshare Program	Commuters Employees	Yes	City, County, Businesses	Near-term	1% - 15% reduction in commute VMT of levels of services and origins/destinations served	*Startup Cost:* $5,000 - $10,000 *Operating Cost:* $24,000-48,000 per year. Includes full-service ridematching, travel information website, and smartphone application[8]	This strategy should only be required as part of a TMA or in conjunction with brokerage services to ensure ongoing compliance

Table 25: Park City TDM Strategy Shortlist

Strategy	Travel Market Focus	TMA Involved	Primary Implementation Parties	Timeframe	Estimated Efficacy	Cost Range	Notes/Caveats
School-oriented Carpools	Residents	No	City, County, Schools	Immediate	7.2%-15.8% reduction in school trip VMT	*Startup Cost*: $5,000 - $10,000 *Operating Cost:* $24,000-48,000 per year. Includes full-service ridematching, travel information website, and smartphone application[8]	Denver SchoolPool program used carpool match software and GIS to identify potential carpool matches among families and private schools across the Denver metro area. 16% of families in database joined carpools
Vanpool Program	Commuters Employees	Yes	City, County, Businesses, UTA	Near-term	0.3% - 13.4% reduction in commute VMT	*Operating Cost:* $1,000-1,500/month per van, plus $125/user in Federal Commuter Tax benefits (which employers can write off their payroll taxes)[3]	-
Transit Strategies							
Charter Buses for Large Events	Visitors/Tourists	Yes	City, County	Ongoing	Supports other trip-reduction strategies	Rental Cost: $500-$3000 per day per bus , depending on size and time required[3]	-

Table 25: Park City TDM Strategy Shortlist

Strategy	Travel Market Focus	TMA Involved	Primary Implementation Parties	Timeframe	Estimated Efficacy	Cost Range	Notes/Caveats
Expanded Regional Commute Options	Commuters	Yes	City, County, UTA	Near-term	Dividing the ridership by estimated average vehicle occupancy, services could remove up to 90,000 vehicle-trips from Park City roadways each year, or up to 316 over a winter day[9]	Capital Cost: $0 - $1,200,000 *Operating Cost:* $48,000 - $823,700 [9]	Expanded service to Heber City, Kamas, and Coalville
Increase Transit Frequency to Kimball Junction	Residents Part-Time Residents Commuters Visitors/Tourists Employees	Yes	City, County	Immediate	Applying an average occupancy of the vehicles removed from SR 224 by this strategy of 1.6 (given the mix of commuters, visitors and resident non-work trips), this strategy would take 53,000 trips off of SR 224 over the winter, or an average of 407 per day[9]	Capital Cost: $1,200,000 Operating Cost: $425,000[9]	Minimum frequency: every 15 minutes

Table 25: Park City TDM Strategy Shortlist

Strategy	Travel Market Focus	TMA Involved	Primary Implementation Parties	Timeframe	Estimated Efficacy	Cost Range	Notes/Caveats
Shuttle Bus Service	Commuters Visitors/Tourists	Yes	City, County	Near-term	Two data sources: (1) 0.3% - 13.4% reduction in commute VMT[1] (2) Stated preference survey of ~1K intra-city shuttle users reported that 27% would have driven alone and 2.7% would have carpooled[10]	*Operating Cost:* $2,000-$4,000 per commuter[11]	Employer-sponsored commute shuttles
Subsidized Transit for Inter-City Commuters	Commuters	Yes	City, County, UTA	Long-term	0.3% - 20.0% reduction in commute VMT[1]	*Operating Cost:* Assuming that each rider on new transit lines to Kamas/ Heber/Coalville receives a fare subsidy of $3-$6/day, approximately $1M-$2M per year Cost varies based on number of riders and amount of subsidies.	Transit within Park City is currently subsidized; strategy would subsidize inter-city and regional service such as SLC-PC connect and/or future service to Kamas/Heber, etc.

Table 25: Park City TDM Strategy Shortlist

Strategy	Travel Market Focus	TMA Involved	Primary Implementation Parties	Timeframe	Estimated Efficacy	Cost Range	Notes/Caveats
Transit Jump Queue Lanes	Residents Part-Time Residents Commuters Visitors/Tourists Employees	No	City, County, UDOT	Near-term	0.02-2.5% reduction in VMT for increased frequency (reduction in headways); 4-15% increase in annual transit ridership for reduction[1]	No fixed cost; costs vary with extent of transit jump queue lanes	VMT reductions and increased transit mode share will depend on the degree and type of operational improvements that result from this strategy
Transit Vehicle Signal Pre-emption	Residents Part-Time Residents Commuters Visitors/Tourists Employees	No	City, County, UDOT	Near-term	0.02-2.5% reduction in VMT for increased frequency (reduction in headways); 4-15% increase in annual transit ridership for reduction[1]	No fixed cost; costs vary with number of intersections included in transit priority corridor	VMT reductions and increased transit mode share will depend on the degree and type of operational improvements that result from this strategy

Sources:
1. *Quantifying Greenhouse Gas Mitigation Measures*, California Air Pollution Control Officers Association, August 2010 (CAPCOA).
2. *Costs for Pedestrian and Bicyclist Infrastructure Improvements*, UNC Highway Safety Research Center, October 2013.
3. Vendor websites.
4. Capital Bikeshare Member Survey Report, Capital Bikeshare, 2011; Capital Bikeshare Member Survey Report, Capital Bikeshare, 2013.
5. Estimate based on reported costs for City Car Share electric bicycle share pilot program in Berkeley, California.
6. Commuter Connections Website, www.commuterconnections.org.
7. *Portland SmartTrips*, Pedestrian and Bicycle Information Center, http://www.pedbikeinfo.org/data/library/details.cfm?id=3961.
8. Telephone conversation with Jeff Chernick, CEO of RideAmigos, December 2013.
9. Analysis by LSC Transportation Consultants, Inc., November 2015.
10. *Memorandum: Draft Assessment of GHG Emissions Impacts for the Commuter Shuttle Pilot Program*, ICF International, March 2014.
11. Private communication from Dominic Monaghan, RidePal, December 2013.

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CHAPTER FIVE

PERFORMANCE MEASURES

Overview

Developing performance measures and a monitoring approach is a vital element in implementing a successful TDM program. Effective measures and monitoring will allow Park City to track progress over time and understand if the strategies are providing anticipated results and progress towards goals. This information can be used to adjust strategies as conditions change. This data can also be used to help employers, businesses, and other developments monitor either required or voluntary TDM programs at individual locations. This chapter provides recommendations on performance measures and corresponding data collection methods that can be used to evaluate TDM compliance and performance.

PARK CITY 1884

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PROPOSED PERFORMANCE MEASURES

Table 26 presents a list of proposed performance measures and data collection methods for the Park City TDM program. The proposed performance measures are linked to the goals that they promote and to similar performance measures and metrics identified in the Park City Transportation Master Plan (2011). For each performance measure, a data collection method is identified as well as the responsible party. Order-of-magnitude cost ranges (high, medium, and low) and priorities (1, 2, and 3) are listed for each data collection method. While the Transportation Management Association (TMA) is not listed as a responsible party for data collection, the TMA can establish standards for data collection as well as coordinate these efforts.

COLLECTION METHODS

Affordable Housing Inventory

Review of affordable housing units within the Park City municipal boundaries compared to the total number of housing units in the city. It is recommended that affordable housing be defined as units that are at least 80 percent below the average median income (AMI).

Performance measures addressed:

#17. Local affordable housing options for employees.

Frequency: Annual

Responsible Party: City

Bike Counts

Survey count of bicycle users to and from major destinations, usually conducted over at least a 12 hour period.

Performance measures addressed:

#13. Increase in bicycle use in summer months

Frequency: Annual (summer)

Responsible Party: City

Employee Survey

Surveys conducted by employers with more than 20 employees. These surveys are designed to assess commuting habits and awareness of TDM program elements.

Performance measures addressed:

#11. Increase in carpooling/vanpooling, #15. Shorter commute distances, #23. Number of potential users who are aware of programs and services.

Frequency: Annual

Responsible Party: Employers

Employer TDM Report

Report submitted by employers with more than 20 employees that describes the available TDM program and an assessment of the participation levels in the TDM programs and services.

Performance measures addressed:

#23. Number of participants in employer programs and services.

Frequency: Annual

Responsible Party: Employers

Field Travel Time Assessment and Report

Conducted to determine average travel time by bicycle to and from major destinations. Alternatively, these travel times could be estimated in the future through Google maps, which often provides multi-modal travel time estimates by time of day.

Performance measures addressed:

#12. Increase and maintain competitive bicycle travel time to and from major destination areas.

Frequency: Annual

Responsible Party: City

GIS Analysis

A geospatial analysis that allows users to capture, store, manipulate, analyze, manage, and present data. In this instance, GIS analysis can be used to determine the number of housing units that are within a certain proximity to transit routes and paved trails.

Performance measures addressed:

#16. Percentage of housing units within 1/4 mile of transit routes and paved multiuse trails.

Frequency: Annual

Responsible Party: City

Intercept Surveys

Surveys conducted at major destinations to assess travel habits and behaviors. This includes surveys conducted during regular weekdays, Saturdays, and event days. It is recommended that these surveys particularly focus on how visitors arrive to and from Park City.

Performance measures addressed:

#9. Increase in visitor use of transit.

Frequency: Biannual (winter, summer)

Responsible Party: City

Parking Utilization

Parking counts conducted to compare parking supply and demand. Over time these can be used to understand changes in travel behavior. These should be conducted at resorts and other major destination locations, major employer locations (20 or more employees), and multi-family developments.

Performance measures addressed:

#18. Reduction in parking utilization.

Frequency: Biannual (winter and summer)

Responsible Party: City

Pedestrian Counts

Survey count of pedestrian users at major destinations, usually conducted over at least a 12 hour period.

Performance measures addressed:

#14. Increase in pedestrian access in summer months

Frequency: Annual (winter and summer)

Responsible Party: City

Transit Ridership Reports

Report that shows the number of customers served by regional or local transit routes that serve Park City.

Performance measures addressed:

#4. Increase in regional transportation ridership.

Frequency: Annual

Responsible Party: Transit Operators

Transit Operator Reports

Report that show levels of service including hours of operation, number of routes, fleet size, park-and-rides, and other service related information. This information is often found in the agency's Comprehensive Annual Financial Report (CAFR). Regional operators may need to provide additional reporting to highlight only the service that operates to and from Park City. Reporting on competitive transit travel times will require additional effort by the transit agency.

Performance measures addressed:

#2. Increase daily bus hours of regional transit service to and from Park City. #3. Provide additional regional transit routes to neighboring communities. #6. Increase frequency on Park City transit network. #7. Increase and maintain competitive transit travel time (7).

Frequency: Annual

Responsible Party: Transit Operators

Vehicle Cordon Counts

Survey count of vehicle volumes at a screen line locations on major roadway corridors. Typically conducted over a 24 hour period in increments of 15 minutes that allow passenger vehicles and freight vehicle volumes to be reported separately. These counts can often be completed in conjunction with vehicle occupancy counts.

Performance measures addressed:

#20. Growth in traffic volume on gateway corridors (peak and daily) will not exceed the percentage growth in annual housing and employment growth. #21. Growth in traffic volume on internal

corridors (peak and daily) will not exceed the percentage growth in annual housing and employment growth.

Frequency: Biannual (winter and summer)

Responsible Party: City

Vehicle Occupancy Counts

Survey of the number of occupants of automobiles at screen line locations on major roadway corridors. Typically conducted over a 24 hour period in increments of 15 minutes. These counts can often be completed in conjunction with vehicle cordon counts.

Performance measures addressed:

#1. Reduction in drive-alone mode share for trips on gateway corridors.

Frequency: Biannual (winter and summer)

Responsible Party: City

Table 26: Park City TDM Performance Measures

Goal	Metrics/Performance Measures	Similar Park City Transportation Master Plan (2011) Metric/Performance Measure	Collection Method	Frequency	Responsible Party	Priority	Cost to collect
Reduce single-occupant vehicle (SOV) mode share	1. Reduction in drive-alone mode share for trips on gateway corridors	1. a. Drive alone mode share for trips on gateway corridors into Park City jobs will decrease to 50 percent (from over 70 percent today).	Vehicle occupancy counts on SR 248 and SR 224	Biannual (winter and summer)	City	3	Medium
	2. Increase daily bus hours of regional transit service to and from Park City	3. a. Average daily bus hours of regional transit service connecting Park city to points within Salt Lake, Utah, Wasatch Counties, and other parts of Summit County will reach 350 hours (from approximately 85 hours today).	Transit operator reports	Annual	Transit operator	1	Low
	3. Provide additional regional transit routes to neighboring communities	3. b. Weekday commuter transit service will efficiently connect Park City with at least five other cities/communities in the Wasatch Front and Back as demand dictates	Transit operator reports	Annual	Transit operator	1	Low
	4. Increase in regional transportation ridership	N/A	Transit ridership reports	Annual	Transit operator	1	Low
	5. Increase in daily bus hours on local transit service	2. a. Daily bus hours of local transit service in Park City will increase to 4450 hours (from approximately 200 hours today)	Transit operator reports	Annual	Transit operator	1	Low
	6. Increase frequency on Park City transit network.	2. b. Peak hour frequency on Park City's spine transit network will reach 10 minutes and support timed transfers to regional transit service.	Transit operator reports	Annual	Transit operator	1	Low
	7. Increase and maintain competitive transit travel time	2. c. Transit travel times will remain within 10 minutes of drive times on major origin/destinations pairs within Park City.	Transit operator reports	Annual	Transit operator	2	Medium
	8. Increase in local transit ridership	3. c. Annual ridership will grow to exceed 5 million passengers	Transit ridership reports	Annual	Transit operator	1	Low
	9. Increase in visitor use of transit	3. c. Annual ridership will grow to exceed 5 million passengers	Intercept surveys	Biannual (winter and summer)	City	2	High
	10. Expand the number of intercept park-and-ride facilities on gateway corridors	3. d. Park City will build and/or support, through regional transit service and rideshare programs, continued expansion of intercept park-and-ride facilities at all gateway corridors	City and/or transit operator report	Annual	City and/or transit operator	1	Low
	11. Increase in carpooling/vanpooling	10. c. Park City will be viewed as an innovator in offering effective travel demand management incentives through both public and private programs	Employee survey for major employers and resorts	Annual	Employers	1	Low
Reduce single-occupant vehicle (SOV) mode share	12. Increase and maintain competitive bicycle travel time to and from major destination areas	5. c. Park City will track the ratio of drive time to bicycle travel time and transit travel time between three major internal origin destination pairs and will take proactive steps to maintain increasing ratios.	Field travel time assessment and report	Annual	City	2	Low

Table 26: Park City TDM Performance Measures

Goal	Metrics/Performance Measures	Similar Park City Transportation Master Plan (2011) Metric/Performance Measure	Collection Method	Frequency	Responsible Party	Priority	Cost to collect
Reduce Vehicle Miles Traveled (VMT) per Employee and Resident	13. Increase in bicycle use in summer months	7 .c. Park City will establish a bicycle and pedestrian count program on at least five major trail corridors on the primary network and will achieve incremental increases of over 25 percent with the completion of major corridors and steady increases of over 10 percent per year.	Bike counts at major destinations • Rail Trail – near Bonanza Drive • Poison Creek Trail – near City Park and near Main Street • McLeod Creek Trail – near Holiday Ranch Loop Road • Farm Trail – near Thaynes Canyon Drive • Park City Pkwy Trail – near Bonanza Drive	Annual	City	2	High
	14. Increase in pedestrian access in summer months	7. c. Park City will establish a bicycle and pedestrian count program on at least five major trail corridors on the primary network and will achieve incremental increases of over 25 percent with the completion of major corridors and steady increases of over 10 percent per year.	Pedestrian counts at major destinations • Rail Trail – near Bonanza Drive • Poison Creek Trail – near City Park and near Main Street • McLeod Creek Trail – near Holiday Ranch Loop Road • Farm Trail – near Thaynes Canyon Drive • Park City Pkwy Trail – near Bonanza Drive	Biannual (winter and summer)	City	2	High
	15. Shorter commute distances	9. a. Major new land developments (of greater than 200 additional Equivalent Residential Units) will be required to provide clustered and diverse land uses in order to minimize their impact on transportation infrastructure.	Employee survey for major employers and resorts	Annual	Employers	1	Low
	16. Percentage of housing units within 1/4 mile of transit routes and paved multiuse trails.	1. a. The percentage of housing units within 1/4 mile from transit routes (while maintaining transit service standard of minimum four units/acre) and paved multiuse trails will increase to 100 percent (from approximately 80 percent and 60 percent, respectively, today.	GIS analysis	Annual	City	3	Low
	17. Local affordable housing options for employees	9. a. Major new land developments (of greater than 200 additional Equivalent Residential Units) will be required to provide clustered and diverse land uses in order to minimize their impact on transportation infrastructure.	Review number of affordable housing units within the municipal boundaries that are provided to local employees below market rate	Annual	City	1	Low
	18. Reduction in parking utilization	8. c. Parking pricing, transit fares, and other cost incentives will be used to minimize or decrease the growth in overall vehicle miles traveled (VMT) while supporting a strong and growing Park City visitor base.	Parking utilization counts at major employers and resorts	Biannual (winter and summer)	Employers	2	Medium
	4. Increase in regional transportation ridership	1. a. Drive-alone mode share for trips on gateway corridors into Park City jobs will decrease to 50 percent (from over 70 percent today).	Transit ridership reports	Annual	Transit operator	1	Low

Table 26: Park City TDM Performance Measures

Goal	Metrics/Performance Measures	Similar Park City Transportation Master Plan (2011) Metric/Performance Measure	Collection Method	Frequency	Responsible Party	Priority	Cost to collect
	8. Increase in local transit ridership	3.c. Annual ridership will grow to exceed 5 million passengers	Transit ridership reports	Annual	Transit operator	1	Low
	9. Increase in visitor use of transit	3. c. Annual ridership will grow to exceed 5 million passengers	Intercept survey of visitors	Biannual (winter and summer)	City	2	High
	11. Increase in carpooling/vanpooling	10. c. Park City will be viewed as an innovator in offering effective travel demand management incentives through both public and private programs	Employee survey for major employers and resorts	Annual	Employers	1	Low
Reduce Vehicle Miles Traveled (VMT) per Employee and Resident	13. Increase in bicycle use in summer months	7. c. Park City will establish a bicycle and pedestrian count program on at least five major trail corridors on the primary network and will achieve incremental increases of over 25 percent with the completion of major corridors and steady increases of over 10 percent per year.	Bike counts at major destinations • Rail Trail – near Bonanza Drive • Poison Creek Trail – near City Park and near Main Street • McLeod Creek Trail – near Holiday Ranch Loop Road • Farm Trail – near Thaynes Canyon Drive • Park City Pkwy Trail – near Bonanza Drive	Annual	City	2	High
	14. Increase in pedestrian access in summer months	7. c. Park City will establish a bicycle and pedestrian count program on at least five major trail corridors on the primary network and will achieve incremental increases of over 25 percent with the completion of major corridors and steady increases of over 10 percent per year.	Biannual pedestrian counts at major destinations • Rail Trail – near Bonanza Drive • Poison Creek Trail – near City Park and near Main Street • McLeod Creek Trail – near Holiday Ranch Loop Road • Farm Trail – near Thaynes Canyon Drive • Park City Pkwy Trail – near Bonanza Drive	Biannual (winter and summer)	City	2	High
	19. Reduce per capita VMT and associated petroleum consumption and greenhouse gas emissions	8. a. Annual petroleum consumption by surface transportation within Park City will be no more than 470,000,000 kBTU equivalent (from approximately 570,000,000 kBTU equivalent today). 8. b. Annual greenhouse gas emissions from surface transportation with Park City will be no more than 50,000 short tons (approximately equal to today).	Estimate reductions using Utah Household Travel Survey data, local mode share data, and VMT estimate from major gateway corridors	Annual	City	2	High
Manage congestion on major corridors	20. Growth in traffic volume on gateway corridors (peak and daily) will not exceed the percentage growth in annual housing and employment growth	1. a. Drive alone mode share for trips on gateway corridors into Park City jobs will decrease to 50 percent (from over 70 percent today). 5. a. Park City VMT will be tracked based on automobile counts at the major gateway corridors and will not increase faster than Park City housing or job growth	Cordon counts on SR 248 and SR 224	Biannual (winter and summer)	City	1	Medium

Table 26: Park City TDM Performance Measures

Goal	Metrics/Performance Measures	Similar Park City Transportation Master Plan (2011) Metric/Performance Measure	Collection Method	Frequency	Responsible Party	Priority	Cost to collect
	21. Growth in traffic volume on internal corridors (peak and daily) will not exceed the percentage growth in annual housing and employment growth	N/A	Cordon counts on Bonanza Drive and Park Avenue (entrance to downtown)	Biannual (winter and summer)	City	1	Medium
	22. Manage congestion during festivals and special events	10. b. Park City's festivals and special events will feature coordinated transportation strategies that minimize impacts of vehicular traffic while fostering growth in economic benefits.	Review of Master Festival License or Special Event Permit Submittals	Annual	City	2	Low
Provide TDM program awareness and utilization	23. Number of potential users who are aware of programs and services	10. c. Park City will be viewed as an innovator in offering effective travel demand management incentives through both public and private programs	Employee survey for major employers and resorts	Annual	Employers	1	Low
	24. Number of participants in employer programs and services.	10. c. Park City will be viewed as an innovator in offering effective travel demand management incentives through both public and private programs	Employer report submitted by TDM coordinator	Annual	Employers	1	Low

METHODOLOGY

To develop appropriate performance measures and methods for tracking these measures, Fehr & Peers gathered relevant examples from other regions, including examples of both public and private sector organizations that offer TDM programs. A set of best practices was identified for developing and implementing TDM program performance metrics. The 2011 *Park City Transportation Master Plan* was assessed to confirm that the proposed goals and metrics are reasonable and reflect those previously established by the City. Based on this methodology, Fehr & Peers developed recommendations for performance measures and associated data collection methods to ensure that the TDM program meets the City's goals.

BEST PRACTICES

Drawing upon Fehr & Peers' experience with TDM programs in the San Francisco Bay Area, this section highlights best practices in developing performance metrics and collecting data to monitor and track TDM program performance. Several cities in the San Francisco Bay Area have responded to increased growth by requiring a performance-based TDM monitoring program. Regular monitoring creates an ongoing resolve to implement and maintain programs that reduce SOV trips. Monitoring is most effective when it includes measurement of program performance, using metrics such as the number of vehicle trips generated, mode share, or SOV rate.

Typically, a TDM program seeks to lessen the severity of the off-site traffic impacts by reducing the number of daily and peak hour vehicle trips generated by a specific project. These reductions can be measured either directly by counting vehicles entering and exiting the site and comparing the results to a trip target or they can be measured indirectly by surveying the travel modes of employees and setting goals for the percentage of SOV trips. By reducing trips, TDM programs also reduce greenhouse gas emissions and project-related air quality impacts.

The most common performance metrics are described below; their pros and cons, including their associated monitoring processes, are summarized in **Table 27**.

- **Vehicle Trips with a Trip Target** – To evaluate this metric, the number of vehicles entering and exiting a site during a typical weekday are counted for both the peak hours and the entire day. Vehicle trips are then compared to a pre-determined trip target. Trip targets are typically developed from local/comparable trip generation surveys of site with similar land use context, traffic conditions, social demographic characteristics, and TDM programs to account for expected TDM program performance. Trip targets can be developed for specific land uses within a project site and can be changed over time to account for phased development.
- **Alternative Mode Share or SOV Percent** – This metric is the percentage of trips made using shared ride (carpool and vanpool), public transit, private shuttle, bicycle or walking – that is, any trips that are not made by people driving alone. Data is gathered using travel surveys and/or site driveway counts of vehicles, vehicle occupancies, pedestrians, and bicycles. Surveys and driveway counts can be supplemented with transit and vanpool ridership data. The results can be expressed as percent using each mode or a composite SOV mode share. A percentage target is selected as the goal. Achieving a mode share goal does not guarantee vehicle trips will be reduced to a desired level.
- **VMT Reduction** – This metric is a summation of project-related vehicle trips multiplied by their trip lengths. A reduction in VMT would indicate a reduction in traffic impacts associated with the project, especially on roadway facilities farther from the site. It is directly linked to both air quality and greenhouse gas impacts. At the present time, VMT estimates are not observed directly – they must be modeled.

When establishing a performance based metric, a baseline needs to be well defined, and the metric easy to measure or model. Performance targets are determined at the discretion of local jurisdictions, and are typically approved by City Councils. A simple number, such as percent mode share or a trip target, can provide a straightforward performance metric, but may not address the program goals, especially if a program is intended to reduce VMT and/or greenhouse gas emissions. All metrics should have the following characteristics:

- Easy to explain
- Easy to measure in the future
- Has a clearly defined base point for comparison

Table 27: Performance Metric Options

Performance Metric	Pros/Cons
Vehicle Trips with a Trip Target: Daily and Peak Hour traffic counted at the driveway entrances and compared to trip target.	Pros - Vehicle trips can be directly observed and counted and therefore demonstrate mitigation compliance. Can be used for entire project site or just the office uses. Can be a good resource for a local trip generation database. Cons - May need to account for through traffic if trip target for entire site is selected. Separating office-only trips may be difficult if parking facilities are shared with other uses.
Alternative Mode Share or SOV Percent: Daily and Peak Period person mode share collected from travel surveys and counts at the project driveways.	Pros - Easy performance measure to explain. This metric can be more helpful for GHG and criteria pollutant analysis. Cons – This performance measure would not have a baseline to be compared to. Multiple sources needed to develop mode share - travel surveys and direct observations/counts. Data collection is costly. Counts can only be done for peak hours, not daily trips (cannot observe vehicles occupancies in the dark). Daily person mode split is dependent travel survey data. Accurate surveying of on-site employees requires a high response rate. Achieving mode share/SOV target does not guarantee vehicle trip reduction target is met.
Vehicle Miles Traveled (VMT): Summation of the vehicle trips multiplied by their trip lengths.	Pros – VMT is a direct input into both air quality and greenhouse gas impacts. Cons – VMT estimates are not directly observed - they must be modeled/calculated. VMT estimates are typically used for comparison between alternatives, not as an absolute target. Achieving a VMT reduction target does not guarantee peak hour vehicle trip reduction target is met.

PROGRAM EXAMPLES

This section collects examples from public sector TDM monitoring programs as well as from private employers with robust TDM programs and monitoring efforts.

PUBLIC SECTOR

Fehr & Peers interviewed four resort communities that have active TDM programs. While all of the TDM program managers cited a need for more regular and comprehensive monitoring of their TDM programs, most do some kind type of ongoing program monitoring.

- **Boulder, Colorado** regularly collects data to monitor effectiveness of TDM and other transportation efforts. Boulder City has conducted annual citizen transportation surveys to better understand citizen's experiences with getting around town, peak hour drive time studies to determine congestion levels on major arteries, a bi or tri-annual travel diary survey to track modal shifts, biennial employee surveys to track the number of trips, trip type, and mode of travel used, as well as a more focused employee survey for downtown Boulder employees and The University of Colorado. The city has also conducted bicycle counts in the downtown area and tracks The American Community Survey (ACS) mode of travel for the journey to work trips. The ACS data is used to both track mode share, but also compare the community with similar communities and national averages.
- **The Tahoe Region** of California and Nevada gathers information from TDM reporting by employers and also conducts mode share surveys biannually for the major recreation areas. Trail and transit use is also monitored on an ongoing basis. Tahoe also has an environmental threshold carrying capacity for regional VMT that is required to be monitored and attained. The threshold is 10% below the baseline set in 1981. Traffic counts are also conducted on U.S. 50 near the state line.
- **Whistler, British Columbia** monitors program effectiveness through surveys, including surveys focused on understanding how skiers access lifts. However, the Whistler Comprehensive Transportation Strategy Report recommends a more robust monitoring program. In 1999 transportation trigger points were established based on the duration, extent, intensity, and predictability of congestion experienced in the community for both off-season and peak-season time periods. Vehicle occupancy rates, the number of skier visits for the mountain resorts, travel time between locations, duration of congestion, traffic volume, and mode share were all identified as trigger points. Goals as well as

unacceptable thresholds were set based on baseline analysis. Collection methodologies included occupancy counts, cordon counts, review of skier visit data, and estimation of travel times.

- **Aspen, Colorado monitors** vehicle volumes into the city on SH-82 at the Castle Creek Bridge in order to determine the need for expanded TDM programs.

PRIVATE EMPLOYERS

To comply with the conditions of approval for their development agreements, Stanford University (Palo Alto, California) and Facebook (Menlo Park, California) have developed robust TDM programs that include substantial monitoring components. Their TDM monitoring programs are summarized below.

Stanford University

Stanford University's acclaimed TDM program is driven by requirements contained in the Santa Clara County 2000 General Use Permit (GUP) that governs new development on Stanford's campus. The GUP's conditions of approval allows Stanford to either adhere to a vehicle trip limit such that 'no net new vehicle commute trips' are generated by new development, or provide proportional funding of mitigation measures for impacted intersections identified in the GUP environmental impact report. Stanford chose to limit vehicle trips and developed a TDM program to shift commuters from drive-alone trips to other modes and shift trips out of the traditional peak traffic periods.

Currently, less than 50 percent of employees who commute to Stanford's campus drive alone. When the 2000 GUP was implemented, 72 percent of Stanford commuters drove-alone to campus. Fourteen years later, 49 percent of Stanford commuter drive-alone. The University has added almost 3 million square feet of development without adding peak hour commute trips.

Key strategies in Stanford's TDM program include:

- Direct payments to commuters who choose alternative modes
- Paid parking on all campus lots
- Fare-free shuttles (last-mile to Caltrain and campus circulator shuttles)
- Subsidized carpools and vanpools with expanded rideshare matching
- Subsidized transit passes including the Caltrain Go Pass
- Extensive promotional campaigns offering cash rewards and prizes

- A commute buddy program and individualized commute planning services
- Subsidized car share memberships
- Bicycle infrastructure and end-of-trip facilities

Stanford University's vehicle trip cap was established from baseline counts of peak hour trips conducted in the spring and fall of 2001. The cap applies to inbound trips during the peak hour of the AM commute period (7AM – 9AM) and outbound trips during the peak hour of the PM commute period (4PM – 6PM). Trips are capped at 2001 levels, with a confidence interval added to account for day-to-day variation in trip generation. To remain in compliance with the condition of use, average inbound AM or outbound PM trips observed in any given year cannot exceed this envelope (approximately 3% over baseline trips). Stanford's continued expansion under the GUP is predicated on complying with its trip cap.

To monitor Stanford's compliance with the trip cap, vehicle trips are counted for two weeks three times per year at 16 campus entry and exit points which form a cordon around the Stanford campus. In additional to vehicle counts, license plates are recorded to identify vehicles entering and exiting campus. Vehicles that exit campus within 15 minutes of entering are considered to be making "cut-through" trips and are excluded from trip cap counts. Volumes are also adjusted to remove hospital-related trips ending at parking lots within the cordon and to add University vehicle trips that end in parking lots outside the cordon. Stanford is also awarded a trip credit for net new trips made on its fare-free shuttle that have origins or destinations outside the cordon area. The total inbound AM peak hour trips and outbound PM peak hour trips are compared to the 2001 baseline to establish compliance. Trip cap monitoring counts are supplemented by an annual survey of employees to assess commute mode share and satisfaction with Stanford's TDM program.

Facebook Menlo Park

Facebook's TDM program at its Menlo Park campus aims to reduce the number of commuters who drive alone and encourage alternative modes such as carpooling, bicycling, walking, or taking transit. Facebook's alternative mode split target is greater than 50% of commuters.

Key strategies in its TDM program include:

- Long-distance commuter shuttles
- Last-mile shuttles to Caltrain
- Subsidized carpools and vanpools
- Subsidized transit passes

- Bicycle loan program
- Free campus-wide bikeshare
- Bicycle end-of-trip facilities
- Subsidized car share memberships
- Extensive promotional programs

The TDM program for Facebook's Menlo Park campus is driven by a trip cap established by a development agreement with the City of Menlo Park during the campus entitlement process. Facebook's trip cap was developed offered as a means to minimize the amount of new trips added to the already congested local roadway network. Caps have been established for daily trips, trips during the AM peak period (7AM – 9AM), and trips during the PM peak period (4PM – 6PM). A penalty system that imposes monetary fines were established to insure that the trip caps are met. Trips to and from the campus are monitored using automated vehicle counters on a daily basis and are reported to the City. If trip caps are exceeded the City can impose fines. The automated counts are supplemented by semi-annual driveway vehicle and mode share counts, which are used to assess the accuracy of the automated counters and to evaluate TDM program performance. Facebook uses this information to fine tune their TDM programs to avoid the payment of fines.

CONCLUSION

A review of best practices and examples from both the public and private sector suggest that setting clear performance measures that can be tracked and evaluated over time is a key component to implementing a successful TDM program. Changes to transportation behaviors can often be slow to occur. A consistent methodology of what is being measured and how, will allow Park City to better evaluate strategies and programs that are working and identify areas for future improvement.

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CHAPTER SIX

IMPLEMENTATION

Overview

An effective TDM program requires carefully defining which problems should be solved and what is needed to be effective. It involves building consensus among diverse constituents; communicating goals and values; consistent messaging and rigorous management, marketing and evaluation. It also requires developing a broad base of support and participation.

PARK CITY 1884

PHOTO: WIKIPEDIA USER MRS KEYSER SOZE

Among the key questions to be answered and decisions made during the implementation development process:

- Who should be at the table?
- What is the 'mission' and what are the goals?
- Which problems are we trying to solve?
- Who benefits and how?
- What are the various levels of possible participation?
- What are the short, medium and long range priorities?
- What will it take to be successful?
- What will it cost?
- How can it be sustained?
- Who should manage programs?
- What's the best governance model to support TDM?

Park City has already taken steps to address some of these questions by forming a Transportation Management Association (TMA). The first TMA meeting was held in October 2015 and includes an array of public and private sector parties interested in managing transportation demand in the Park City area. The formation of the TMA is a good beginning. However, it is recommended that a series of meetings to further process, educate and encourage full participation, and develop a clear plan with widespread support and enthusiasm for moving TDM forward. Several studies are either currently underway or recently concluded: the parking study, marketing plan, and the short-range transit study. The data from these studies, as well as the information contained in this report, should inform TDM planning.

The following briefly outlines a series of meetings to work through the process.

FUTURE TMA MEETINGS OUTLINE

Meeting 1:

- Review data from various current or recently completed Park City/Summit County studies (parking study, marketing plan, short-range transit study)
- Identify "Big Ideas" (visionary, long-range) and pragmatic ideas
- Identify areas of focus for start-up

- Identify who else should be on part of the TMA; how others can be involved; communications and messaging to community

Meeting 2:

- Define problem(s) to be solved
- Define outcomes for TMA members, the community, other constituents
- Prioritize short-term actions

Meeting 3:

- Discuss Mission, Goals, Values

  Mission (and programs) should be easy to understand, easy to use or access; useful; sustainable; data-driven; inclusive and integrate with other initiatives

Meeting 4:

- Short Term Work Plan and Schedule (12-18 months)
- Should some activities be 'pilot' programs?
- Refine mission statement

Meeting 5:

- Who benefits from short term work plan?
- Who will support it?
- Who should manage it?
- What does success look like?
- What kind of interim structure is preferred?

Meeting 6:

- How will we measure success?
- What incentives are needed?
- Refine Work Plan
- Finalize Mission, Goals, Values

Meeting 7:

- Marketing and communications
- Costs of activities and sources of funds

- Monitoring and Evaluation

Meeting 8:

- Governance – what's the best structure for ongoing TDM implementation and management?
- Membership
- Funding

Meeting 9:

- Bylaws, Articles of Incorporation (if forming new organization)
- Election of Board, Officers
- Implementation of Work Plan

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CHAPTER SEVEN

MARKETING & COMMUNICATIONS PLAN

Overview

To help alleviate some of the traffic congestion and prepare for future travel demand, this TDM Plan has been developed to help reduce VMT on these routes. The plan identifies opportunities to improve travel and access on SR-224, SR-248 and within the city itself. Park City is doing its part to help alleviate traffic congestion—by implementing TDM strategies, but it is also asking residents, commuters and visitors to do their part—by choosing to use alternative travel options such as taking transit, carpooling, walking, biking or adjusting their travel schedules. This chapter provides a marketing and communications plan to reach each target audience segment.

PARK CITY 1884

PHOTO: WIKIPEDIA USER MRS KEYSER SOZE

Park City continues to grow as a mecca for outdoor enthusiasts, making it a destination for people looking to relocate and take advantage of the outdoor resources, as well as those visiting the area to experience its year-round recreational opportunities. As Park City continues to grow in popularity and population, challenges will inevitably follow.

Currently, Park City is experiencing increasing traffic congestion on SR-224 and SR-248, the major arterial routes in and out of the city. SOV traffic is causing traffic congestion during both morning and afternoon peak travel times, as well as during events and heavy ski days, making it difficult for travelers to get in and around Park City efficiently. Contributing to the problem is a steady decrease in transit ridership — approximately a 10 percent drop since 2007.

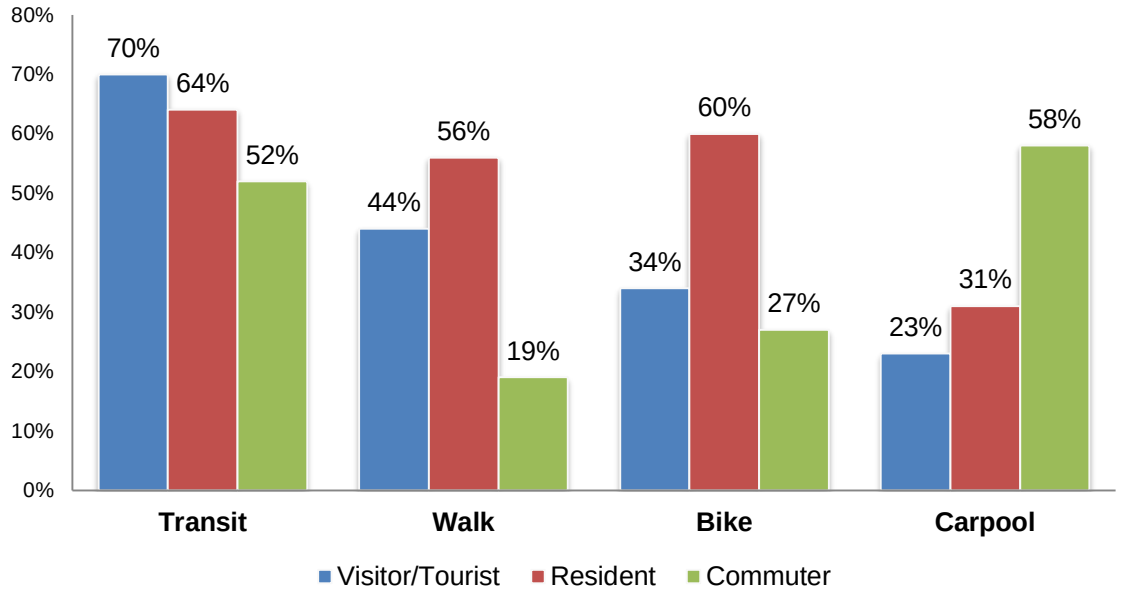
To help alleviate some of the traffic congestion and prepare for future travel demand, this TDM Plan has been developed to help reduce VMT on these routes. The plan identifies opportunities to improve travel and access on SR-224, SR-248 and within the city itself. Park City is doing its part to help alleviate traffic congestion—by implementing TDM strategies, but it is also asking residents, commuters and visitors to do their part—by choosing to use alternative travel options such as taking transit, carpooling, walking, biking or adjusting their travel schedules. This chapter provides a marketing and communications plan to reach each target audience segment.

PARK CITY RESIDENTS AND VISITORS SUPPORT ALTERNATIVE MODES:

Park City residents are primed to learn more about implementing TDM strategies into day-to-day life. According to recent research, over half of all residents living in Park City and Park City visitors/tourists are willing to try at least one strategy as alternative travel options.

The challenge facing the TDM program is to help Park City residents, visitors, and commuters understand the program's goals and strategies to the point that they actually change their travel behaviors. A communication campaign focused on raising public awareness of the program will nudge people living and visiting Park City and their employers to take their efforts to the next level and start utilizing alternative modes of travel. Building a critical mass of program supporters will help grow the program into a mainstream effort. Ultimately, alternative travel can become a day-to-day norm that will make it easier to travel around Park City.

Figure 57: Alternative Modes Respondents Willing to Try



GOAL:

Increase use of alternative modes of transportation in and around Park City to reduce Single Occupancy Vehicle (SOV) trips on SR-224 and SR-248.

OBJECTIVES:

- Increase use of alternative travel modes among Park City and Snyderville Basin residents by 10%.
- Increase ridership on Park City Transit by 3%.
- Increase carpooling among commuters by 5%.
- Increase awareness of all alternative travel options among locals and visitors, through usage of website and social media engagement.
- Increase walking by 1%

AUDIENCE SEGMENTS:

Residents:	Living in Park City and driving alone in and around Park City to work and/or while running errands.

Part-Time Residents:	Own a second home in Park City; rent their home out part of the year.
Commuters:	Living in Park City but working outside of Park City; typically driving alone to get to and from work.
Visitors / Tourists:	Coming to Park City for the night or for an extended vacation.
Employees:	Of large Park City businesses commuting to and from work in Park City.

STRATEGIES AND TACTICS:

Consistent placement of messages will lead to greater awareness of alternative travel options and ultimately, adoption of alternative travel behaviors. Utilizing four main channels of communication will help disseminate the messages to the traveling public and Park City employers.

- Outreach
- Media Relations
- Grassroots
- Interactive

Channels create an informational pyramid for our key audiences. General awareness of the program is grown through outreach across various media (print, broadcast and outdoor). Audiences learn a little bit more about TDM goals and strategies through news stories that are thoughtfully placed with local media. At the grassroots level, we can interact with our audiences one-on-one and have the opportunity to customize messages to their needs and interests. Finally, on the interactive level, we can offer in-depth education about the program and its strategies and benefits though the proposed website and other online tools.

STRATEGY:

Educate the public on the available alternative travel options

TACTICS:

Outreach	**PR / Media Relations**

Develop a campaign that builds awareness of TDM strategies, goals and that relates to individuals on a personal level, encouraging behavior change.
• Develop a brand and logo as an identifier for all public TDM outreach and promotion
• Grassroots awareness campaign (i.e. transit, bicycle, or business partnerships)
• General awareness campaign
  o Targeted social media ads
  o Bus ads on Park City Transit
  o Bus wraps on SLC-PC Connect
  o Ads in Park City event magazines and catalogs
  o Ads at transit stops
  o Online banner ads
  o Radio traffic sponsorships
  o Targeted search engine, contextual and banner ads (online)
• Public service announcements on local radio
• Event venue placement (Park Silly Market, Deer Valley Concerts, Utah Olympic Park)
• Promote use of trip planning resources to see available travel options (i.e. Park City Transit App)
	Proactively pitch stories to local media outlets that relate TDM strategies to local events, trends and issues.
	• Media kit, including tip sheet and interview sources
	• Local media pitches
	• Social media monitoring and maintenance (Facebook, Twitter)
	• Geo-targeting on Facebook to promote strategies to key audiences (i.e. residents, new homeowners)
	• Develop a Park City alternative travel hashtag(s) (#walkPC, #CarpoolPC) for use and promotion on social media
	• Create competitions among businesses and residents to increase awareness and promote use of alternative travel options
	• Partner with local bike shops
	• Partner with local business to provide incentives for using alternative modes (i.e. free coffee, discounted meals, bike flat repair)
	• Events at local resorts throughout Park City (i.e. Deer Valley, Canyons, Park City Mountain)
	• Educational outreach during major ski days (i.e. encourage people to stay on the mountain and eat)
	• Radio promotions during Sundance Film Festival
	Partnerships with Main Street Park City businesses and chambers of commerce

Grassroots	**Interactive**
Increase awareness of alternative travel options through grassroots tactics • Educational booth at community events • Promotional materials at local events (banners, handouts, etc.) • Share resources with the UDOT TravelWise program (i.e. TravelWise Tracker, travelwisetracker.com)	Create an online presence where people can find information and resources • Develop a website to educate and promote the available transit options • Search retargeting for visitors searching "Park City" to target with banner ads • Videos on the web spotlighting alternative travel options in use • Tutorial videos for web

STRATEGY:

Create an outreach program to target and partner with large employers, encouraging the use of alternative travel options among their employees

TACTICS:

Outreach	**PR / Media Relations**
Develop a campaign that relates TDM goals on a personal level and encourages behavior change. • Print ads in local magazines • Targeted search engine, contextual banner ads (online) • TDM radio vignettes featuring program partners "success stories" • Cooperative advertising with program partners and/or related organizations and campaigns • General awareness outreach with local business organizations (i.e. Chamber of Commerce, Historic Main Street Business Alliance) • Promote company use of alternative travel to create a "social norm" effect	Proactively pitch stories to appropriate media that relate TDM strategies to Park City businesses. • Media Kit, including tip sheet and interview sources • Local media pitches • Local business media (magazines, newspapers, e-newsletters, etc.) • Local radio pitches • Geo-targeting on Facebook to promote strategies to key audiences (i.e. Park City employees, business owners, commuters) • "Business Brief" release on new program partners • Spotlight features on business partners and their TDM efforts • Social media promotion of new business partners and their efforts • Promote company "Best Practices" • Monthly "business feature" on local radio

Grassroots	Interactive
Increase awareness of the program and support for the program through business outreach tactics. • Develop personalized business TDM strategy implementation plans • Help develop internal incentive programs • Set up internal carpool groups using available carpool matching platforms (i.e. carpooling apps, TravelWise Tracker) • Create competitions among businesses and residents to increase awareness and promote use of alternative travel options • Educational outreach at local business organization meetings	Create additional online communication tools to amplify the program message. • Develop a business section of the website promoting how businesses can get involved • "How-to guides" for hosting competitions • Online videos about program efforts and partners • Create business access maps to show available transit options near a business • Provide "How to get around" materials • Resources of transit information, carpooling and walking and biking maps. • Feature business partners • Feature business best practices

STRATEGY:

Partner with tourism groups to educate visitors on the available travel options

TACTICS:

Outreach	PR / Media Relations

Develop a campaign that relates TDM goals on a personal level and encourages behavior change.
 	
• Targeted search engine, contextual banner ads (online)
• Cooperative advertising with tourism groups (i.e. visit Park City)
• General Awareness Outreach
  o Targeted social media ads
  o Ads in Park City event and tourism magazines and catalogs
  o Target search engine, contextual and banner ads (online)
	Proactively pitch stories to appropriate media that relate TDM Strategies to Park City visitors.
	
	• Media Kit, including tip sheet and interview sources
	• Local media pitches
	• Local business media (magazines, newspapers, e-newsletters, etc.)
	• Local radio pitches
	• Radio promotions during Sundance Film Festival
	• Geo-targeting on Facebook to promote strategies to key audiences (i.e. tourists, visitors)
	• Hyper-targeted Facebook posts

• Create a "How to Get Around" brochure (print and digital) for use in rental properties, hotels and visitor destinations • Feature articles on Visit Park City / Utah Vacations websites • Partner with local resorts and tourism companies to promote use of alternative travel options among visitors	• Geo-targeting on Facebook to promote strategies to key audiences (i.e. visitors, tourists)
Grassroots Increase awareness of the program and support for the program through business outreach tactics. • Partner with local bike shops • Events at local resorts throughout Park City (i.e. Deer Valley, Canyons, Park City Mountain) • Educational outreach during major ski days (i.e. encourage people to stay on the mountain and eat)	**Interactive** Create additional online communication tools to amplify the program message. • Develop a visitor section of the website promoting how visitors can get around • Provide "How to get around" materials • Resources on transit information, carpooling and walking and biking maps. • Search retargeting for visitors searching "Park City" to target with banner ads • Tutorial videos for the web

STRATEGY:

Update city staff, including planning and development, on the TDM program strategies and solutions to keep messaging consistent

TACTICS:

Outreach Develop a campaign that relates TDM goals on a personal level and encourages behavior change. • Present on program objectives and outcomes to city staff and elected officials	**Media Relations** Proactively pitch stories to local media outlets that relate TDM Strategies to local events, trends and issues • Media Kit, including tip sheet and interview sources • Local media pitches

• Utilize city staff as program "spokes people" • Develop materials with information about policies and TDM strategies to provide to developers and business owners	• Promote city and elected officials' use of TDM strategies through media outlets and on social media (Facebook, Twitter) • Utilize the city/county time on local radio stations to promote use of alternative travel
Grassroots Increase program awareness and support for the program through city officials. • Create PowerPoint and presentation materials for use by city council and city staff to promote and encourage alternative travel options • Create "talking points" for all city staff and council members	**Interactive** Create additional online communication tools to amplify the program message. • Provide policy and TDM strategies on the program website • Provide downloadable materials about policies and TDM strategies • Provide contact information for city staff knowledgeable on the TDM program

METRICS:

Measuring results associated with individual objectives is essential to understanding the success of a communication effort. The following metrics can be used to identify the success of the objectives.

- Employee research: A follow-up survey provided to employers and employees in the Park City area. Surveys and travel pattern data will be used to identify shifts in travel behaviors.
- Intercept survey: Administered in Park City during weekday and weekend events. Survey data will be used to identify awareness of alternative modes, as well as if people are changing their travel behaviors.
- Park City Transit ridership data: Ridership counts can be used to identify an increase in alternative travel use—specifically transit use.
- Traffic counts on SR-224 and SR-248: Traffic counts will be used to identify a decrease in the number of vehicles using SR-224 and SR-248 as well as occupancy counts to measure carpooling, vanpooling and ridesharing.
- Social media click rates: Will be used to identify an increase in awareness.
- Google analytics data for website visits: Can identify an increase in program awareness.

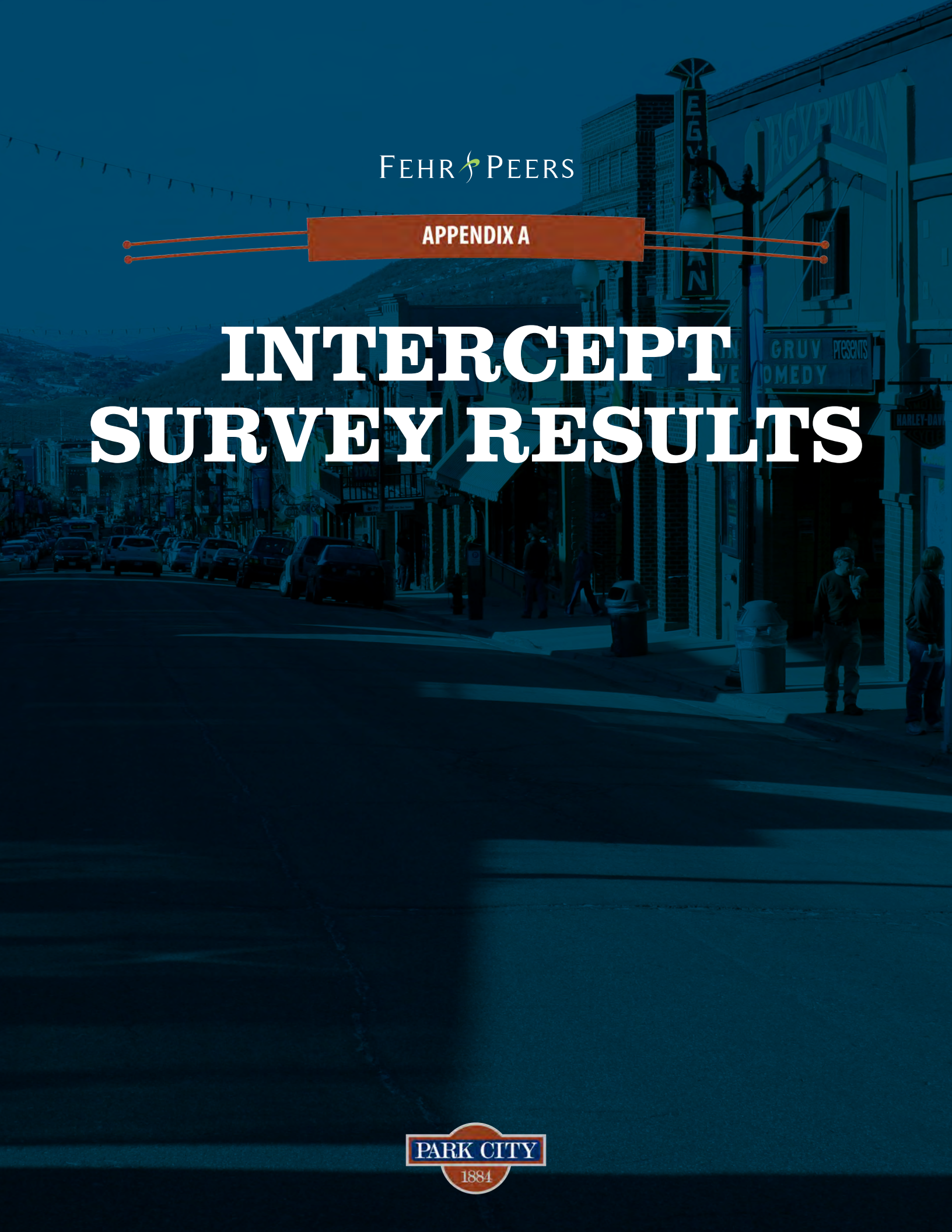

FEHR PEERS
APPENDIX A
INTERCEPT SURVEY RESULTS
PARK CITY
1884

Figure 58: Intercept Survey Respondent Gender

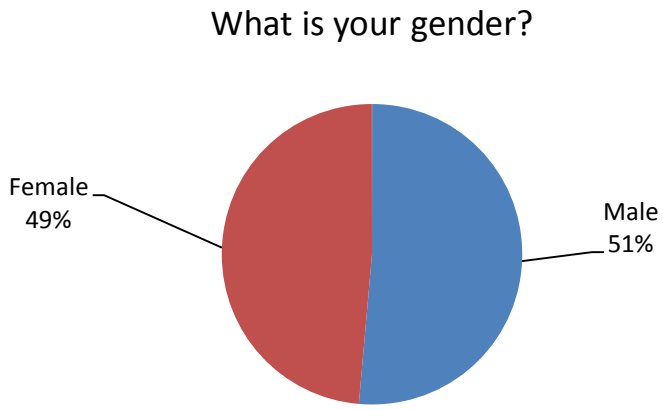


Figure 59: Intercept Survey Respondent Age

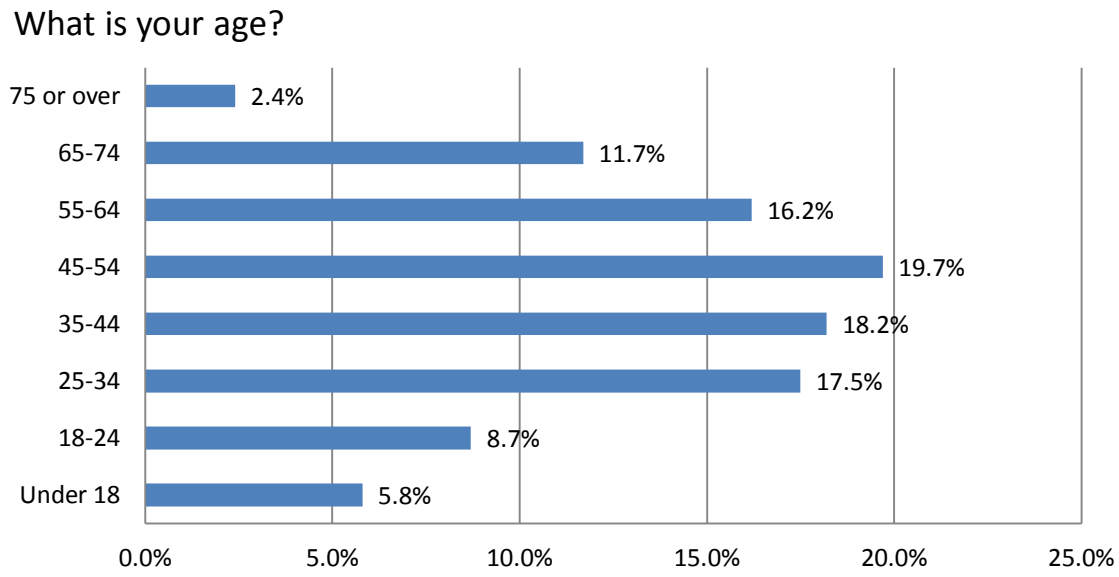


Figure 60: Respondent Type (Weekday)

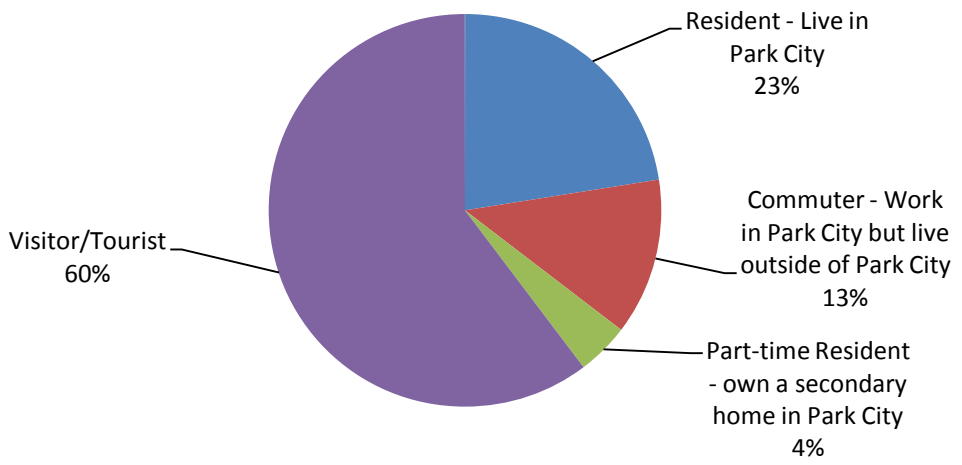


Figure 61: Respondent Type (Event Day)

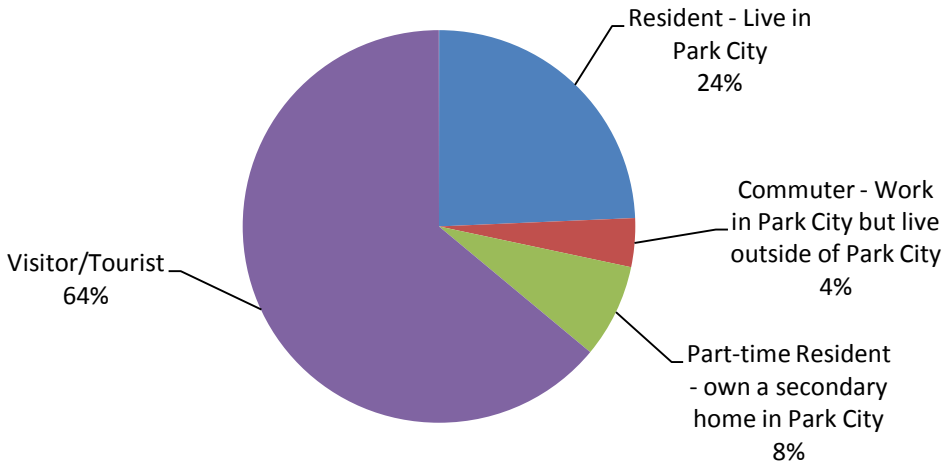


Figure 62: Mode of Access (Weekday)

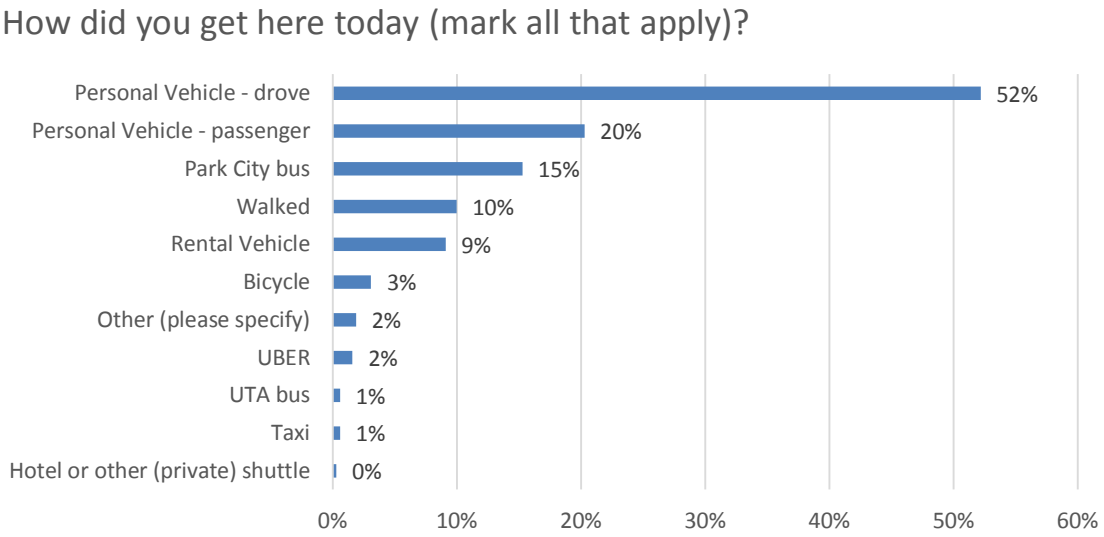
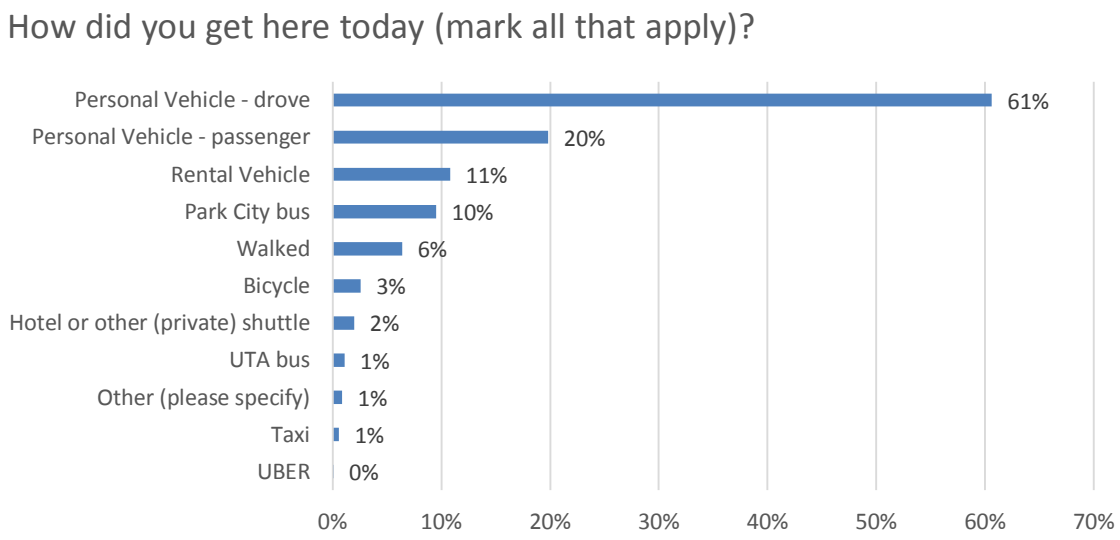


Figure 63: Mode of Access (Event Day)



The three most common other modes identified are provided in the word cloud below

Figure 64: Number of People Traveling (Weekday)

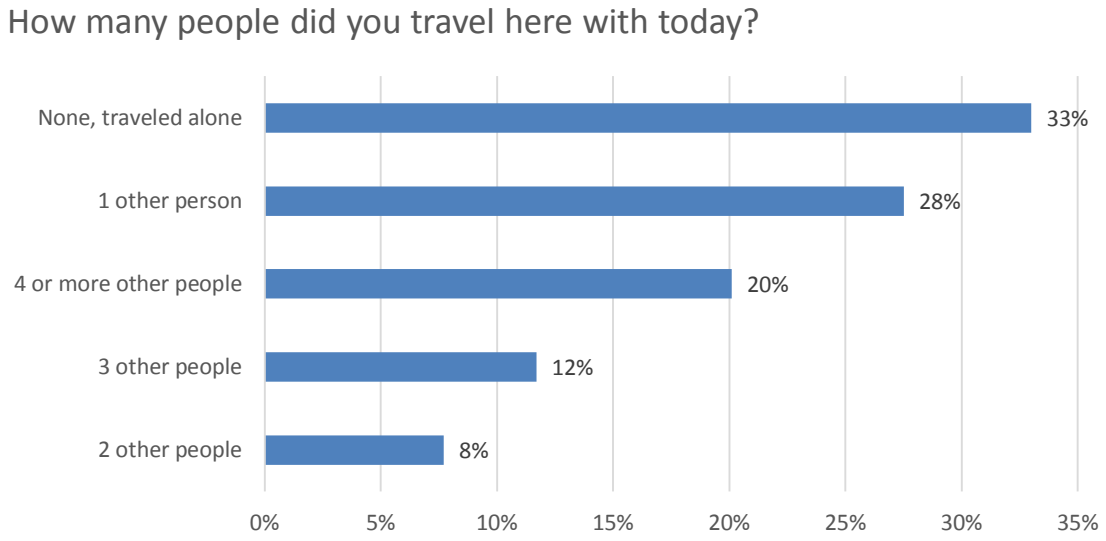


Figure 65: Number of People Traveling (Event Day)

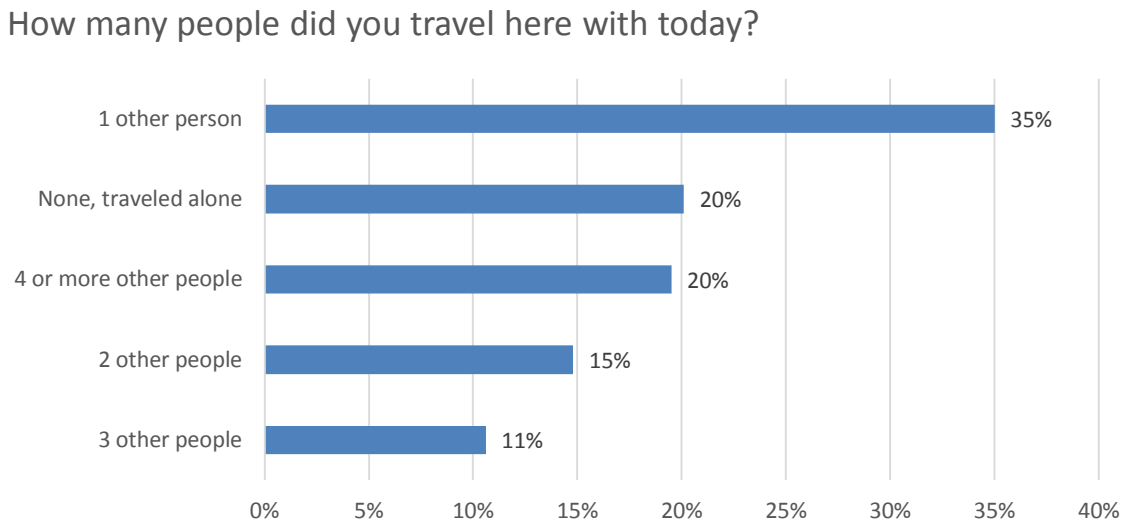


Figure 66: Where Did You Start Your Day? (Weekday)

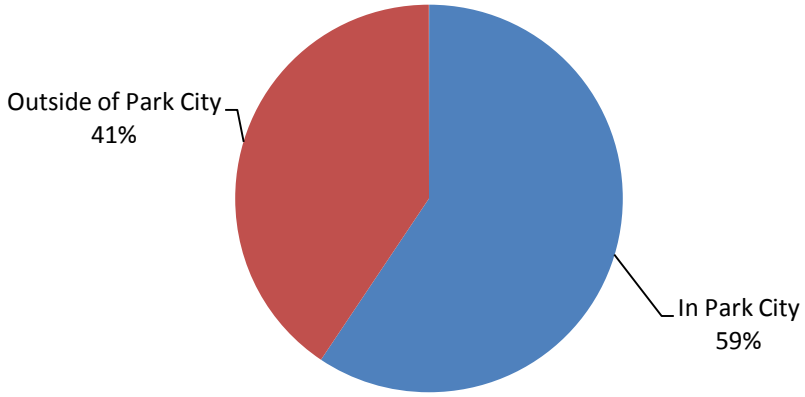


Figure 67: Where Did You Start Your Day? (Event Day)

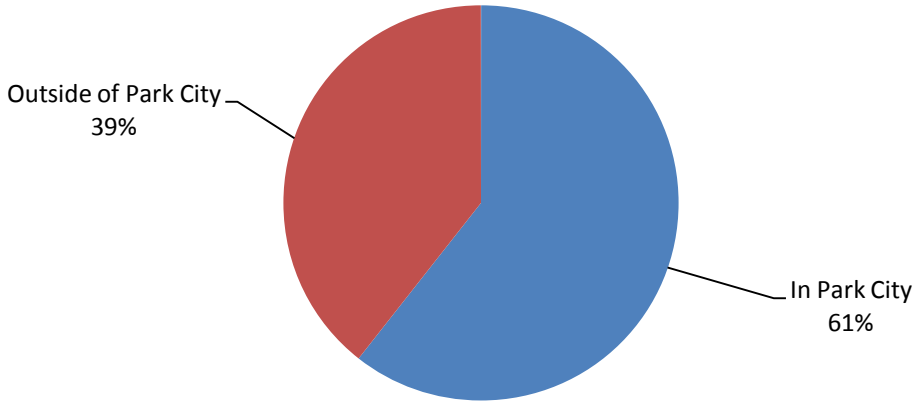


Figure 68: Where will you end your day/ (Weekday)

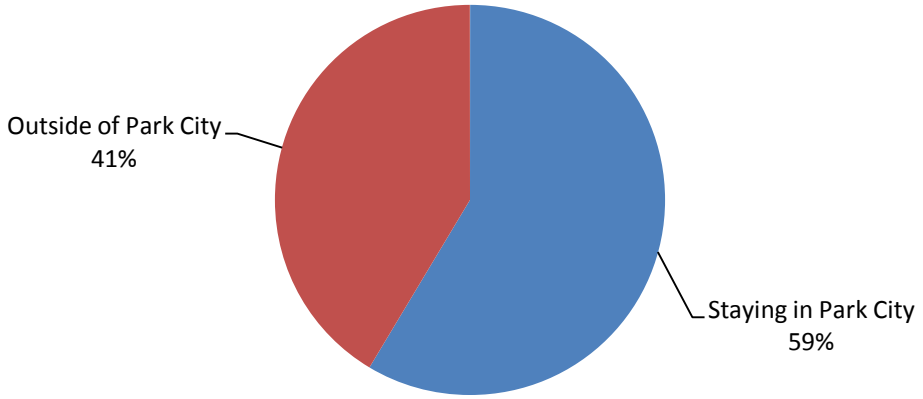


Figure 69: Where will you end your day? (Event Day)

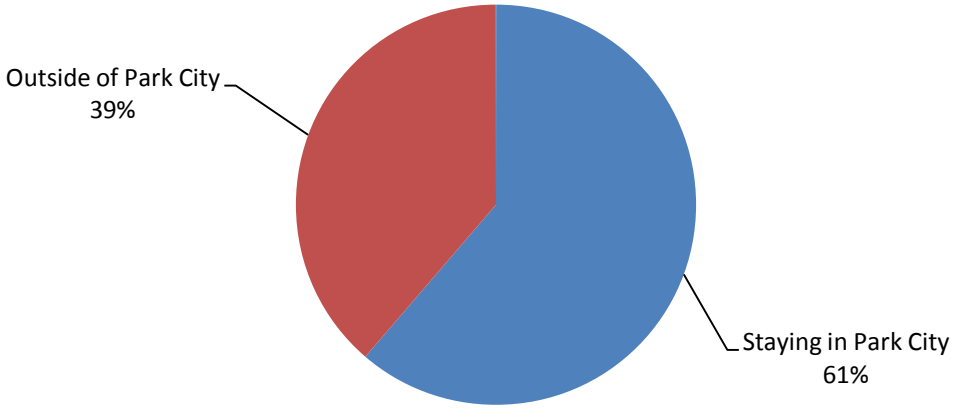
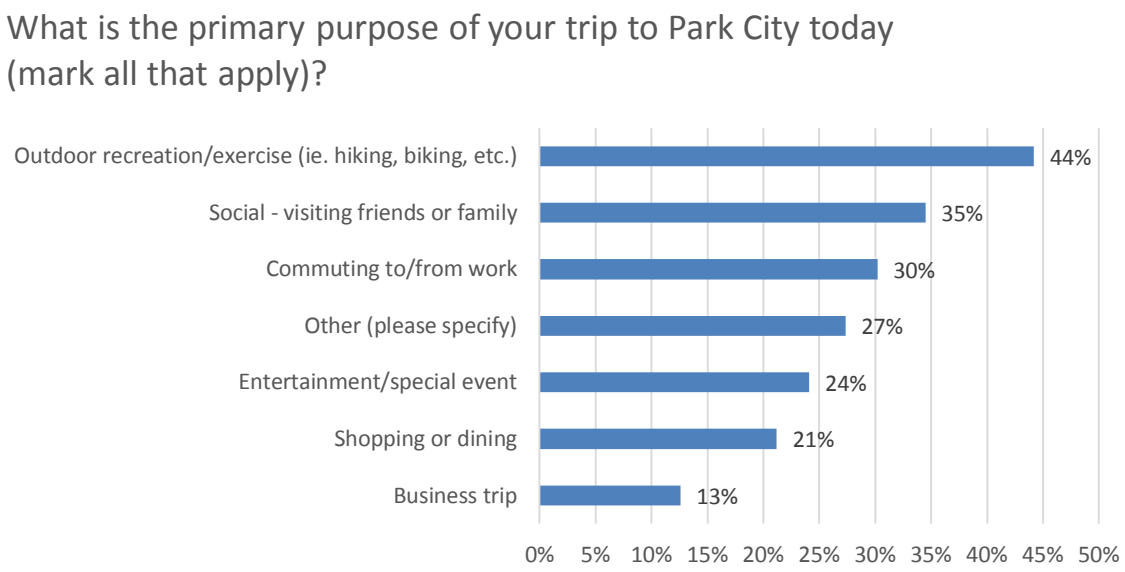
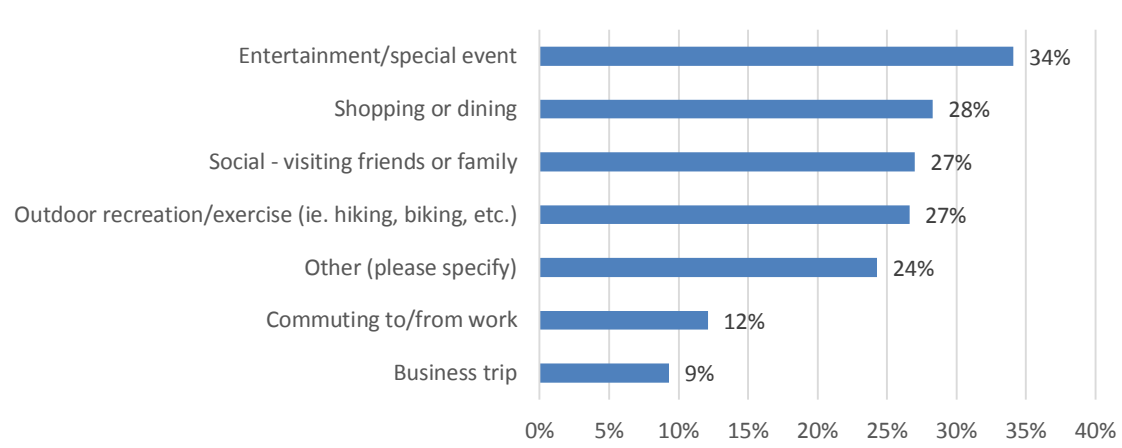


Figure 70: Primary Trip Purpose (Weekday)



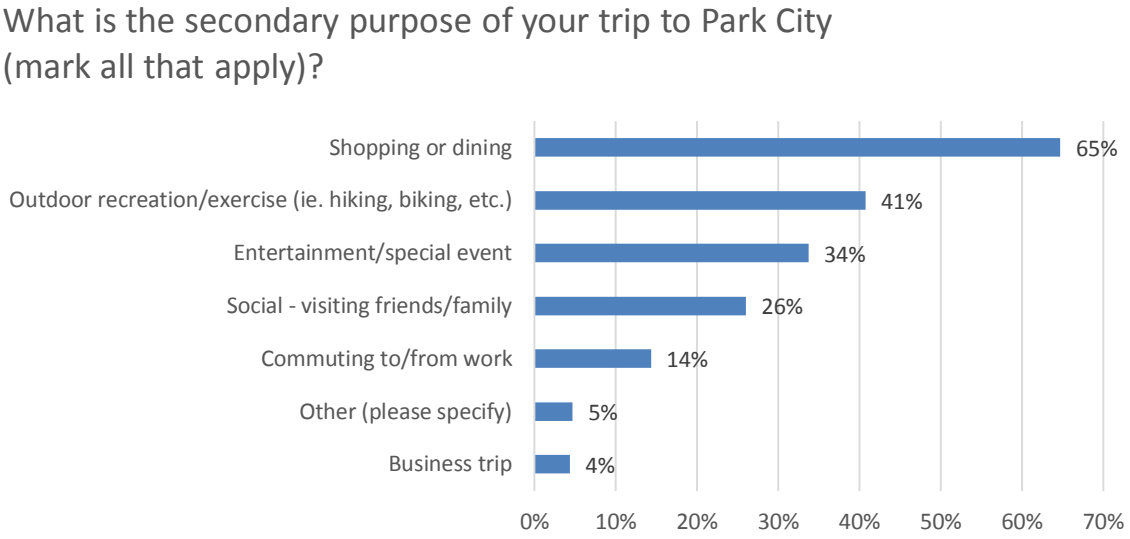
Most frequent "Other" responses

Figure 71: Primary Trip Purpose (Event Day)



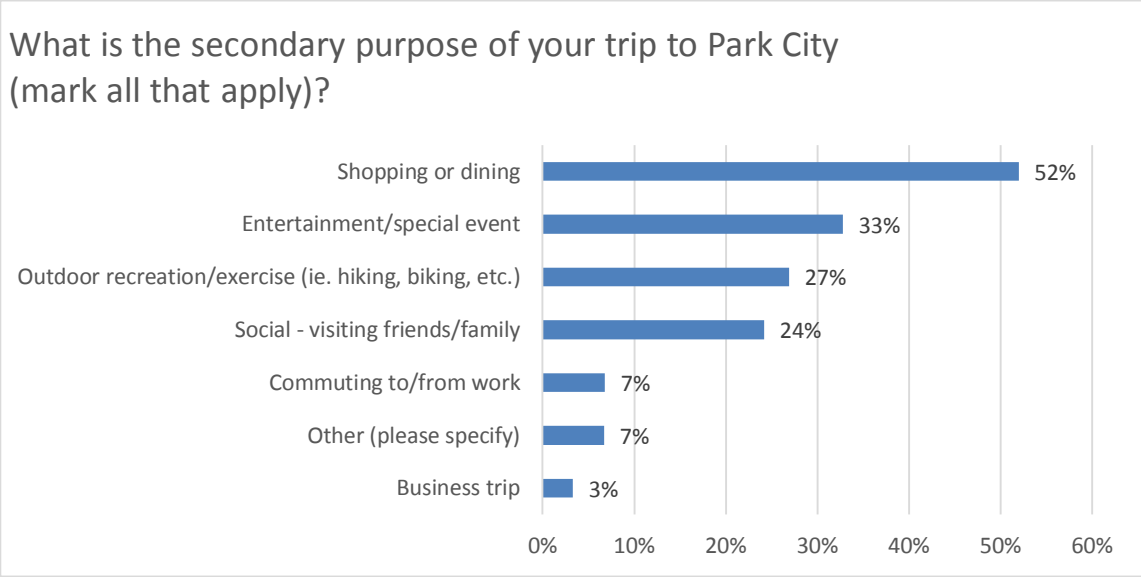
Most frequent "Other" responses

Figure 72: Secondary Trip Purpose (Weekday)



Most frequent "Other" responses

Figure 73: Secondary Trip Purpose (Event Day)



Most frequent "Other" responses

- Primary trip purposes were largely related to recreation and social activities
- Outdoor recreation was the highest response on the weekday

Figure 74: Typical Mode Used (Weekday)

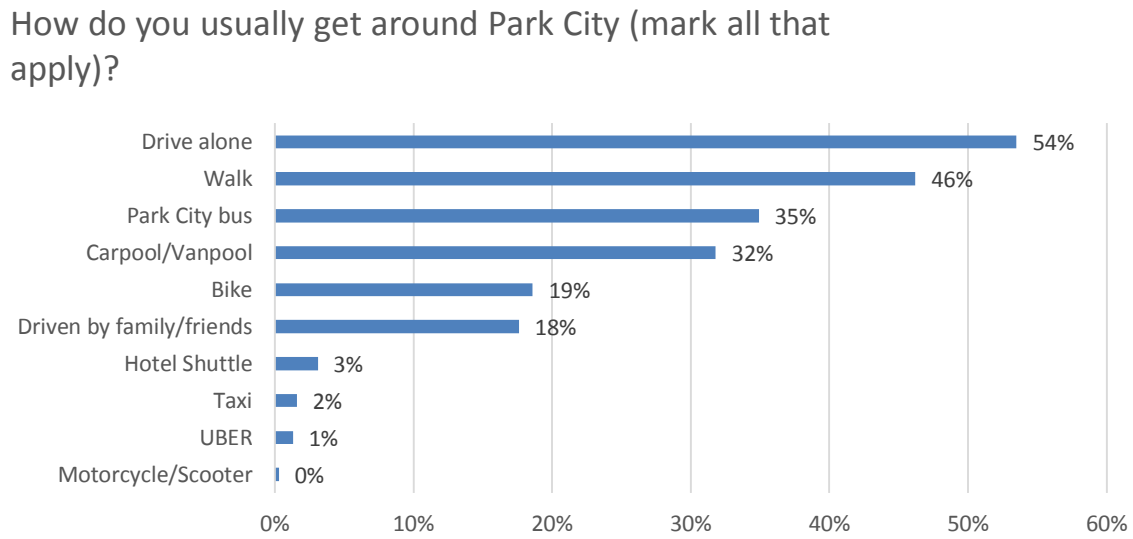


Figure 75: Typical Mode Used (Event Day)

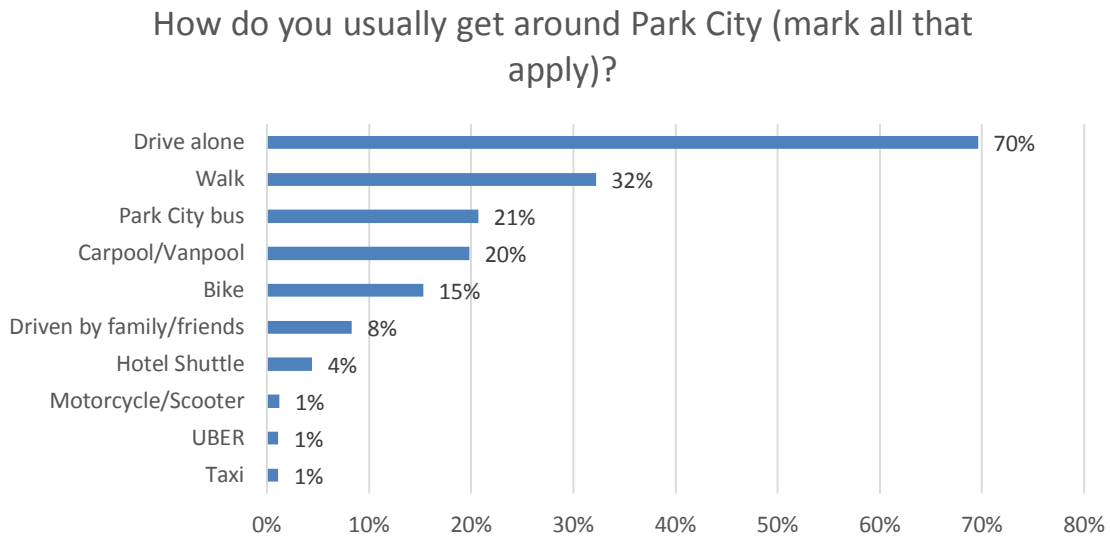


Figure 76: Possible Alternative Modes (Weekday)

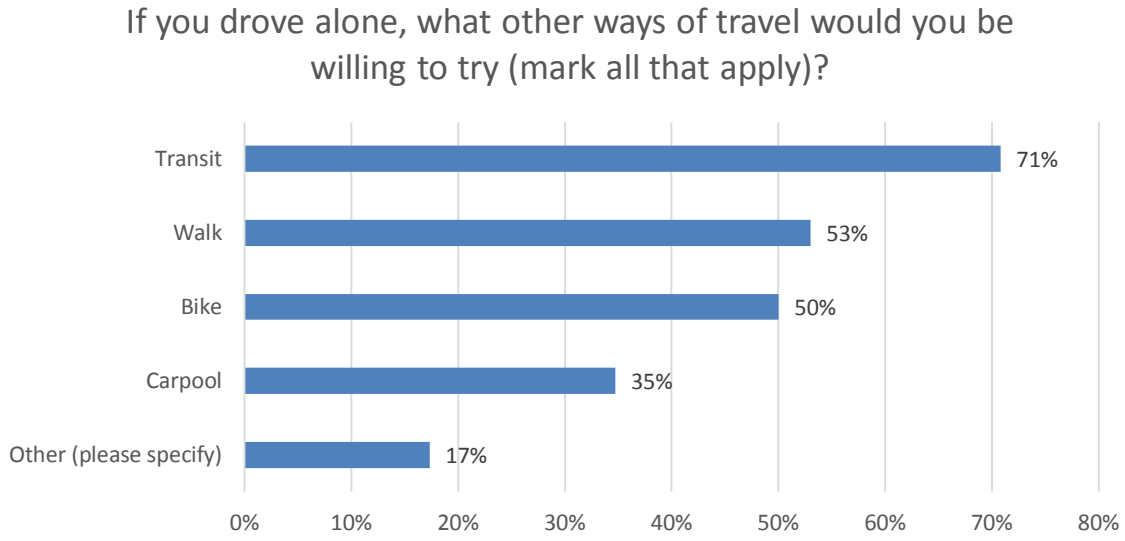


Figure 77: Possible Alternative Modes (Event Day)

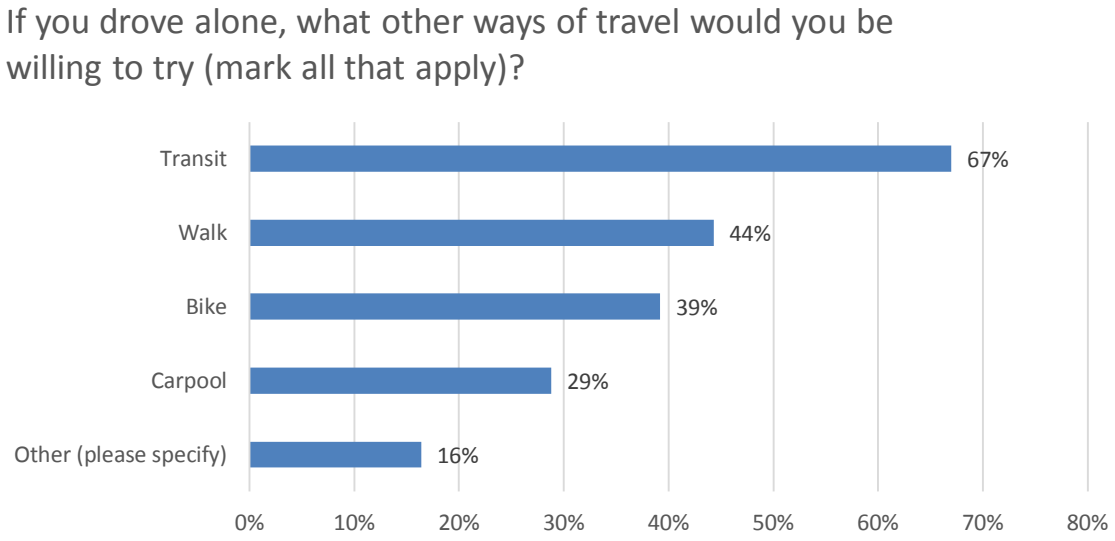


Figure 78: Mode of Access (Out of State Visitors)

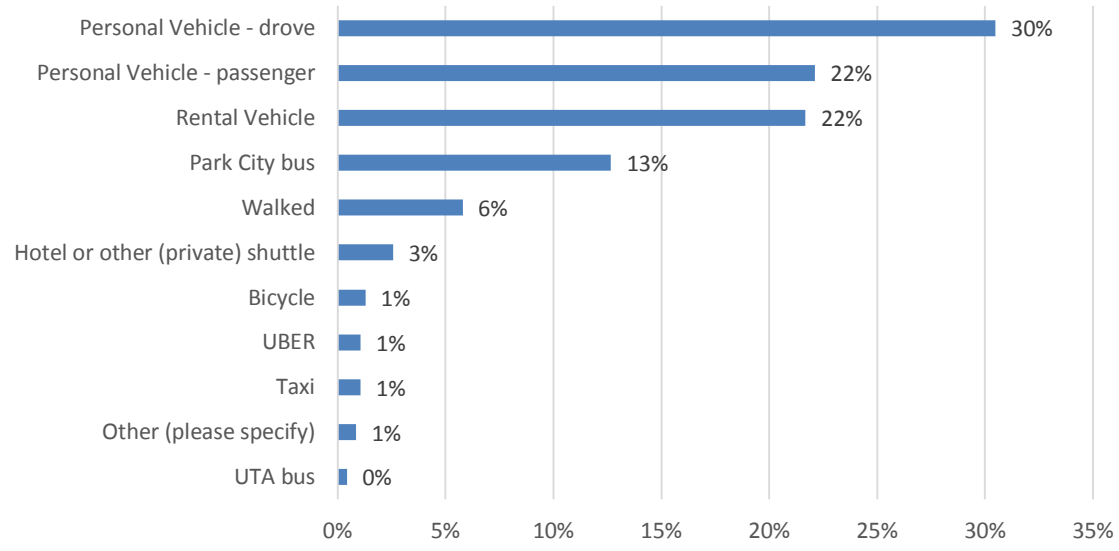


Figure 79: Out of State Visitors – Where Did You Start Your Day?

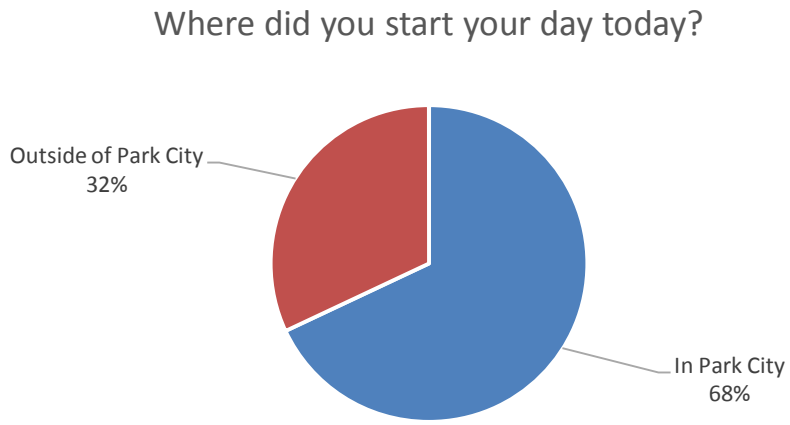
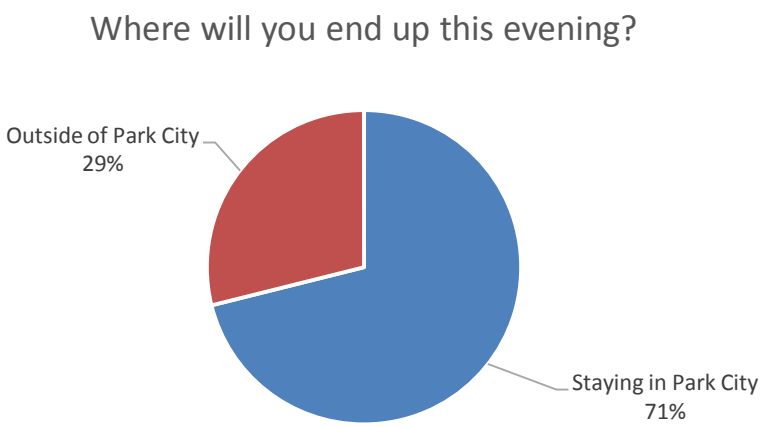


Figure 80: Out of State Visitors – Where Will You End Your Day?



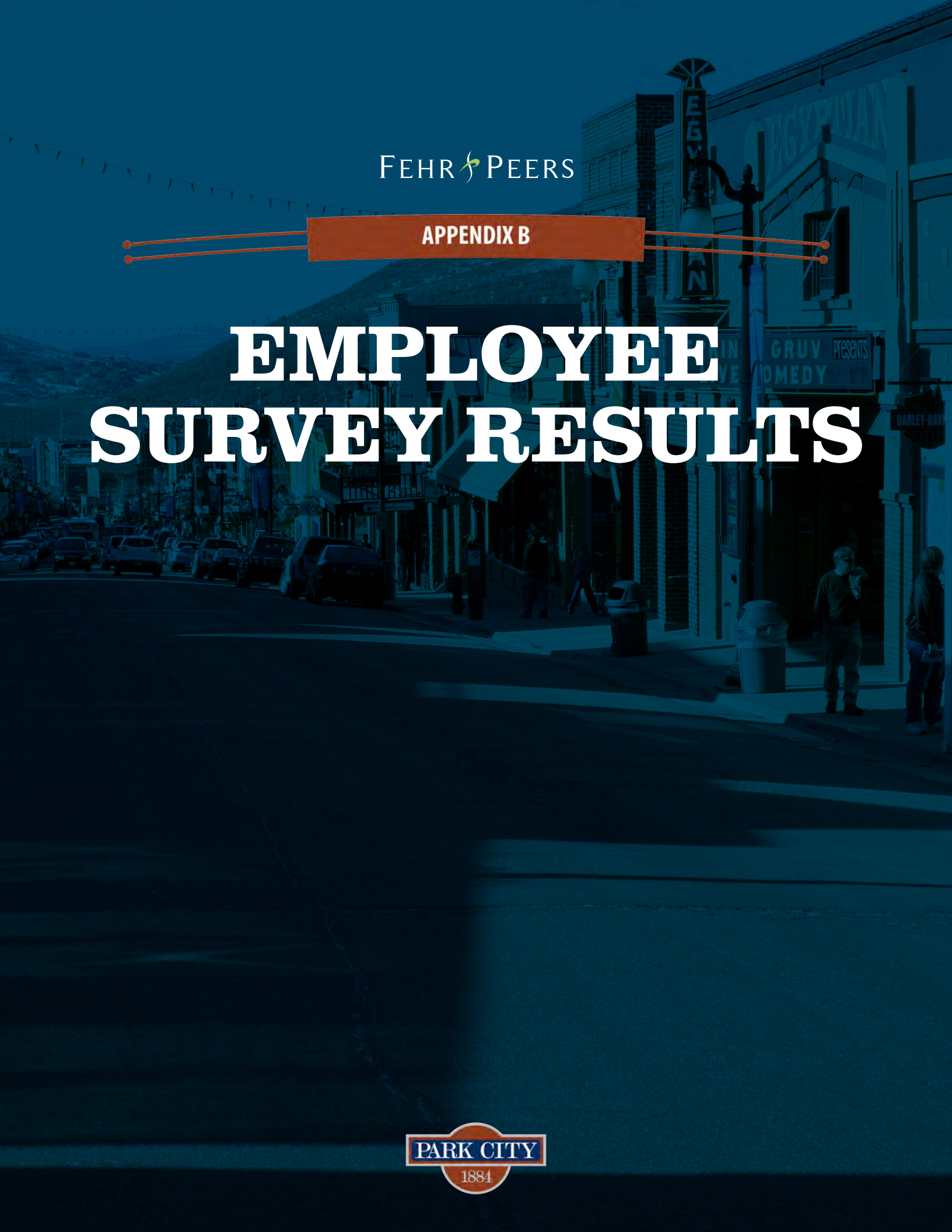

FEHR PEERS
APPENDIX B
EMPLOYEE SURVEY RESULTS
PARK CITY
1884

Figure 81: Distance from Work

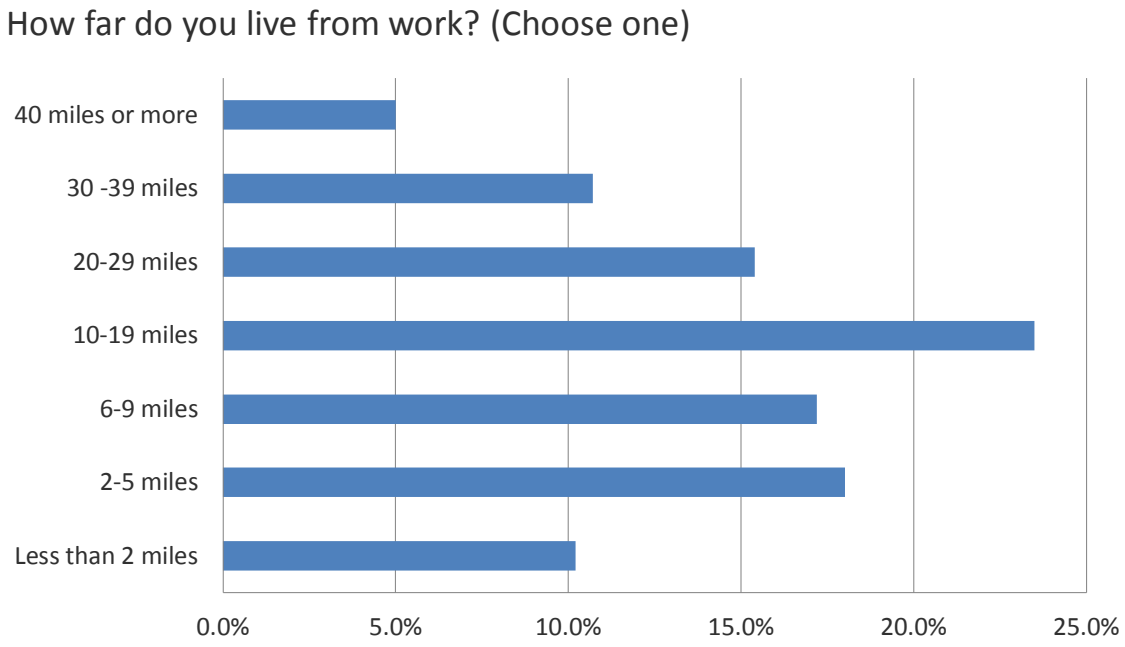


Figure 82: Time Arriving at Work

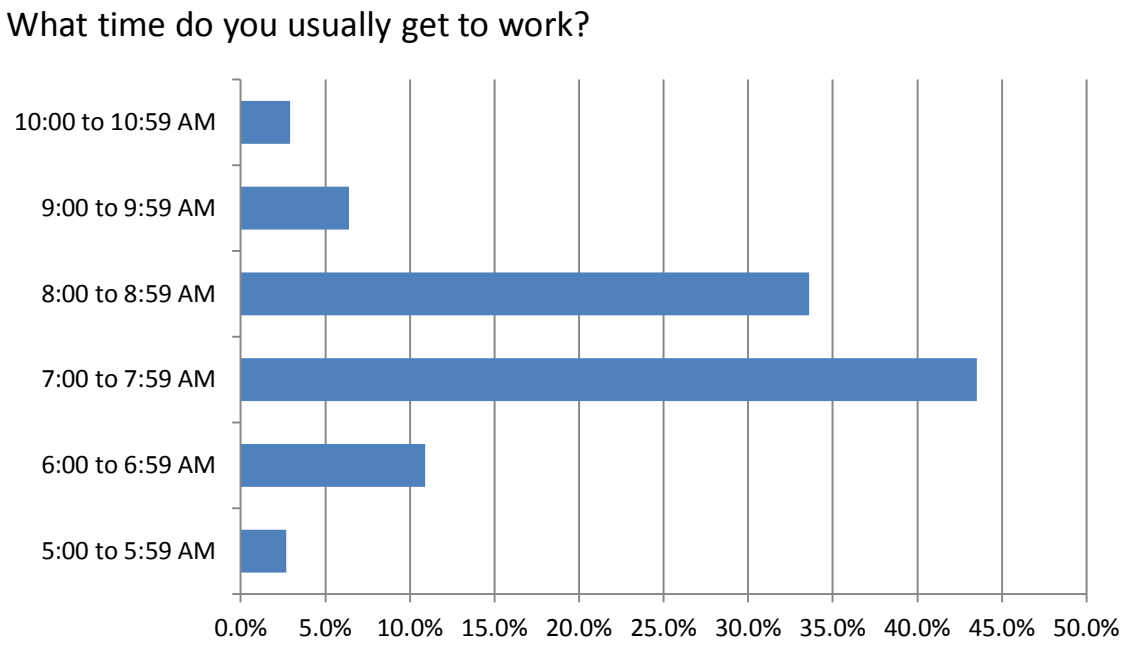


Figure 83: Time Leaving Work

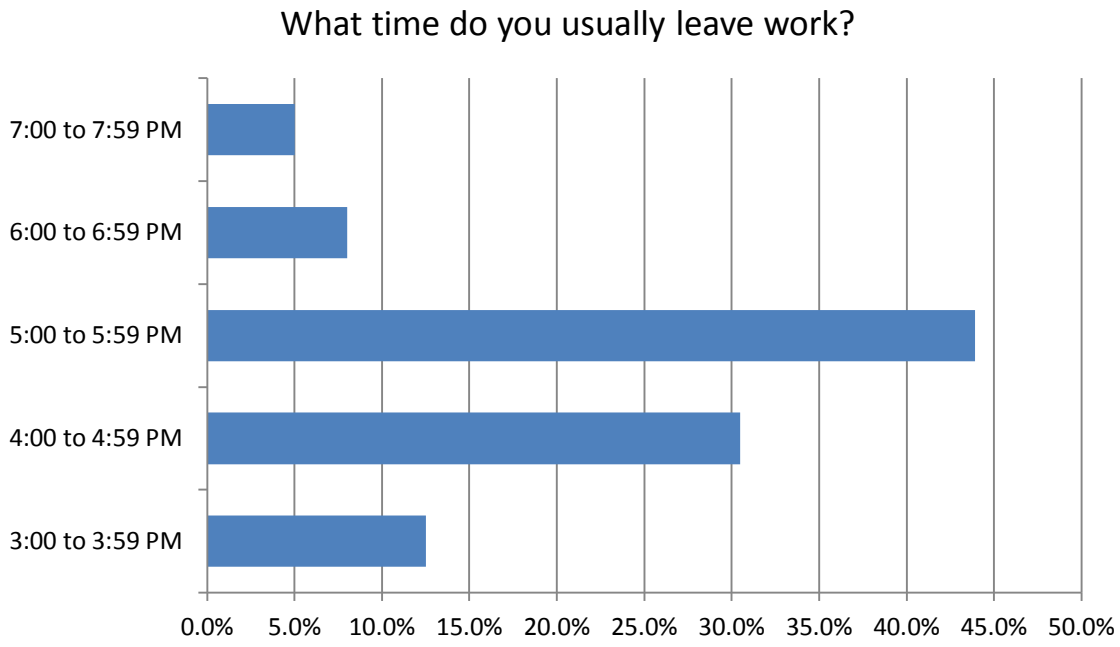


Figure 84: Varied Work Hours

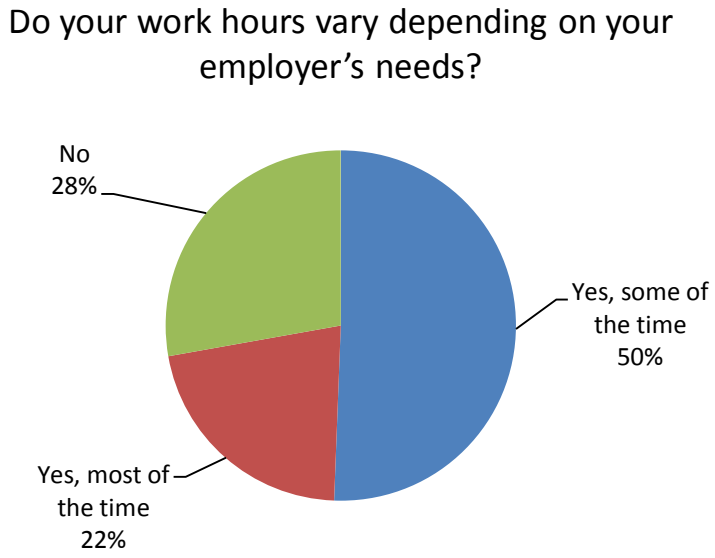


Figure 85: Availability of a Car for Commute

Figure 86: Drop Off/Pick Up Children Responsibilities

Figure 87: Employment Status

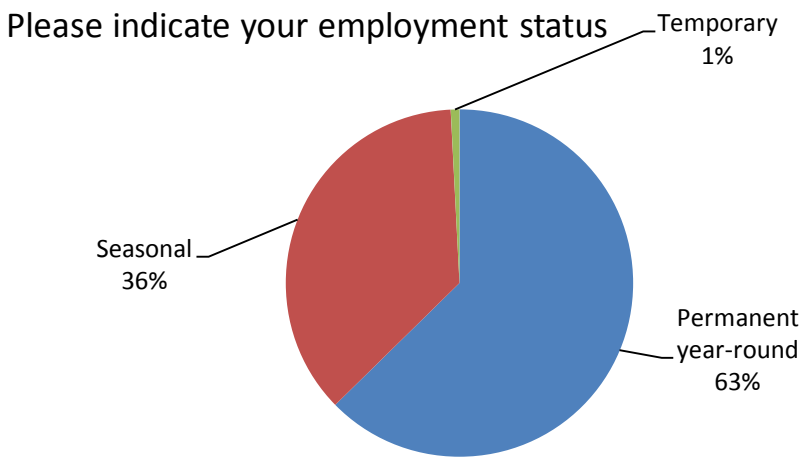


Figure 88: Mode of Access to Work

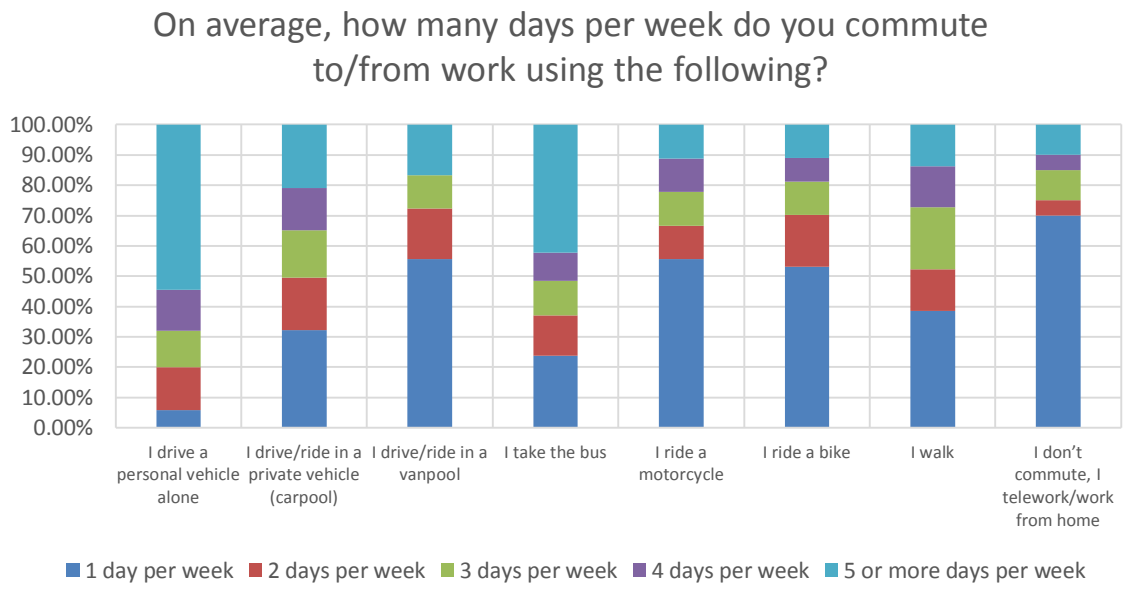


Figure 89: Potential Alternatives

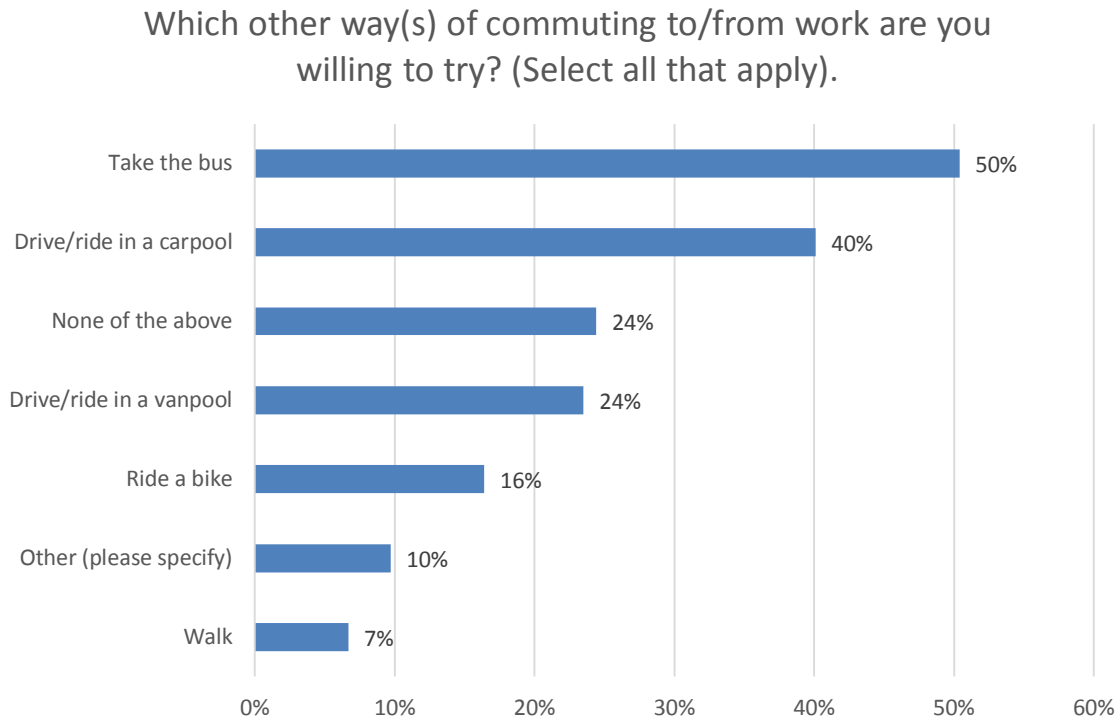


Figure 90: Work Requires Vehicle

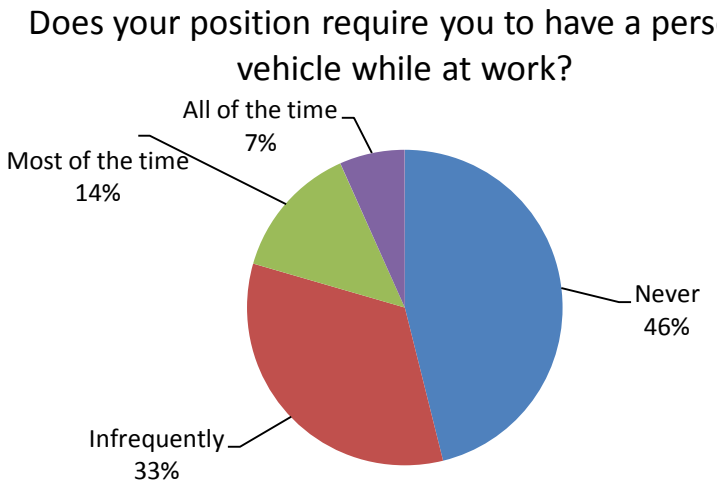


Figure 91: Availability of Shared Vehicle for Work Trips

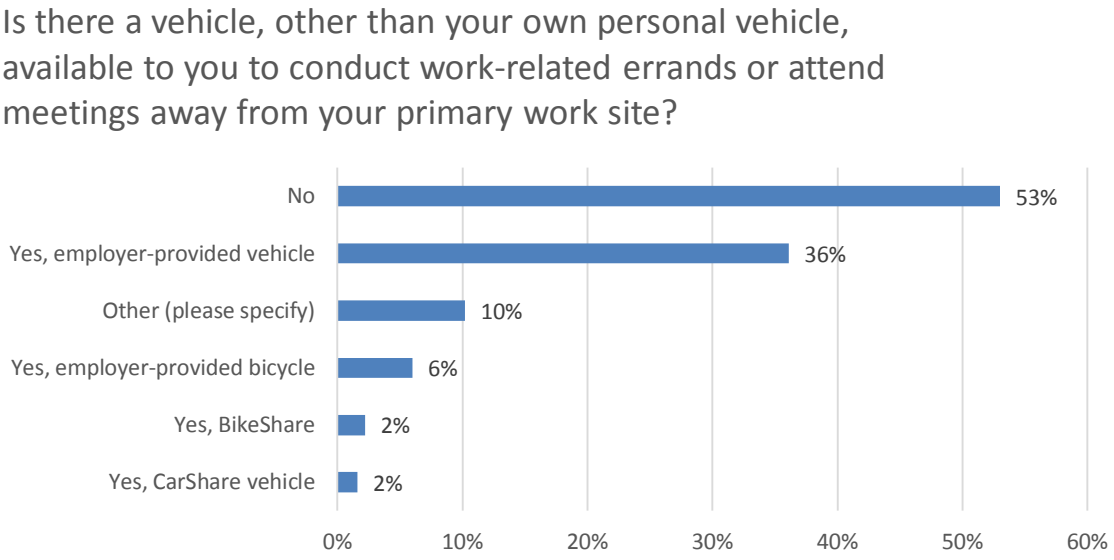


Figure 92: Available Transportation Benefits

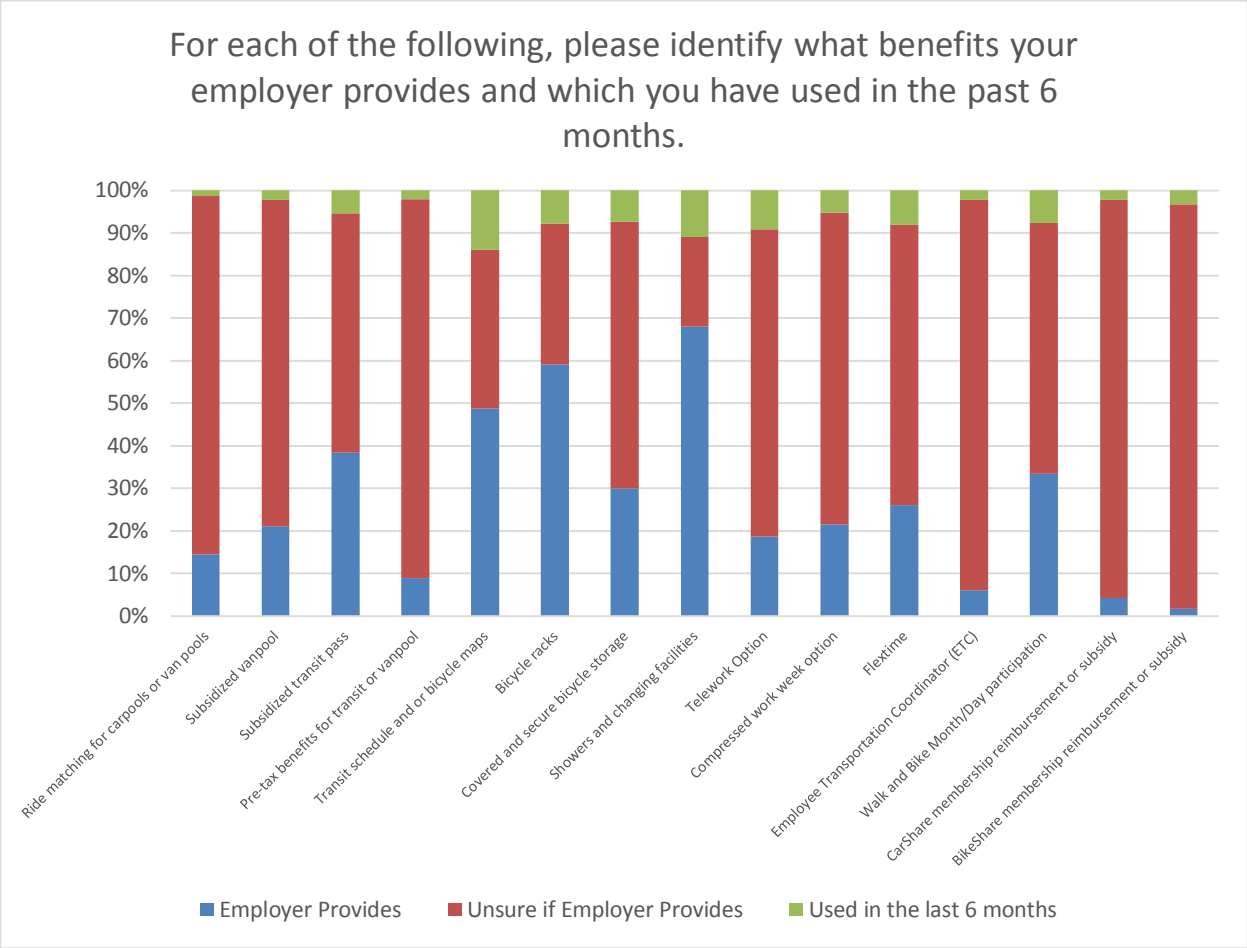
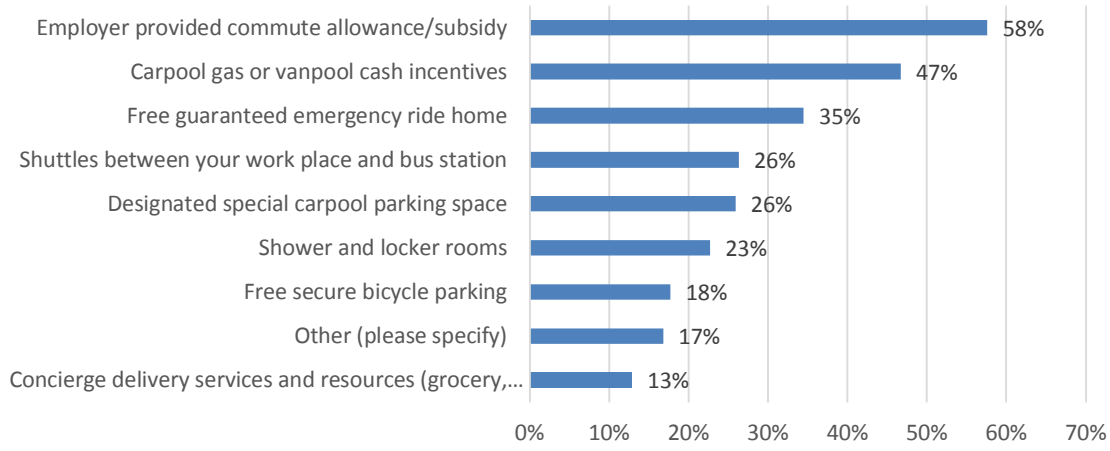
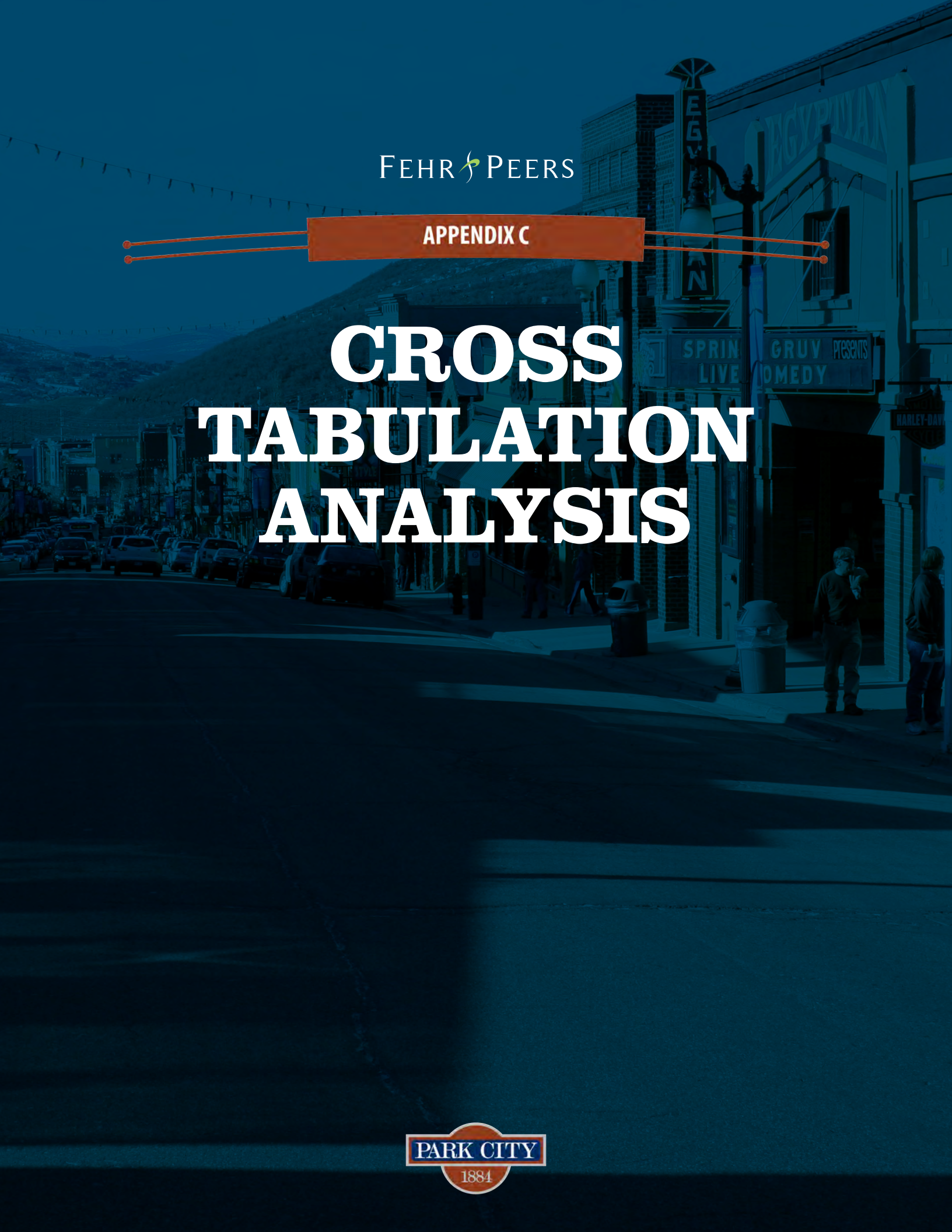


Figure 93: Interest in Benefits

Please indicate your interest in any of the following incentives, benefits, services, or information. Select all that apply.





FEHR PEERS

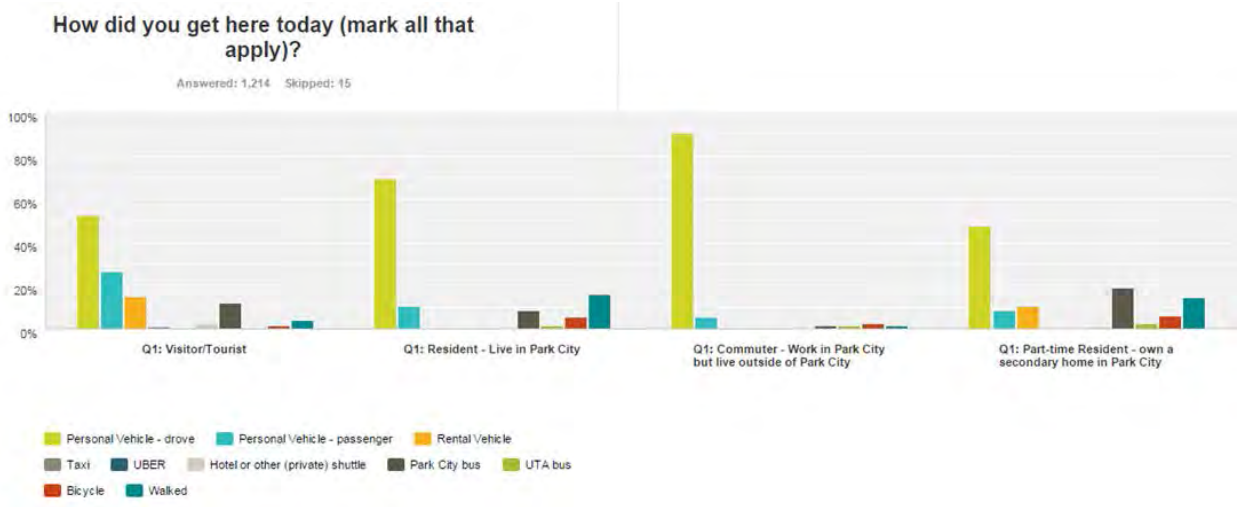
APPENDIX C

CROSS TABULATION ANALYSIS

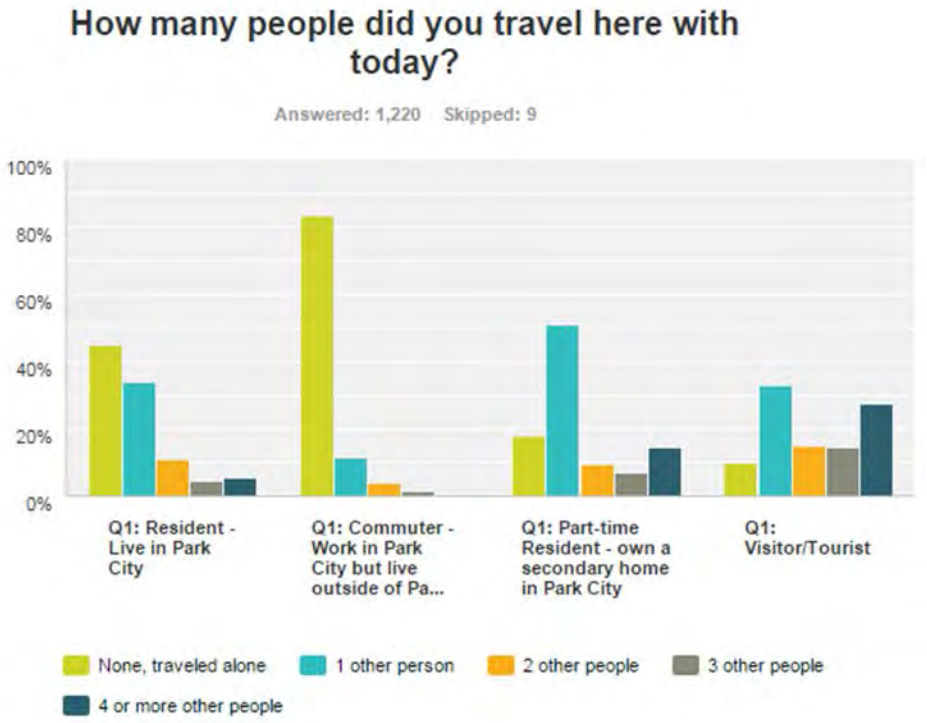
PARK CITY
1884

Cross Tabulation Analysis – Park City Intercept Survey Data

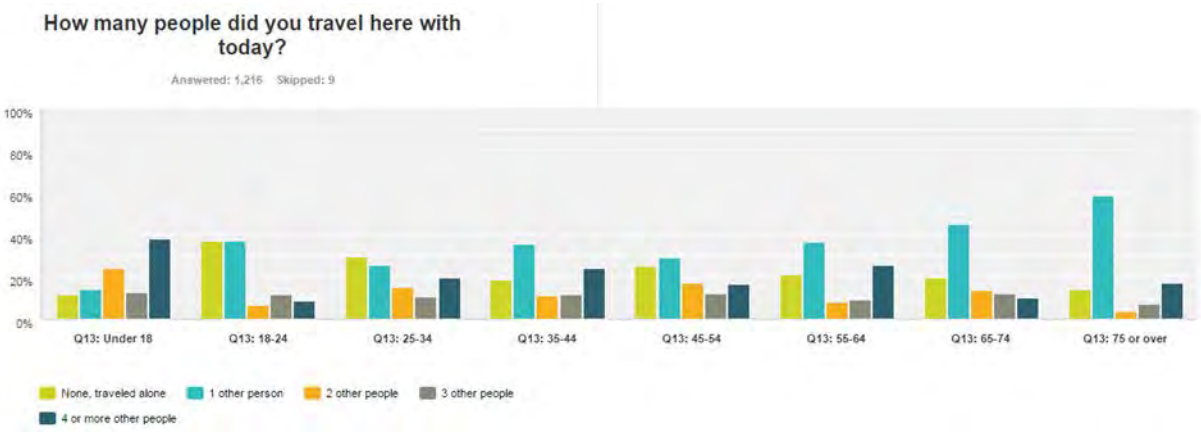
Who they are (resident, visitor, etc) vs. how they got here today:



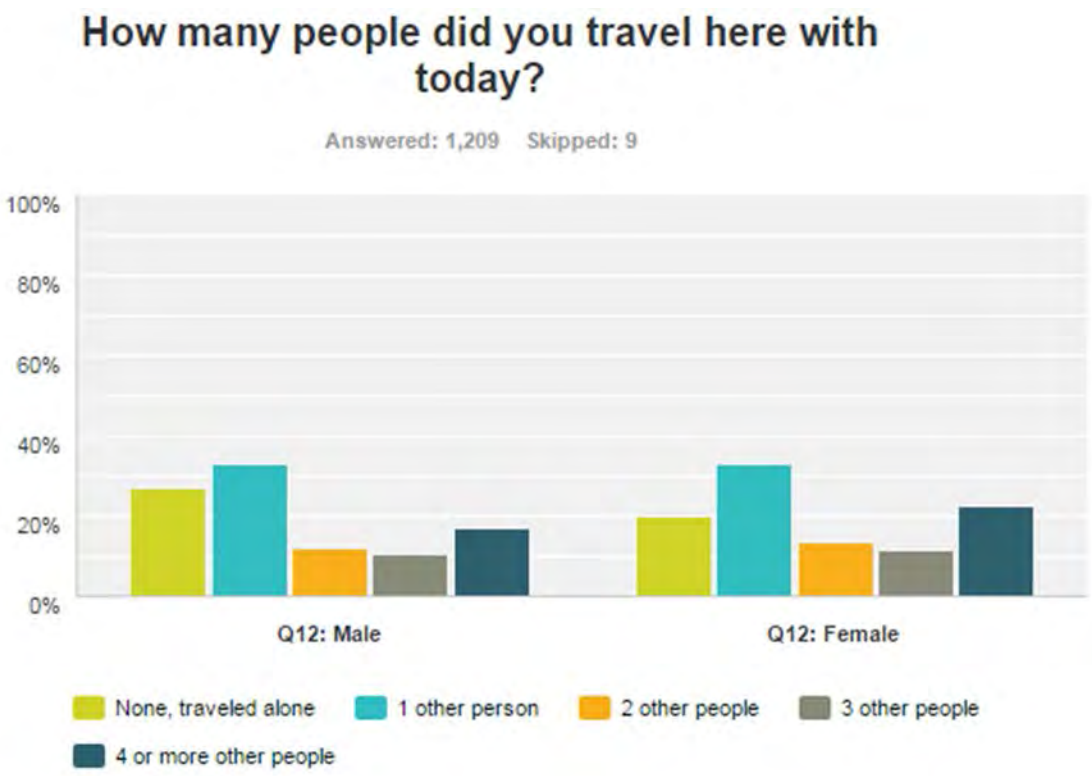
How many people they traveled with vs who they are



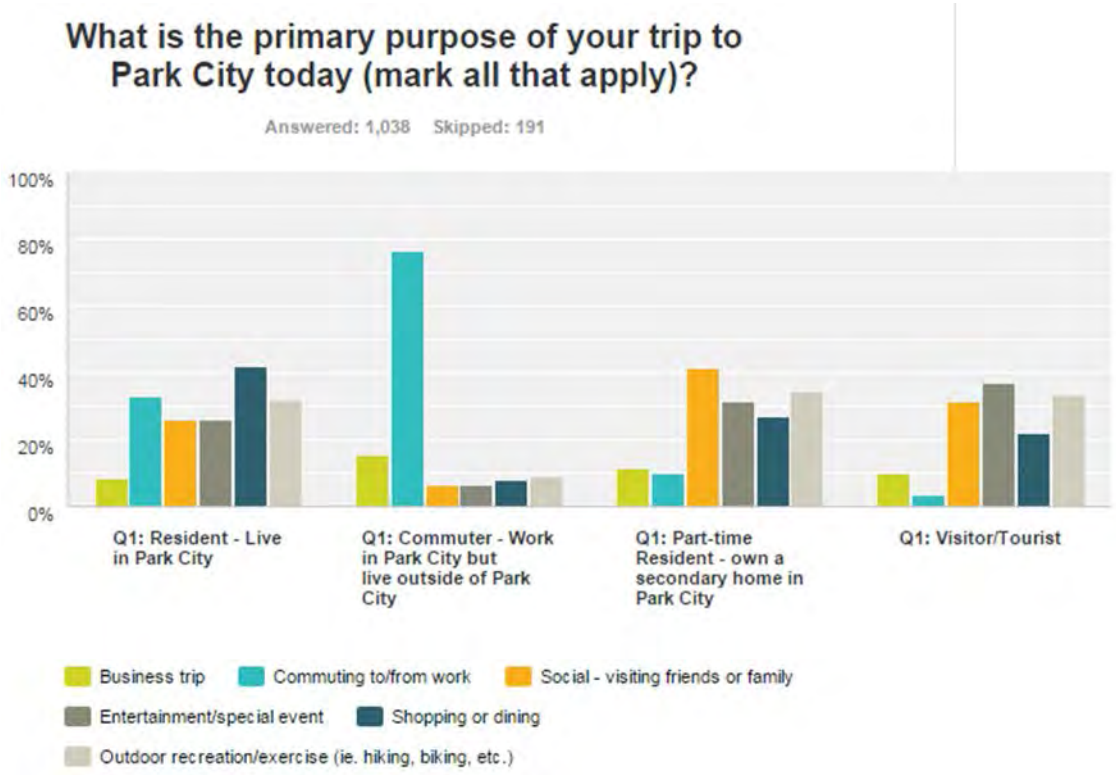
How many people they traveled with vs. age



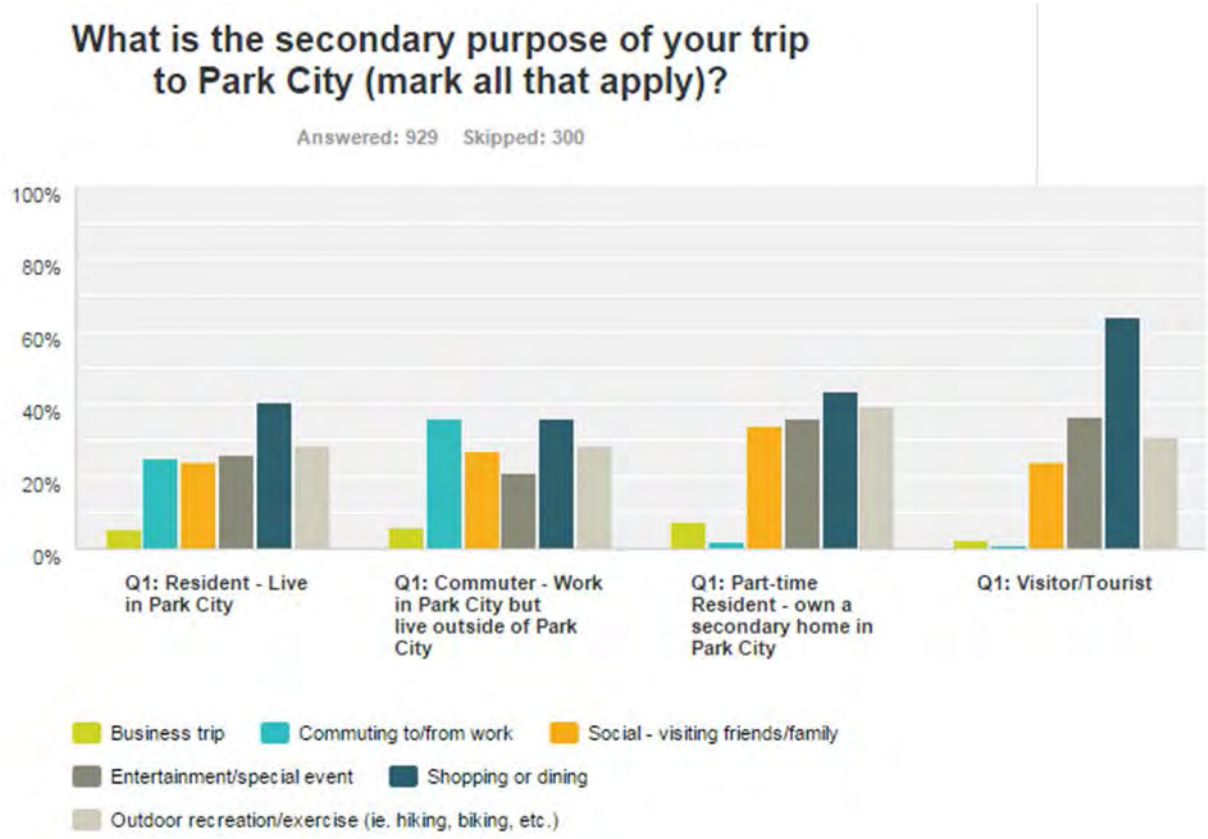
How many people they traveled with vs. gender



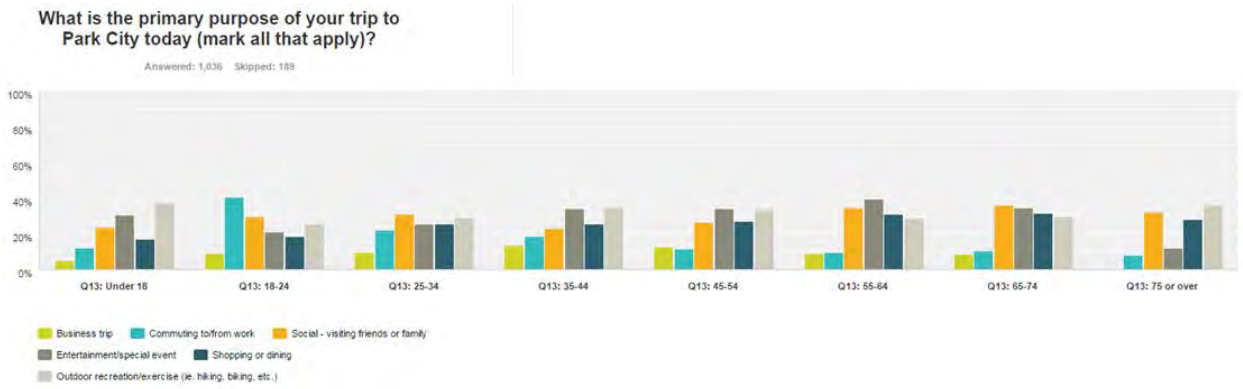
Primary Trip Purpose vs. Who They Are



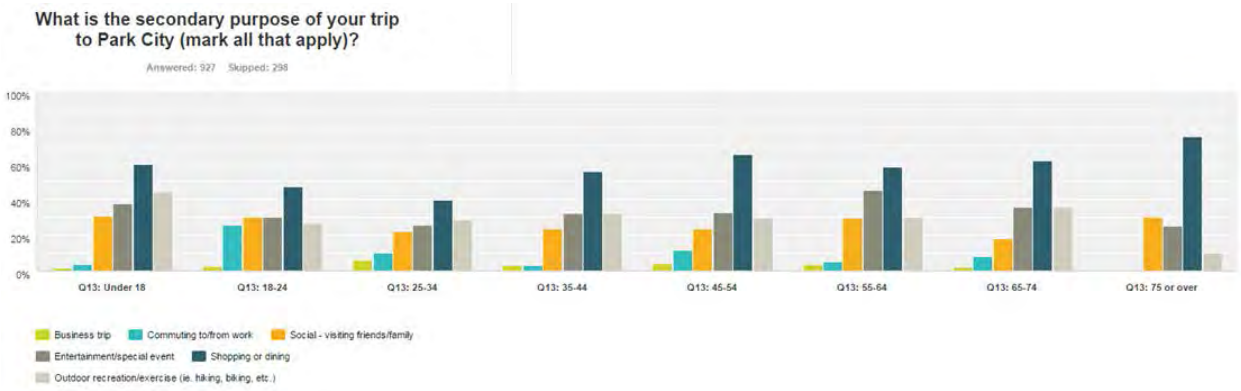
Secondary Trip Purpose vs. Who They Are



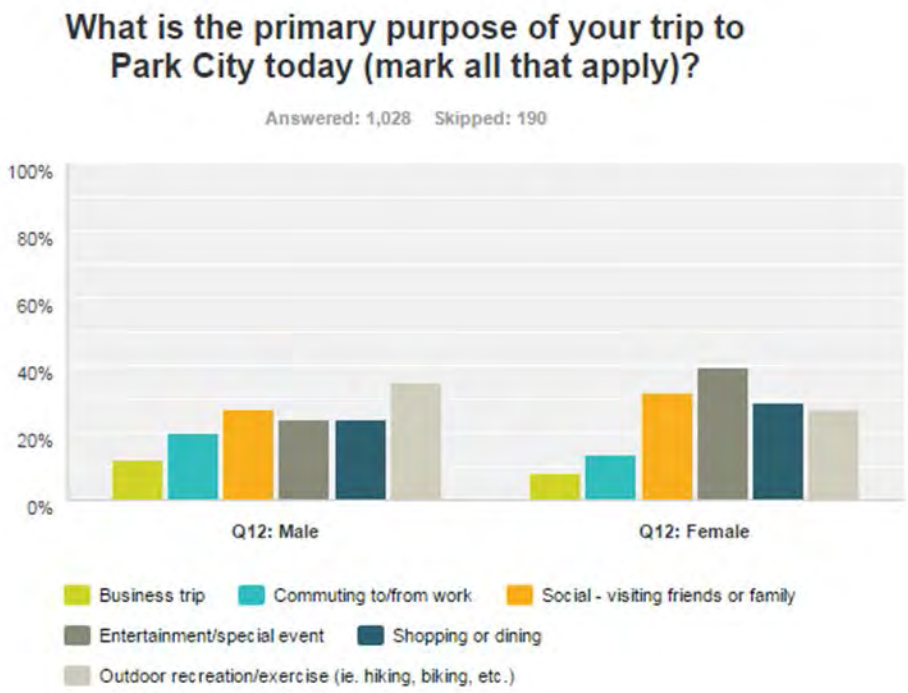
Primary Trip Purpose vs. Age



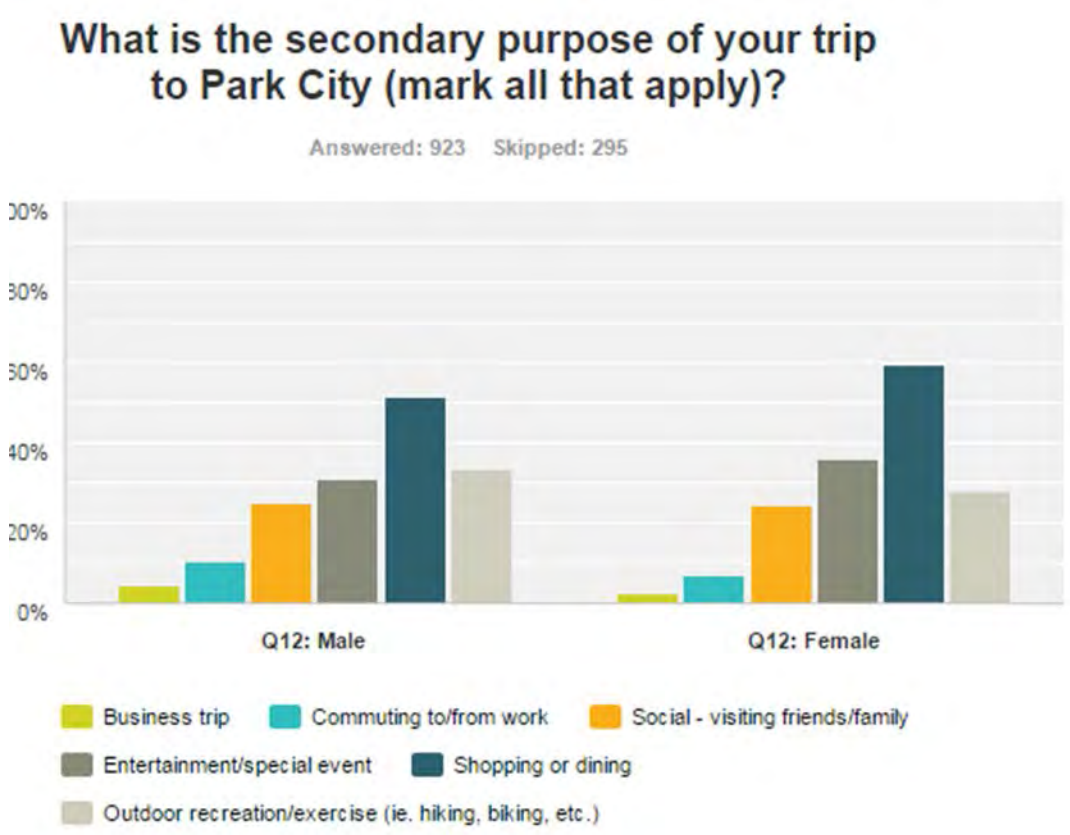
Secondary Trip Purpose vs. Age



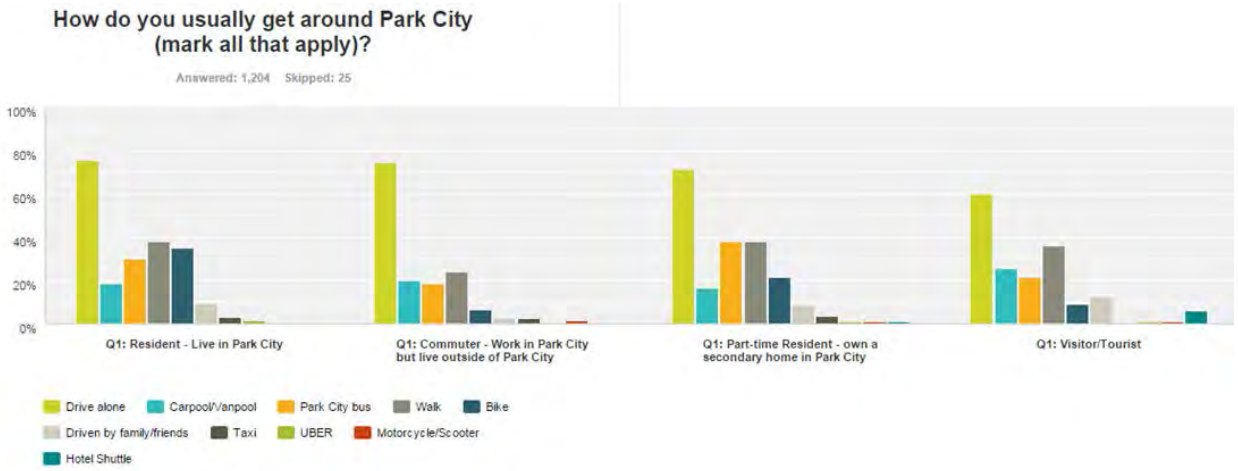
Primary Trip Purpose vs. Gender



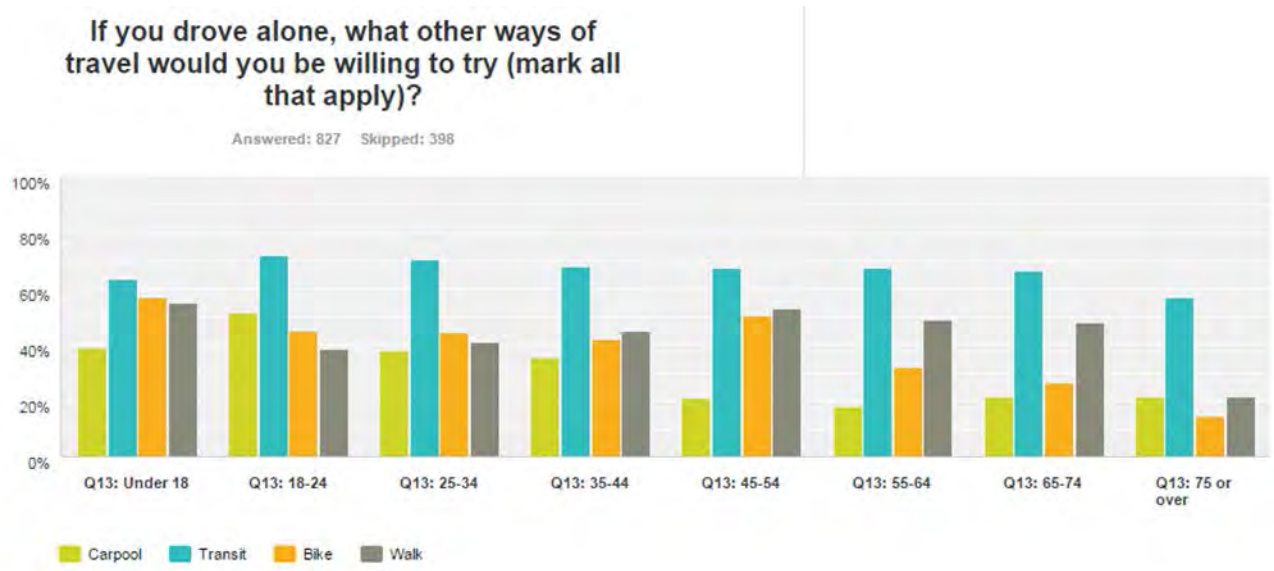
Secondary Trip Purpose vs. Gender



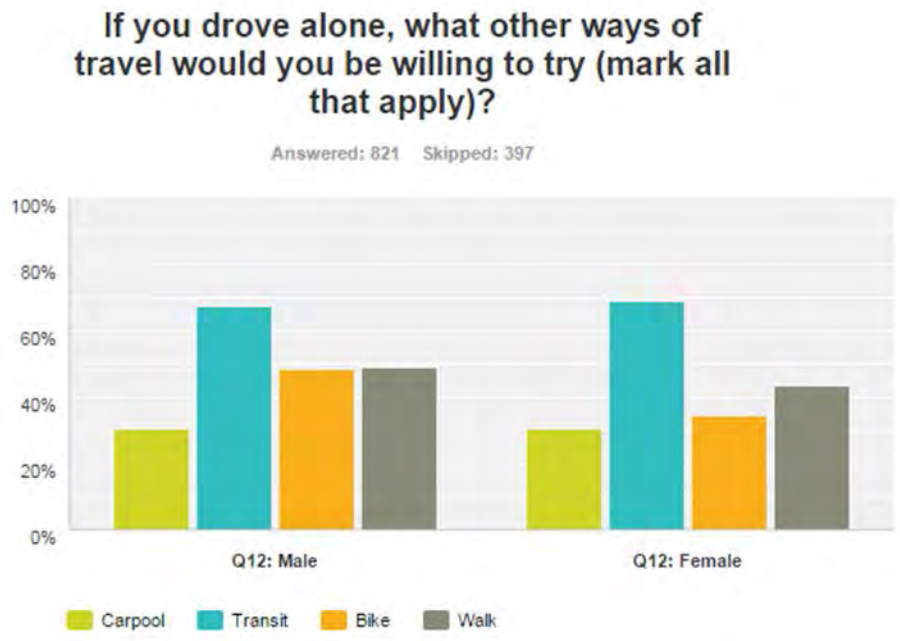
Who are they vs. How They Get around Park City



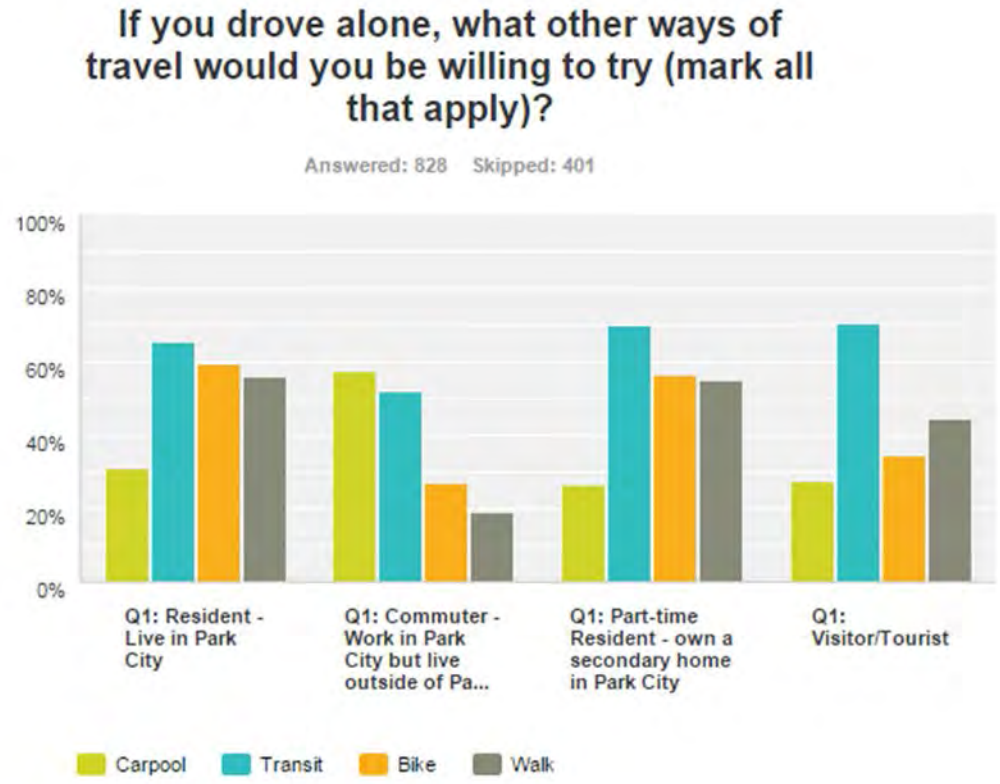
What Other Ways of Travel Would You be willing to try vs. Age



What Other Ways of Travel Would You be willing to try vs. Gender

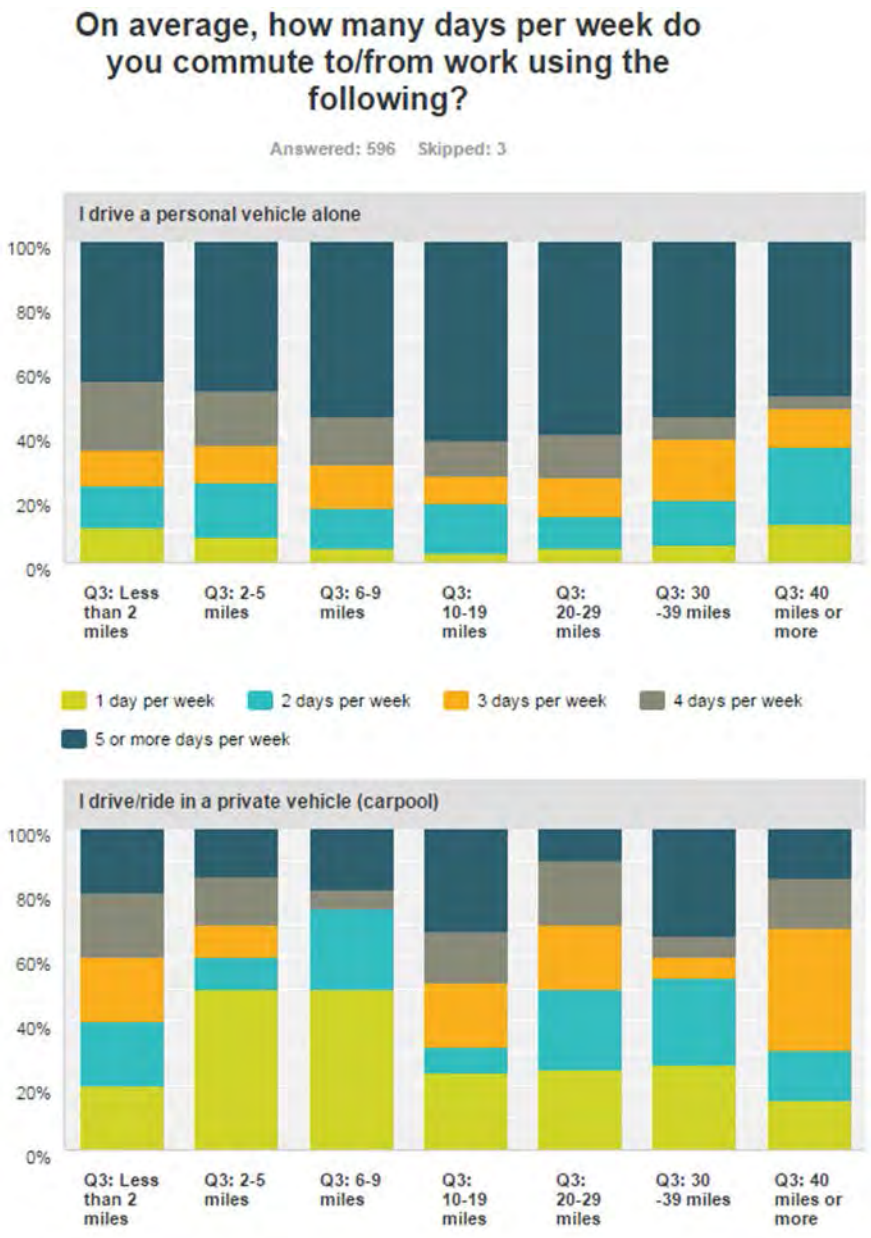


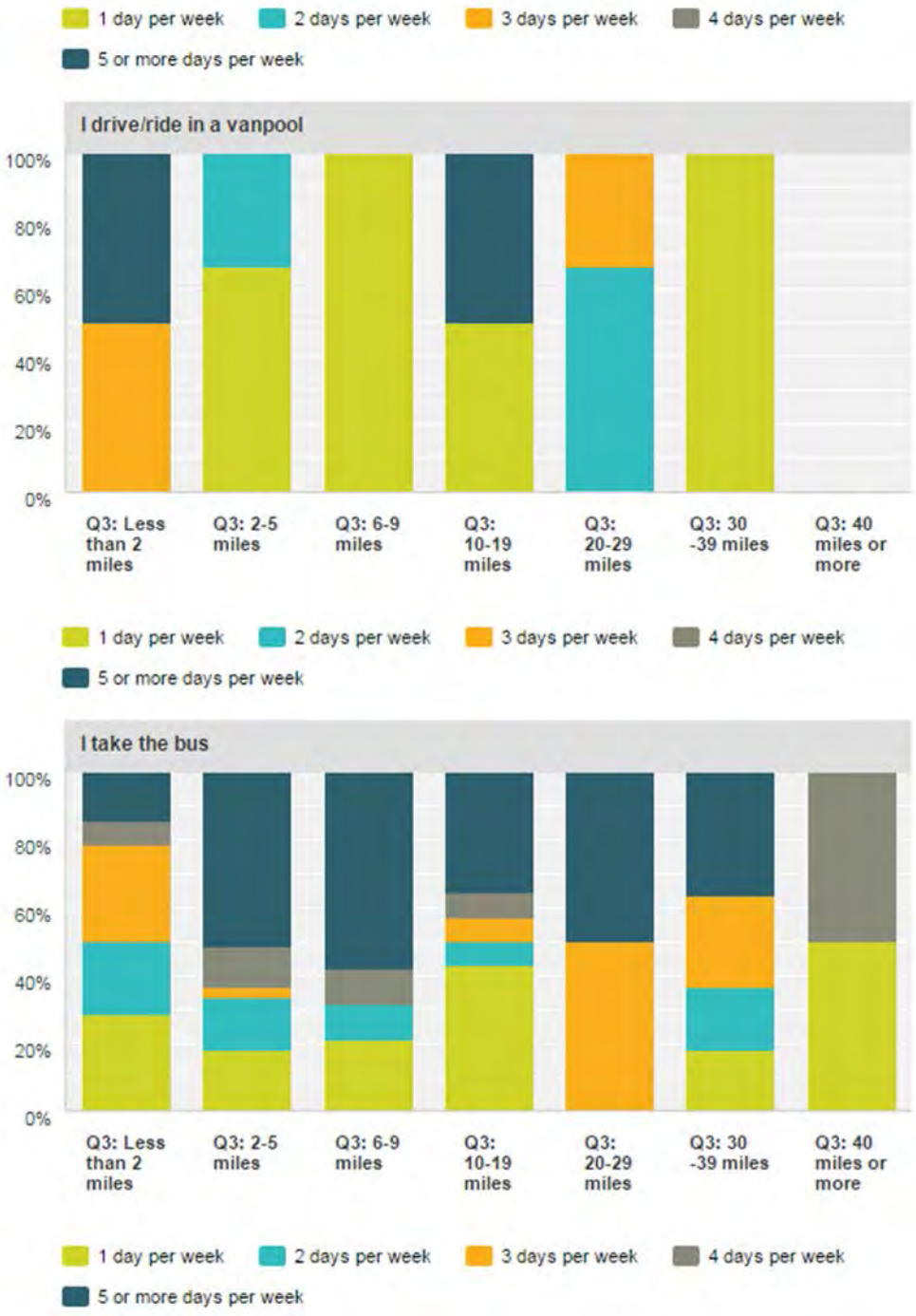
What Other Ways of Travel Would You be willing to try vs. who they are

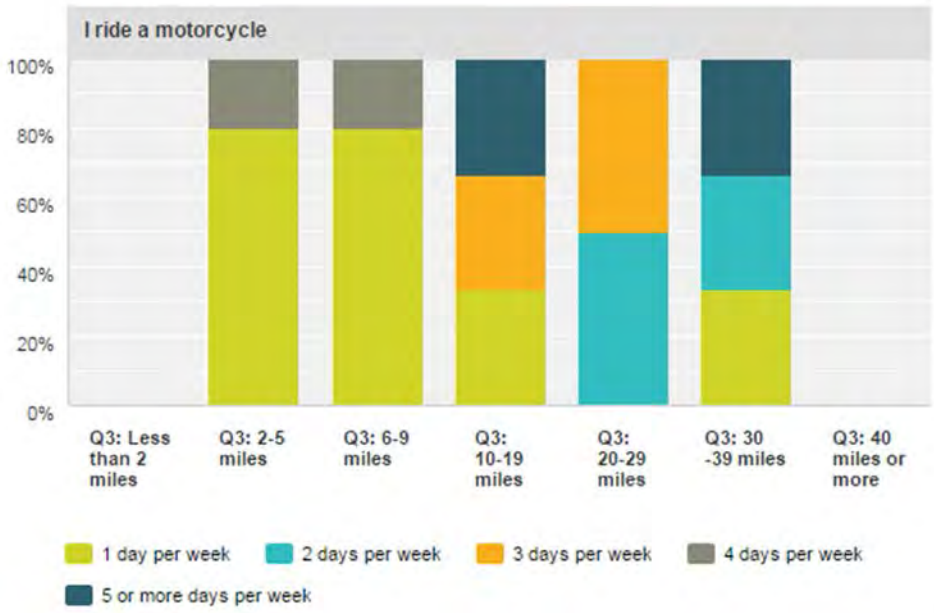

If you drove alone, what other ways of travel would you be willing to try (mark all that apply)?
Answered: 828 Skipped: 401
100%
80%
60%
40%
20%
0%
Q1: Resident - Live in Park City
Q1: Commuter - Work in Park City but live outside of Pa...
Q1: Part-time Resident - own a secondary home in Park City
Q1: Visitor/Tourist
Carpool
Transit
Bike
Walk

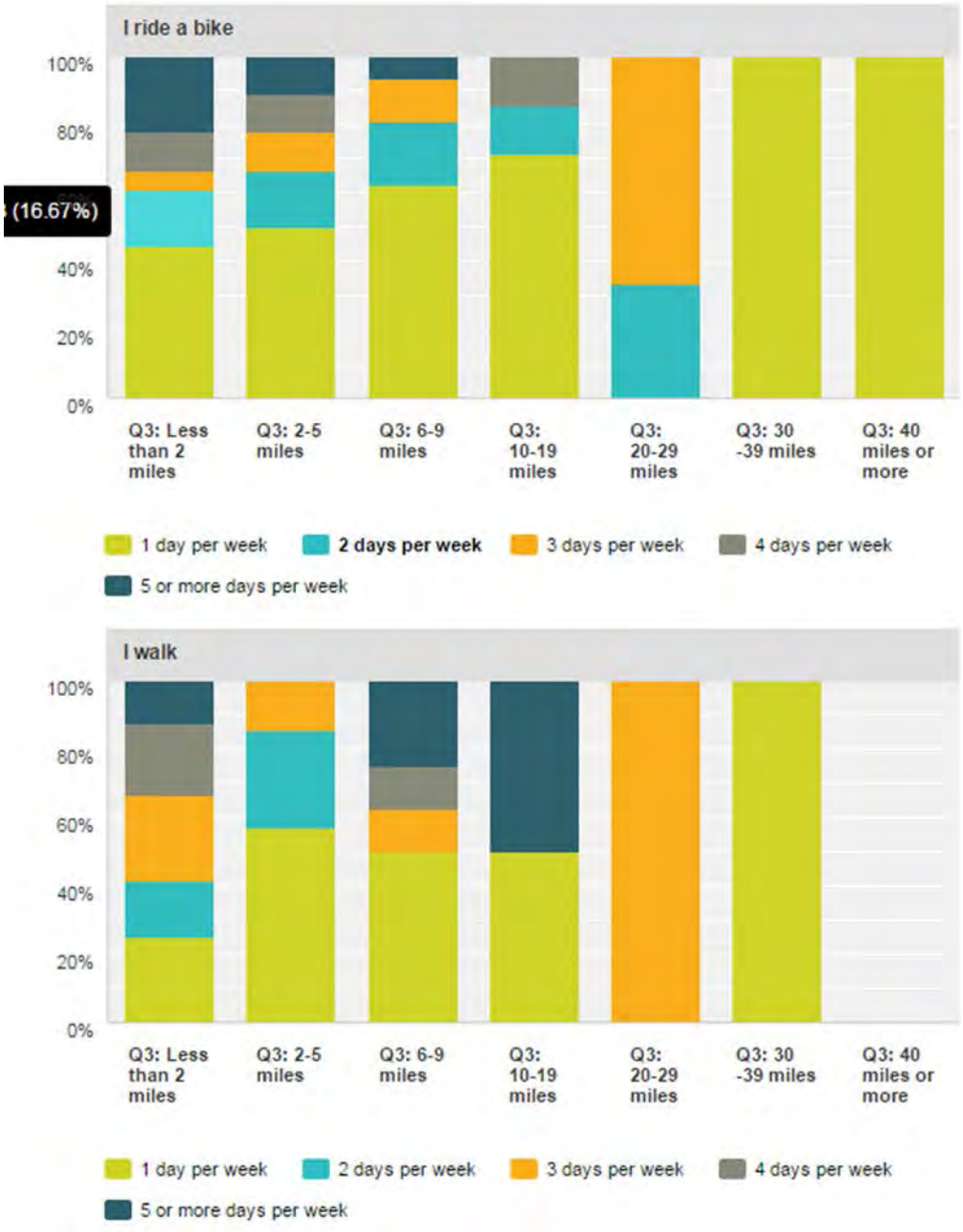
Cross Tabulation – Park City Employee Survey

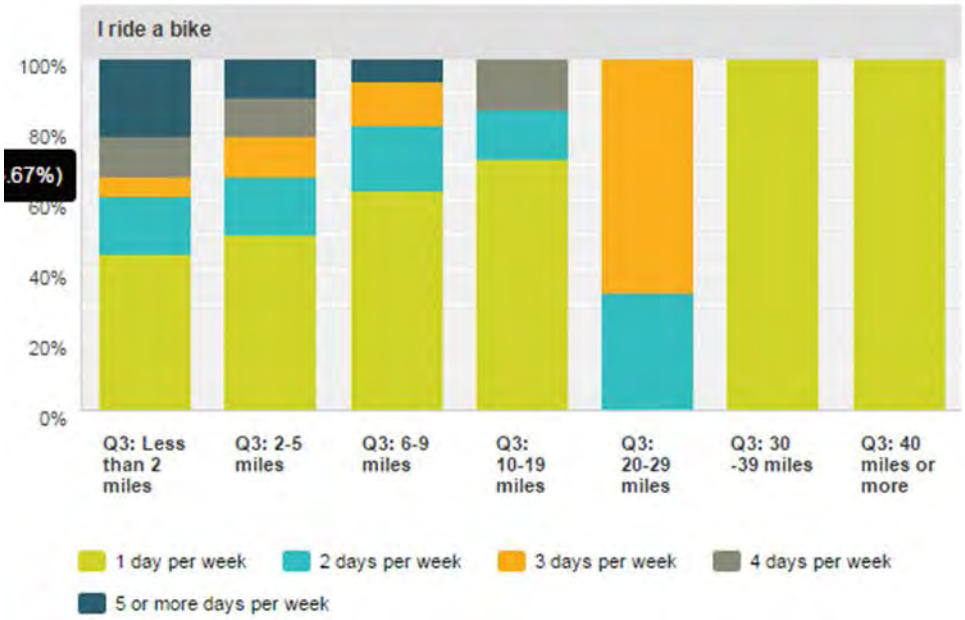
How far they live from work vs. how they typically get to work

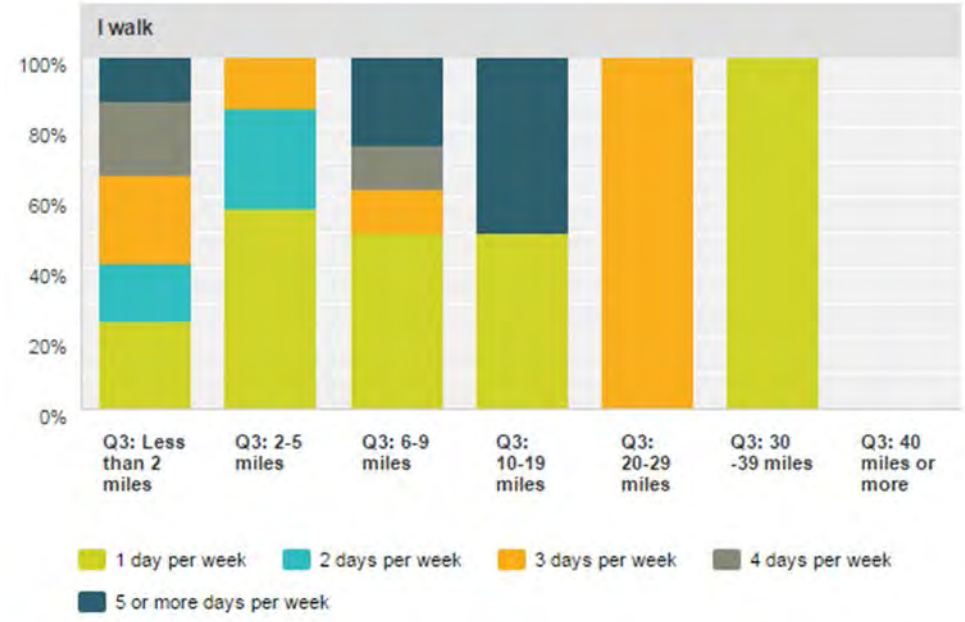


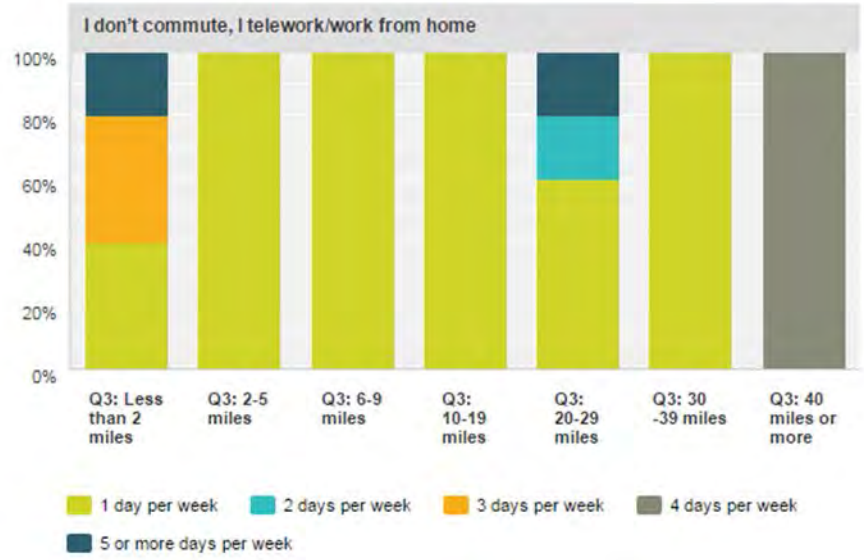

1 day per week
2 days per week
3 days per week
4 days per week
5 or more days per week
I drive/ride in a vanpool
100%
80%
60%
40%
20%
0%
Q3: Less than 2 miles
Q3: 2-5 miles
Q3: 6-9 miles
Q3: 10-19 miles
Q3: 20-29 miles
Q3: 30 -39 miles
Q3: 40 miles or more
1 day per week
2 days per week
3 days per week
4 days per week
5 or more days per week
I take the bus
100%
80%
60%
40%
20%
0%
Q3: Less than 2 miles
Q3: 2-5 miles
Q3: 6-9 miles
Q3: 10-19 miles
Q3: 20-29 miles
Q3: 30 -39 miles
Q3: 40 miles or more
1 day per week
2 days per week
3 days per week
4 days per week
5 or more days per week


I ride a motorcycle
100%
80%
60%
40%
20%
0%
Q3: Less than 2 miles
Q3: 2-5 miles
Q3: 6-9 miles
Q3: 10-19 miles
Q3: 20-29 miles
Q3: 30 -39 miles
Q3: 40 miles or more
1 day per week
2 days per week
3 days per week
4 days per week
5 or more days per week

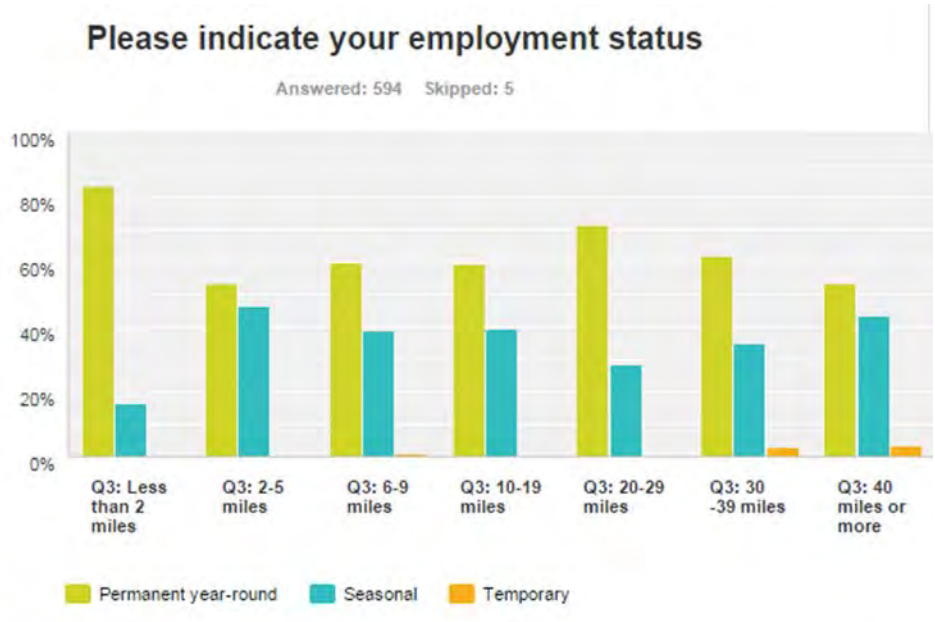

I ride a bike
100%
80%
(16.67%)
40%
20%
0%
Q3: Less than 2 miles
Q3: 2-5 miles
Q3: 6-9 miles
Q3: 10-19 miles
Q3: 20-29 miles
Q3: 30 -39 miles
Q3: 40 miles or more
1 day per week
2 days per week
3 days per week
4 days per week
5 or more days per week
I walk
100%
80%
60%
40%
20%
0%
Q3: Less than 2 miles
Q3: 2-5 miles
Q3: 6-9 miles
Q3: 10-19 miles
Q3: 20-29 miles
Q3: 30 -39 miles
Q3: 40 miles or more
1 day per week
2 days per week
3 days per week
4 days per week
5 or more days per week


I ride a bike
100%
80%
.67%)
60%
40%
20%
0%
Q3: Less than 2 miles
Q3: 2-5 miles
Q3: 6-9 miles
Q3: 10-19 miles
Q3: 20-29 miles
Q3: 30 -39 miles
Q3: 40 miles or more
1 day per week
2 days per week
3 days per week
4 days per week
5 or more days per week

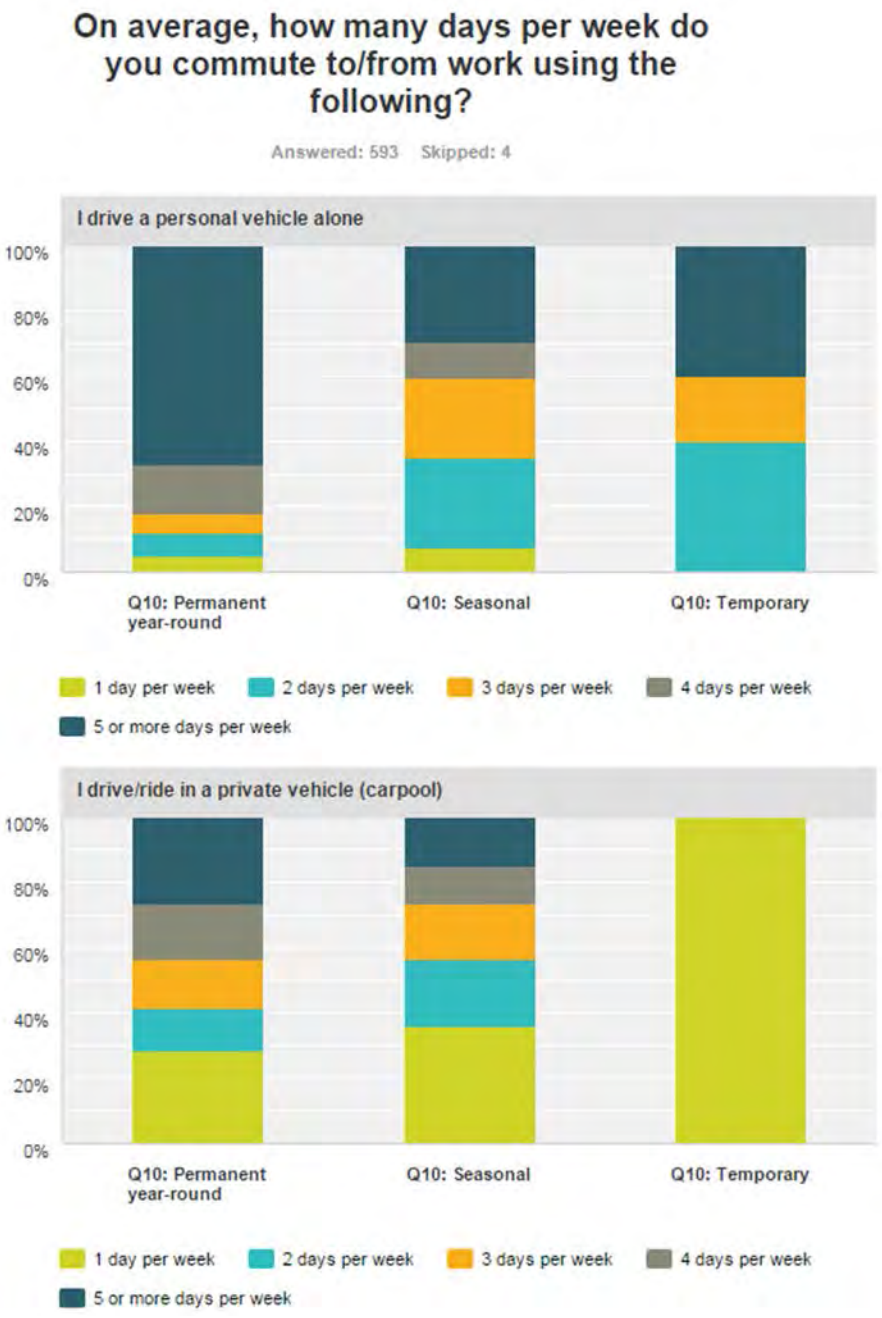

I walk
100%
80%
60%
40%
20%
0%
Q3: Less than 2 miles
Q3: 2-5 miles
Q3: 6-9 miles
Q3: 10-19 miles
Q3: 20-29 miles
Q3: 30 -39 miles
Q3: 40 miles or more
1 day per week
2 days per week
3 days per week
4 days per week
5 or more days per week

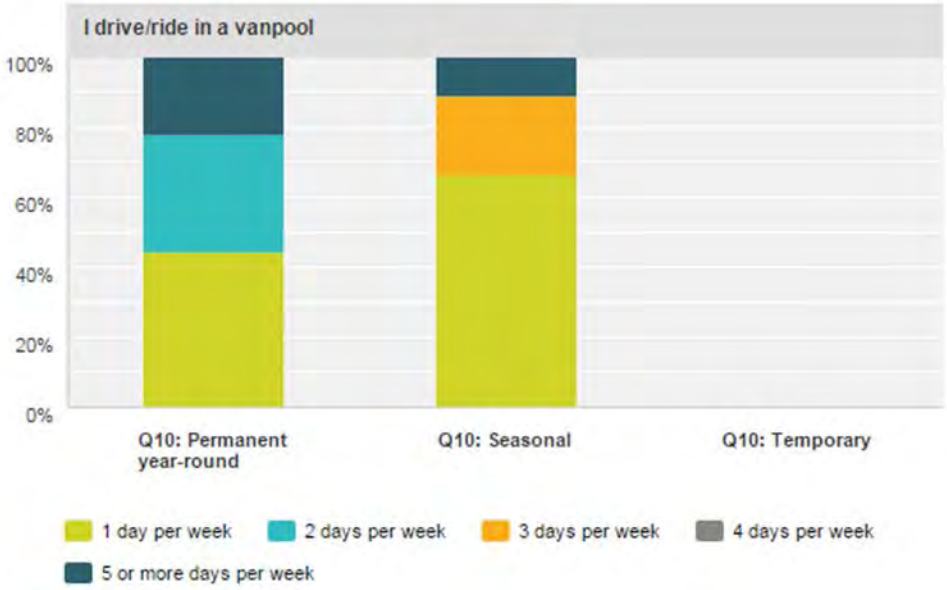


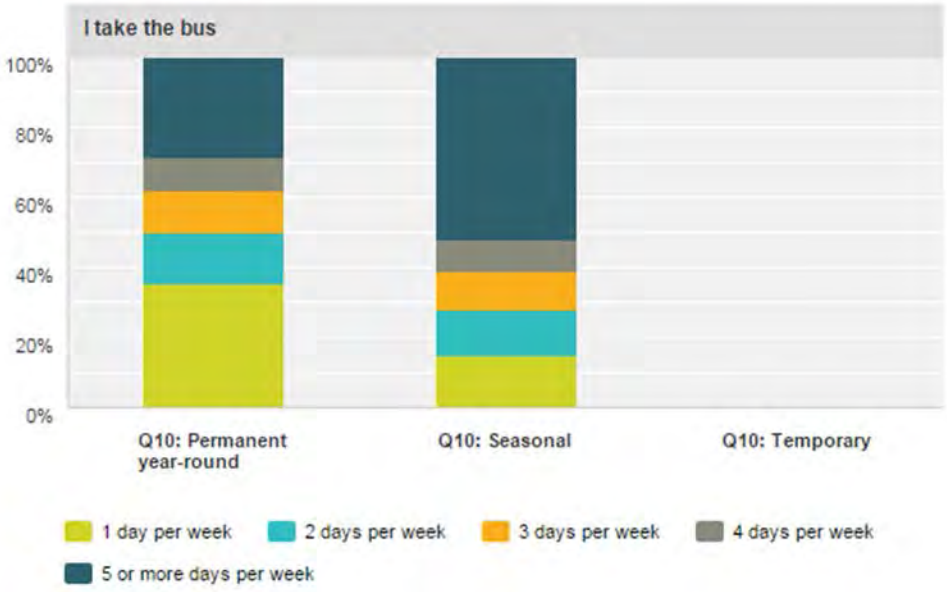
How far they live from work vs. employment status

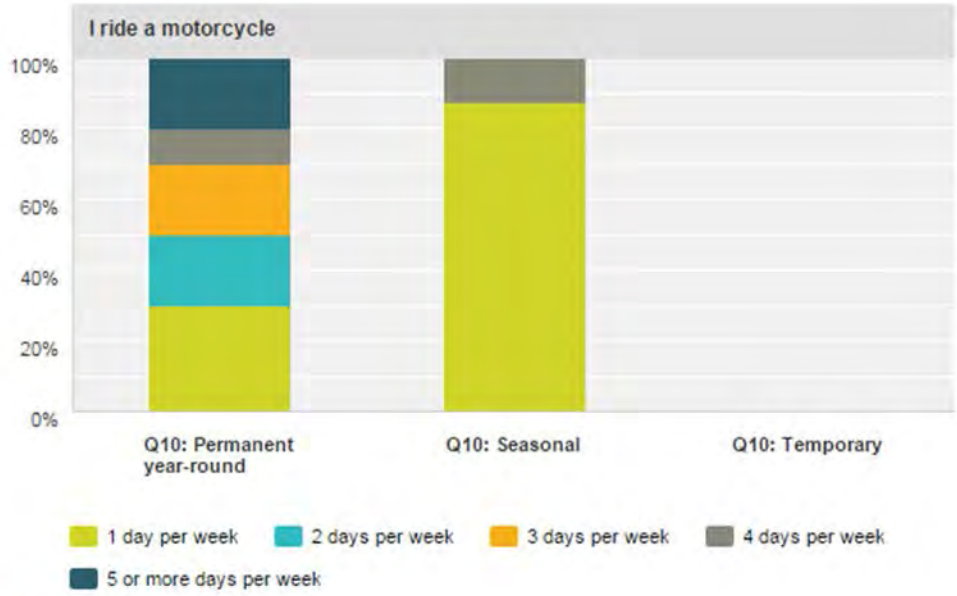


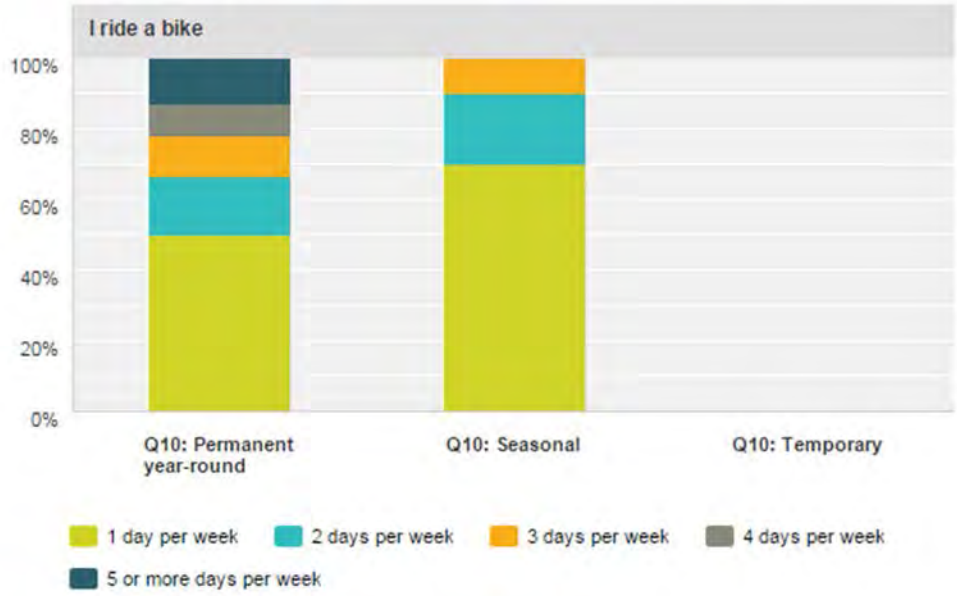
Employment status vs. how they get to work

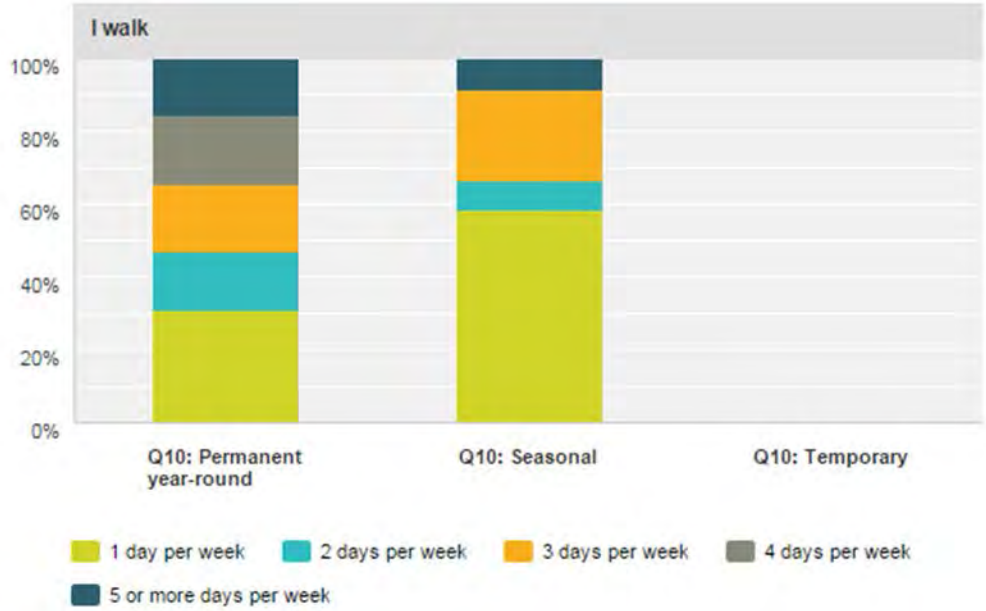


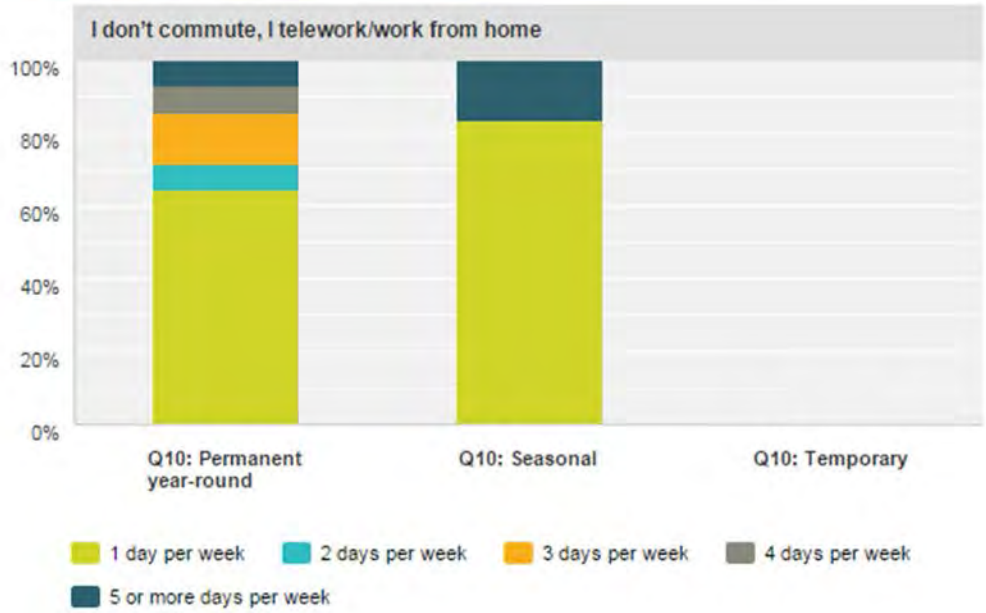

I drive/ride in a vanpool
100%
80%
60%
40%
20%
0%
Q10: Permanent year-round
Q10: Seasonal
Q10: Temporary
1 day per week
2 days per week
3 days per week
4 days per week
5 or more days per week


I take the bus
100%
80%
60%
40%
20%
0%
Q10: Permanent year-round
Q10: Seasonal
Q10: Temporary
1 day per week
2 days per week
3 days per week
4 days per week
5 or more days per week

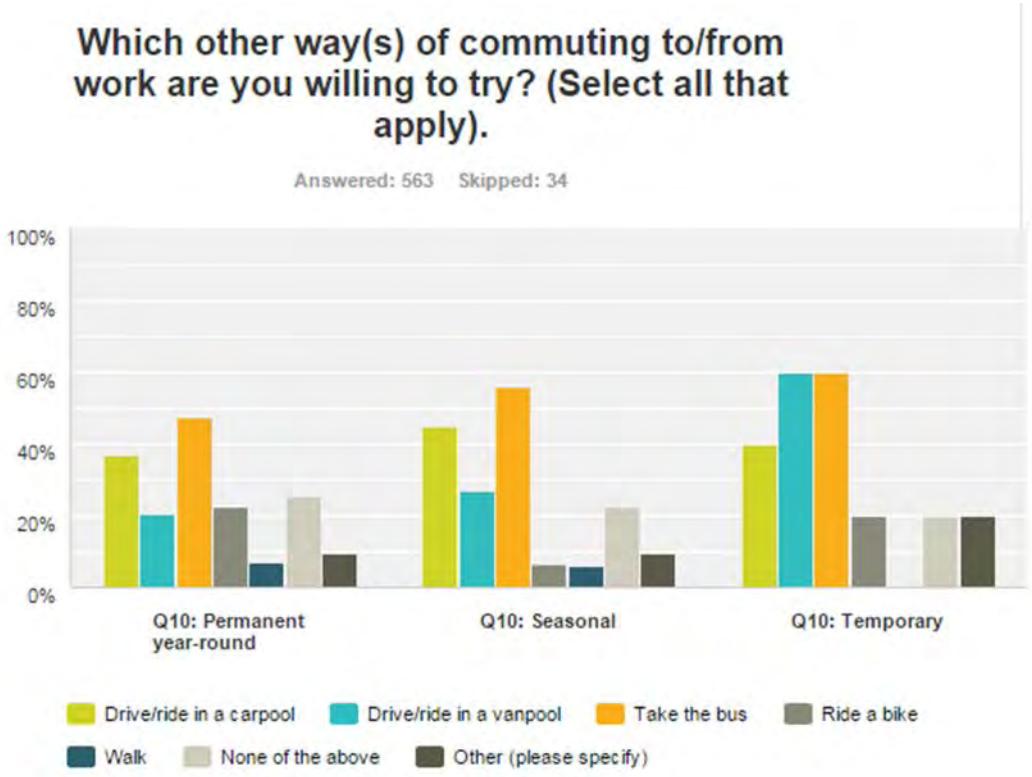

I ride a motorcycle
100%
80%
60%
40%
20%
0%
Q10: Permanent year-round
Q10: Seasonal
Q10: Temporary
1 day per week
2 days per week
3 days per week
4 days per week
5 or more days per week


I ride a bike
100%
80%
60%
40%
20%
0%
Q10: Permanent year-round
Q10: Seasonal
Q10: Temporary
1 day per week
2 days per week
3 days per week
4 days per week
5 or more days per week


I walk
100%
80%
60%
40%
20%
0%
Q10: Permanent year-round
Q10: Seasonal
Q10: Temporary
1 day per week
2 days per week
3 days per week
4 days per week
5 or more days per week


I don't commute, I telework/work from home
100%
80%
60%
40%
20%
0%
Q10: Permanent year-round
Q10: Seasonal
Q10: Temporary
1 day per week
2 days per week
3 days per week
4 days per week
5 or more days per week

Employment status vs. other ways of commuting they are willing to try



Park City Municipal Corporation

Research Studies, Design and Layout by Fehr & Peers
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Penna Powers & Silvani Transportation Consulting