

KEEP COLORADO WILD PASS PRICING STUDY

TECHNICAL REPORT
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Prepared for:



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Provided under separate cover:

- Survey appendix: Survey materials, crosstabulation tables, verbatim comments
- Excel pricing tool

Introduction and Executive Summary

The Challenge

Colorado's 43 state parks are a treasured resource for people and wildlife alike. At the same time, the state faces rapid growth in demand for outdoor recreation, challenging Colorado Parks and Wildlife (CPW)'s ability to deliver on its mission. In order to enhance resources for the state parks system, expand accessibility to the parks, and achieve other conservation and recreational goals, Colorado Senate Bill 21-249 (introduced in April 2021 and signed in June 2021) creates the "Keep Colorado Wild Pass" or "Wild Pass", an optional state parks pass that will be available for purchase starting in 2023 at the time a motor vehicle is registered. The Wild Pass will replace and supplement existing revenue generated from other CPW pass products.

The CPW Commission is required to establish a fee level for the Wild Pass, subject to the following requirements:

- 1) The fee amount can be no more than one-half the fee that is currently in place for a motor vehicle annual pass (\$80), and
- 2) The Wild Pass must be available at a reduced fee for income-eligible households.

This study provides data and statistical estimates aimed at aiding the Commission in making an educated pricing decision that will maximize success of the simultaneous goals of encouraging widespread and equitable parks access while also stimulating funding for robust parks operations and maintenance and other recreation and conservation goals.

Key Findings

Using survey data from an online panel sample of 2,217 Coloradans with at least one vehicle in their household, and validated against responses from 462 randomly-sampled Colorado households, we find:

- Controlling for demographic and behavioral factors, respondents' willingness to pay (WTP) for the Wild Pass decreases as the product's price increases.
- There are high levels of interest in the Wild Pass (as gauged by the share of respondents indicating that they "would probably purchase" or "would definitely purchase" the Pass); however, fewer respondents are certain that they will purchase the Pass upon its availability to the public (i.e., "would definitely purchase").
 - For the "would probably or definitely purchase" group, WTP probability for the Wild Pass is greater than 50% at prices ranging from \$14 to \$37.
 - For the "would definitely purchase" group, WTP probability for the Wild Pass is greater than 50% only at prices of \$14 to \$16.
- At its most conservative estimate (i.e., "would definitely purchase"), WTP probability for the Wild Pass for a *second* household vehicle (among households who would definitely/probably purchase a pass for one vehicle, and who have 2+ vehicles) is roughly 10%.

- Wild Pass price is not significantly associated with WTP for a second vehicle at either level of confidence (“would probably purchase” or “would definitely purchase”).
- There are modest differences in WTP for the Pass by household income.
 - Non-income-eligible (i.e., higher-income) households are somewhat more willing to purchase the Wild Pass, on average, than income-eligible households.
 - Income eligibility is a significant predictor of WTP in the “would probably or definitely purchase” models, but not the “would definitely purchase” models.
- There are minimal differences in WTP by respondent gender, race/ethnicity, or Colorado region of residence.
- WTP is markedly higher among residents with parks and recreation interests, such as a higher familiarity with state parks, current ownership of CPW annual passes, and – to a lesser extent – number of past trips to state parks.
- Sentiment about the Wild Pass, according to Colorado residents, is broadly positive with many respondents indicating the Pass is a good idea and that it would encourage them to visit state parks more.
 - However, many also comment that they would like more information about the Wild Pass’s benefits and restrictions, and how it is different from existing state park passes.
 - Respondents also have an economic mindset when considering their future purchasing of the Wild Pass, with many focused on whether the Pass will pay for itself, its affordability, and its perceived value.

Implications

- Estimates of revenue generated by Wild Pass sales generally increase between Pass prices of \$14 and \$29, stagnate between approximately \$29 and \$32, then decrease at Pass prices greater than \$32.
 - At the most conservative and unbiased level of confidence (“would definitely purchase”), average estimated cumulative revenue from Wild Pass purchases by Colorado residents for one to five household vehicles (not including other sources of revenue, e.g., other pass products) ranges from a minimum of about \$15.7M (\$14 Pass price) to a maximum of approximately \$21.5M (\$29 to \$32 Pass price).
 - Under optimistic projections of cumulative Wild Pass revenue, revenue climbs from \$32.5M at \$14 to peak at approximately \$54M between Pass prices of \$29 and \$32.
 - For projected total state parks pass and entry fee revenue (including the Wild Pass and alternative products such as the Day Pass, Dog Off-Leash Pass, etc.):
 - Under conservative estimates, revenue peaks at approximately \$29.5M between Wild Pass prices of \$29 to \$35.
 - These conservative estimates exceed revenue generated in Fiscal Year (FY) 2020 at Wild Pass prices of \$16 or more.

- These conservative estimates exceed revenue generated in FY 2021 at Pass prices of \$21 or more.
 - Under optimistic estimates, revenue peaks at approximately \$59M at Wild Pass prices of \$29 to \$32.
- At both levels of confidence (i.e., conservative, and optimistic projections), visitation is expected to increase with the implementation of the Wild Pass, as many potential Wild Pass holders anticipate owning the product will lead them to visit state parks more frequently than they currently do. However, due to lower Pass uptake at higher Wild Pass prices, estimated visitation decreases as Wild Pass price increases.
 - Under conservative projections of Wild Pass sales, state park visitation is projected to increase by 25-55% from visitation in FY 2020.
 - Under optimistic projections of Pass sales, visitation is projected to increase by 40 – 90% from visitation in FY 2020.

Background

As of 2020, annual visitation to Colorado parks had reached a record high of over 17M, compared to 14.7M in 2019 and 12.3M in 2011. To support this influx in visitors to State Parks, SB21-249 directs CPW to create the Wild Pass, a lower-cost annual pass alternative to the currently priced \$80 affixed-vehicle annual pass or the \$120 transferable hangtag annual pass. To best supplement revenue from existing passes, CPW aims to reach a wider range of Colorado residents by introducing the Wild Pass fee at the time of vehicle registration and renewal; however, residents will be able to opt-out of the fee during the process. Starting as early as January 1, 2023, residents will be offered the Wild Pass when registering an eligible motor vehicle, including passenger vehicles, light trucks, motorcycles, or recreational vehicles. Colorado residents who do not own a vehicle, residents who opt-out of the Wild Pass fee, and non-residents will still be able to purchase alternate annual or daily CPW pass products.

As outlined in SB21-249, added revenue gained from the Wild Pass will go directly toward supporting Colorado's great outdoors. CPW aims to achieve 10 outlined goals with this revenue. A minimum of \$22.9M is needed to equal revenue gained in FY20 from assorted CPW parks passes. Revenue of up to \$32.5M will be directed toward supplementing park operations by:

1. Providing a Pass that is accessible to all Colorado residents, and
2. Ensuring sufficient staffing and resources are in place to manage and conserve Colorado parks.

Any revenue more than \$32.5M and up to \$36M (i.e., the next \$3.5M) will be used to protect outdoor recreationists by:

3. Supporting search and rescue volunteers responding to backcountry emergencies, and
4. Supporting backcountry avalanche safety programs.

Finally, any revenue more than \$36M will be used to invest in the future of Colorado wildlife conservation and recreation by:

5. Building new state parks

6. Growing CPW's ability to address outdoor recreation outside of state parks
7. Increasing State Trails Program funds for new projects
8. Dedicating resources for the State Wildlife Action Plan
9. Supporting initiatives toward equity, diversity, and inclusion in outdoor recreation
10. Funding Colorado Regional Outdoor Partnerships to support grassroots projects.

Similar State Parks Pass Programs in Other States

SB21-249 follows in the footsteps of other state programs which provide the opportunity to purchase a state parks pass at the time of vehicle registration. These programs have seen varying rates of uptake.

In 2003, **Montana** introduced an optional \$4 light vehicle registration fee that replaced state park day use fees, allowing residents who paid the fee year-round entrance to all state parks.

- This fee has increased twice since 2003, to \$6 in 2010 and to \$9 in 2019.
- As of 2020, the fee's average opt-out rate for the entire state was 14% (i.e., 86% of registered vehicles purchased the pass), with county-level variation ranging from 6% opt-out in Lake County to 84% opt-out in Powder River County.
- County-level adoption data indicate that opt-out rates may be partially driven by proximity to state parks:
 - Of the 12 counties with an opt-out rate below 10% (i.e. 90%+ purchase rate), 10 have state parks located in county.
 - In contrast, of the 8 counties with an opt-out rate greater than 60%, only 2 had state parks located in county.
- Anecdotally, in some rural counties, county treasurers encouraged opt-out by residents.
- Despite having 13 more state parks than Colorado, Montana's parks have smaller acreage and annual total visitation equal to that of only one Colorado park (Lake Pueblo); although Montana's population is only a fraction of Colorado's.
- The high rate of purchase is likely related to the opt-out requirements associated with the pass. To opt out of the pass, vehicle owners need to complete an opt-out form and deliver it to the local county treasurer.

Similarly, a vehicle registration-based state park pass, referred to as the Recreation Passport, took effect in **Michigan** in 2010.

- The Passport costs \$12 for motor vehicles and \$6 for motorcycles when purchased upon license plate registration or renewal.
- In contrast to the "opt-out" approach used in Montana and to be used in Colorado, the Michigan program uses an "opt-in" purchase mechanism.
- Statewide purchase rate hovered around 24% upon implementation in 2010 and has since climbed to 33%.

- Michigan has 31 more parks and 4 million more residents than Colorado.
- Passport uptake doubled in Detroit, from 7% to 15%, after the nearby Belle Isle State Park was created.¹

Washington State created a state parks Discover Pass in 2011 to offset reductions in general tax support for parks and other recreational lands and facilities.

- The annual pass costs \$30 (plus transaction fees) for one year.
- The pass is transferable between two vehicles (both plate numbers can be written on the pass), but can only be used by one vehicle at a time.
- A total of 1.01 million passes were sold in the 12 months ended 6/30/2021, with lower annual sales rates before and after that time. As of 2019, approximately 2.7 million Washington households had one or more vehicles available at home, implying that roughly 37% of Washington households likely purchased a Discover Pass in the 12 months ended 6/30/2021.

A variety of other states also sell state parks annual passes at the time of vehicle registration, such as Connecticut (mandatory fee), Idaho and Kansas.

Thus, other states with similar pass programs see unique results depending on the number of state parks, the location of state parks compared to the population, population demographics and parks interest, alternatives to the state parks, the exact specifications of the recreation pass (price, transferability, opt-in/opt-out provisions, etc.), and likely other factors. Given the variability of the respective state programs and population profiles, it is difficult to predict how Colorado's Wild Pass might perform based on other states' programs. However, it is likely that Montana represents a "ceiling" for potential Wild Pass uptake rates, given its low price and effortful opt-out provisions.

Research Questions

This study is intended to address a variety of questions regarding Wild Pass pricing and associated purchase rates, revenues and visitation. More specifically:

- How much demand is there for the Wild Pass?
 - How does WTP vary with prospective Pass price?
 - How likely are Colorado residents to purchase the Wild Pass for one household vehicle and multiple household vehicles?
- Second, how does WTP vary across demographic and behavioral factors such as income level, Colorado region of residence, demographic traits (e.g., race/ethnicity, gender, or age), and current park participation/awareness?
 - What pricing should be considered for an income-eligible Wild Pass?
 - What types of people are the mostly likely to purchase the Wild Pass?
- Third, what are the revenue and visitation implications of the Wild Pass?

¹ Detroit Free Press, <https://www.freep.com/story/opinion/contributors/2014/08/15/raw-data-sales-of-state-recreation-passports-soar-in-detroit/14130753/>.

- What is the projected uptake and associated revenue from the Wild Pass alone as well as from the Wild Pass with other revenue streams (e.g., day passes, dog-off-leash passes, etc.)?
- What is the projected state park visitation with the Wild Pass?
- What are some opportunities to increase Wild Pass sales upon implementation?

Research Methods

Survey Design

This study seeks to answer the above core research questions with a cross-sectional survey of Colorado residents who would be eligible for the Wild Pass if it were 2023. The survey contained up to 24 questions about respondents' current parks and recreation participation (in Colorado state parks and otherwise), their willingness to pay (WTP) for and reactions to the Wild Pass, and demographic characteristics of their household. To assess WTP for the Wild Pass, the survey uses a contingent valuation (CV) design. CV surveys are a stated-preference form of non-market valuation, designed to assess approximately how much respondents would pay for a good or service when traditional market forces are not active². Traditionally, CV surveys randomly assign one of several prices of interest to each respondent, then ask whether the respondent would pay for the good/service in question at the specified price. For the purposes of this study:

- Respondents were randomly shown one of six prices: \$14, \$19, \$24, \$29, \$34, and \$39³.
- To express their WTP, respondents could select one of four possible levels of confidence: “definitely would not purchase”, “probably would not purchase”, “probably would purchase”, or “definitely would purchase.”

To maximize information gained from each respondent regarding their WTP for the Wild Pass for one car, this survey uses a double-bounded dichotomous choice (DB-DC) variant of CV wherein:

- Respondents were first asked if they would purchase the Wild Pass at one of the six prices above (between \$14-\$39). Then, based on response to the initial price, survey participants were asked their WTP for the Wild Pass at a follow-up price.
 - If respondents were favorable toward the Wild Pass (“probably would purchase” or “definitely would purchase”), they were asked if they would pay for the Wild Pass if it was \$10 *more than* the initial price (with a ceiling of \$39).
 - Conversely, if respondents were not favorable (“probably would not purchase” or “definitely would not purchase”), they were asked if they would pay for the Wild Pass if it was \$10 *less than* the initial price (with a floor of \$14).
- Respondents with more than one vehicle were also asked their WTP for the Wild Pass for a second car if at any point during the initial or follow-up pricing question, they had indicated favorability toward the Pass (“probably would purchase” or “definitely would purchase” at either of the two prices shown). These respondents were asked if they would purchase the Wild Pass for a second vehicle if the Pass were equal to the highest price they accepted for their first vehicle.

² Witt, Brian. 2019. “Tourists’ Willingness to Pay Increased Entrance Fees at Mexican Protected Areas: A Multi-Site Contingent Valuation Study.” *Sustainability* 11.

³ Exact prices were selected based on the requirement that the Wild Pass must not exceed \$40 (comprising a ceiling). Additionally, a price floor of \$14 was set to generate adequate revenue while also leaving sufficient room for an income-eligible reduced price pass. Finally, the price options took in consideration that respondents may be more psychologically receptive toward fees with a lower first digit (e.g. \$39 more appealing than \$40) and fees ending in 9 (potentially signaling a discount). See, for example, Crompton, John. 2016. “Pricing Recreation and Park Services.” (Chapter 12 – discussion of Odd Number Pricing.)

- If respondents rejected the offered price for the second vehicle, they were asked if they would pay for a second Wild Pass if it was \$10 *less than* the initial price (with a floor of \$14).
- Respondents who accepted the initial second-car offer were not shown a follow-up pricing question.

Survey Sample

The survey was distributed to two different samples of Wild Pass-eligible Colorado residents.

- **Panel survey.** First, an online panel sample maintained by a commercial vendor was surveyed over a two-week period in October/November of 2021 with the target of achieving approximately 2,000 responses. A total of 2,602 surveys were received during the survey period. Disqualified responses (i.e., respondents that did not live in Colorado or did not own at least one vehicle) and invalid data were screened out, resulting in a final panel sample size of N = **2,217**. The 95 percent confidence interval for a sample of 2,217 is +/-2.1 percentage points.
- **Mail survey.** Second, to supplement and validate the panel, a random sample of 4,000 Colorado households were invited to participate in a mailback survey (with the option to complete the survey online in English or Spanish; a password was required for online survey access). An initial postcard was mailed to participants in November to inform them of their selection and the importance of their response; the postcard contained a URL and QR code to access the survey online, and participants were notified they would be receiving a mailed survey shortly. Approximately one week later, participants were mailed a printed survey packet including cover letter (in English and Spanish), survey (in English), and postage-paid return envelope, again with instructions for accessing the online survey option (in English or Spanish). Finally, a final reminder postcard was mailed four weeks later. Upon final cut-off of online and mail-in surveys (January 2022), the mailback survey achieved a sample size of N = 462 Coloradans. The associated 95% confidence interval is +/- 4.6 percentage points. The response rate was 12.1% (462 completes / 3,808 delivered surveys).

Data Weighting

To maximize representativeness, both samples were weighted on four demographic characteristics: respondent age, household income, race/ethnicity, and region of residence. Weight targets for age of householder, household income, and race/ethnicity of householder were based on the 2019 1-year American Community Survey for Colorado. Weight targets for Colorado region of residence were based on household estimates from the 2020 Colorado State Demography Office. Though the panel sample skewed toward female respondents, gender was not included as a weight due to the survey's emphasis that the respondent answer on behalf of the entire household, rather than the individual; and because responses were largely similar by gender.

Data Analysis

A four-step process was implemented to answer the outlined research questions:

1. Using regression models, estimate WTP for the Wild Pass by price, while controlling for demographic and behavioral factors.
2. Convert model results to predicted probabilities of Wild Pass purchasing.

3. Weight predicted probabilities by the number of Colorado households with registered vehicles to calculate projected Wild Pass uptake.
4. Finally, multiply projected uptake by Wild Pass price to estimate revenue generation.

Willingness-to-Pay (First Car)

The DB-DC method was chosen for first-car valuation based on its ability to increase data efficiency in WTP estimations as well as its ability to partially mitigate the effect of price starting point bias present in CV surveys⁴. Despite these benefits, DB-DC valuation also increases the complexity of data analysis because follow-up responses may be intrinsically linked to initial responses through each respondent's true, underlying Wild Pass interest. Therefore, to account for this correlation between initial and follow-up responses, bivariate probit regression models were selected to model WTP on Pass price and other variables of interest. The bivariate probit regression process models the initial and follow-up response as simultaneous dependent variables as well as allows for non-zero correlation between responses⁵, and as a result, has been commonly employed in WTP analyses of DB-DC surveys.

Dependent Variable: Initial response and follow-up response to pricing questions are modeled as simultaneous dependent variables. Each were dichotomously coded in two ways, resulting in two statistical models that represent the two levels of confidence in purchasing referenced throughout this report:

- Optimistic model coding: 1 = "Probably would purchase" or "definitely would purchase"; 0 = "Probably would not purchase or "definitely would not purchase"
- Conservative model coding: 1 = "Definitely would purchase"; 0 = "Probably would purchase", "probably would not purchase", or "definitely would not purchase."

The latter coding is the most conservative, restricting Pass purchasing to only those who are very confident about their decision to purchase the Wild Pass at a future date. As a result, this coding is the least prone to hypothetical biases. Conversely, the former coding is as an optimistic estimate that could be considered a "ceiling" of Pass interest among Coloradans as they are now (e.g., given current knowledge about the pass, among other factors).

Independent Variable: The independent variable of interest is the displayed Pass price for the initial WTP question, which can take on values of \$14, \$19, \$24, \$29, \$34, and \$39. In the core set of models, price was included in the model as a continuous variable to examine average trends in WTP across all potential prices below \$40.

Control Variables: Several control variables were used to effectively contextualize WTP and the effect of Pass price on WTP, including:

- Age: Two continuous variables for first and second-order terms.

⁴ Hanemann, M., Loomis J., and Kanninen B. 1991. "Statistical Efficiency of Double-Bounded Dichotomous Choice Contingent Valuation." *American Journal of Agricultural Economics* 73.

⁵ Cameron, T. and Quiggin, J. 1994. "Estimation using Contingent Valuation Data from a 'Dichotomous Choice with Follow-Up' Questionnaire." *Journal of Environmental Economics and Management* 27.

- Income-qualification: Indicator of whether one possesses a household income and household size that would qualify under an approximation of the federal poverty guidelines (which are also the current guidelines for qualification for CPW's Centennial Pass).
 - 1 ("Income-Qualified") = Income less than \$15K, income between \$15K-25K (if household size is at least 2), income between \$25K-35K (if household size is at least 4), and income between \$35K-50K (if household size is at least 6)⁶.
 - 0 = All other combinations of income and household size.
- Sex: 1 = Female; 0 = Male
- Race/Ethnicity: 1 = White (reference category); 2 = Black/African American; 3 = Hispanic/Latinx; 4 = Asian/Pacific Islander; 5 = Other/Multiracial
- Colorado region of residence: 1 = Central Mountains; 2 = Denver Metro (reference category); 3 = Eastern Plains; 4 = North Front Range; 5 = San Luis Valley; 6 = South Front Range; 7 = Western Slope
- Familiarity with state parks: 1 = "Very familiar" or "somewhat familiar"; 0 = "Not too familiar" or "not at all familiar"
- Trips to state parks: Number of trips in the past 12 months
- CPW annual pass ownership: 1 = Household currently owns a CPW annual parks pass of any type; 0 = Household does not currently own a CPW parks pass of any type

Willingness-to-Pay (Second Car)

Two probit models were used to assess the degree to which respondents were willing to pay for a Wild Pass for a second household vehicle (one model for initial response and one model for follow-up response).

Dependent Variable: Initial response and follow-up response to second-car pricing questions are modeled as two dichotomously-coded dependent variables, mirroring their first-car counterparts:

- Optimistic: 1 ("Acceptance") = "Probably would purchase" or "definitely would purchase"; 0 = "Probably would not purchase" or "definitely would not purchase"
- Conservative: 1 ("Acceptance") = "Definitely would purchase"; 0 = "Probably would purchase", "probably would not purchase", or "definitely would not purchase."

Independent Variable: The independent variable of interest is the displayed price for the initial and follow-up second vehicle WTP question (i.e., the highest accepted price for a Wild Pass for one vehicle), which can take on values of \$14, \$19, \$24, \$29, \$34, and \$39. Pass price was included in the

⁶ Actual Centennial Pass guidelines refer to the combination of household income and number of dependents, consistent with US poverty guidelines. For purposes of the Wild Pass study, household size serves as a rough proxy for dependents, and the household income gradations available for analysis are coarser than actually apply to the Centennial Pass. For these reasons, the Wild Pass analysis likely over-estimates the number of Coloradans that would qualify for an income-reduced pass.

model as a continuous variable to examine average trends in WTP across all potential prices below \$40.

Control Variables: Given the much smaller sample size of WTP responses for a second vehicle and the expectation that one's inclination to buy the Wild Pass for multiple cars would be largely driven by their baseline enthusiasm for the Pass, only one primary control variable was included:

- First-car purchase certainty: 1 = "definitely would purchase" a Wild Pass for one car; 0 = any other response

Table 1: Descriptive Statistics, Dependent Variables

	Mean / %	Std. Dev.	Minimum	Maximum
<i>First Car, Initial Response:</i>			0	1
Accept (1) V1*	74.21%			
Accept (1) V2**	40.37%			
Reject (0) V1	25.79%			
Reject (0) V2	59.63%			
<i>First Car, Follow-Up Response:</i>			0	1
Accept (1) V1	69.58%			
Accept (1) V2	27.60%			
Reject (0) V1	30.42%			
Reject (0) V2	72.40%			
<i>Second Car, Initial Response:</i>			0	1
Accept (1) V1	35.32%			
Accept (1) V2	10.99%			
Reject (0) V1	64.68%			
Reject (0) V2	89.01%			
<i>Second Car, Follow-Up Response:</i>			0	1
Accept (1) V1	43.30%			
Accept (1) V2	6.97%			
Reject (0) V1	56.70%			
Reject (0) V2	93.03%			

Accounts for demographic weights on age, income, race/ethnicity, and Colorado region of residence.

*V1 refers to optimistic coding of dependent variables; **V2 refers to conservative coding of dependent variables

Table 2: Descriptive Statistics, Independent and Control Variables

	Mean / %	Std. Dev.	Minimum	Maximum
<i>First Car, Initial Bid Price</i>	\$25.16	\$0.22	\$14.00	\$39.00
<i>Age</i>	49.72	0.56	18	89
<i>Qualification for Reduced Pass:</i>			0	1
Qualified (1)	13.53%			
Not Qualified (0)	86.47%			
<i>Sex:</i>			0	1
Female (1)	62.82%			
Male (0)	37.18%			
<i>Race/Ethnicity:</i>			1	5
White (1)	74.71%			
Black/African American (2)	3.53%			
Hispanic/Latinx (3)	16.31%			
Asian/Pacific Islander (4)	3.04%			
Other/Multiracial (5)	2.42%			
<i>Region of Residence:</i>			1	7
Central Mountains (1)	2.67%			
Denver Metro (2)	49.87%			
Eastern Plains (3)	2.30%			
North Front Range (4)	19.45%			
San Luis Valley (5)	0.96%			
South Front Range (6)	14.70%			
Western Slope (7)	10.04%			
<i>Familiar with Parks:</i>			0	1
Familiar (1)	82.35%			
Not Familiar (0)	17.65%			
<i>Trips to State Parks</i>	3.25	0.15	0	76
<i>CPW Annual Pass:</i>			0	1
Own Pass (1)	21.72%			
Doesn't Own Pass (0)	78.28%			

Accounts for demographic weights on age, income, race/ethnicity, and Colorado region of residence.

Table 1 and Table 2 above show descriptive information for all dependent and independent variables of interest. After accounting for missing data using listwise deletion, the final baseline sample for regression analyses included 1,578 respondents.

Predicted Probabilities and Revenue/Visitation Estimates

Following estimation of regression models, we convert model effects to predicted probabilities, which provide a more grounded and easily-applied numeric representation of WTP than probit coefficients. Additionally, predicted probabilities, when assumed as the proportion of respondents who would purchase the Wild Pass come public availability, can be used alongside Colorado data on vehicle ownership to calculate the estimated uptake volume and the associated revenue at each Pass price. Furthermore, volume estimates can be used alongside CPW visitation data to calculate approximate change in visitation upon the introduction of the Wild Pass.

To attain revenue and visitation estimates, we export predicted probabilities to a dynamic Excel spreadsheet, wherein several values of interest can be modified: 1) Wild Pass fee, 2) Wild Pass fee for income-eligible respondents, and 3) fees of interest for alternate CPW passes. While revenue and

visitation estimates are included in the results of this report, a more detailed review of the Excel-based pricing tool's features and assumptions are included in Appendix A. We assess probabilities at two levels of confidence:

- “*Definitely would*” purchase the initially presented price: The most conservative and unbiased estimate of future behavior, and
- “*Probably or definitely would*” purchase the initially presented price: The most optimistic estimate (subject to hypothetical bias).

Results

Willingness-to-Pay Analysis

Table 3: Model Results – Probability of Purchasing a Wild Pass for One Vehicle

	<i>Probably/Definitely</i>		<i>Definitely</i>	
	<i>Initial</i>	<i>Follow-Up</i>	<i>Initial</i>	<i>Follow-Up</i>
First Car, Initial Bid Price	-0.068*** (0.007)	-0.026*** (0.006)	-0.033*** (0.005)	-0.014* (0.006)
Age	0.039* (0.017)	0.058*** (0.015)	0.012 (0.017)	0.017 (0.016)
Income-Qualified (<i>Ref. = Not</i>)	-0.299** (0.115)	-0.343** (0.108)	-0.136 (0.105)	-0.090 (0.114)
Female (<i>Ref. = Male</i>)	0.058 (0.099)	-0.021 (0.090)	0.139 (0.086)	-0.008 (0.086)
<i>Race/Ethnicity (Ref. = White)</i>				
Black/African American	0.081 (0.225)	0.244 (0.209)	0.003 (0.186)	-0.055 (0.223)
Hispanic/Latinx	-0.114 (0.132)	0.115 (0.117)	0.130 (0.112)	0.060 (0.118)
Asian/Pacific Islander	-0.126 (0.278)	0.000 (0.239)	-0.525* (0.237)	-0.292 (0.230)
Other/Multiracial	0.312 (0.227)	0.282 (0.247)	-0.231 (0.249)	-0.145 (0.227)
<i>Region (REF = Denver Metro)</i>				
Central Mountains	0.271 (0.266)	-0.547* (0.234)	-0.168 (0.232)	-0.057 (0.246)
Eastern Plains	-0.020 (0.258)	0.090 (0.228)	-0.100 (0.208)	-0.138 (0.212)
North Front Range	0.181 (0.132)	0.176 (0.118)	-0.044 (0.111)	-0.102 (0.114)
San Luis Valley	-0.233 (0.443)	-0.210 (0.436)	-0.112 (0.423)	-0.115 (0.534)
South Front Range	-0.087 (0.112)	-0.210* (0.103)	-0.113 (0.098)	-0.081 (0.101)
Western Slope	0.061 (0.213)	0.190 (0.179)	-0.058 (0.176)	-0.217 (0.165)
Familiar with Parks (<i>Ref. = Not</i>)	0.508*** (0.120)	0.381*** (0.108)	0.458*** (0.124)	0.238 (0.131)
Trips to State Parks	0.021 (0.022)	0.026* (0.011)	0.037* (0.016)	0.041*** (0.010)
CPW Annual Pass (<i>Ref. = Not owned</i>)	0.749*** (0.147)	0.867*** (0.121)	0.575*** (0.106)	0.672*** (0.102)
Intercept	1.440** (0.439)	-0.418 (0.373)	-0.098 (0.381)	-0.804* (0.404)
Rho	0.650***		0.808***	
N	1,578		1,578	

Standard errors in parentheses.

Accounts for demographic weights on age, income, race/ethnicity, and Colorado region of residence.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

First Vehicle

Table 3 on the previous page shows the coefficients of the bivariate probit regression model of Wild Pass acceptance on bid price and control variables. The exact values of probit coefficients, representations of the standard normal cumulative density function, are not strictly useful for interpretation, therefore specific interpretations will be translated to predicted probabilities starting in Figure 1 below. However, general trends can be gleaned from coefficients themselves, such as:

- Direction of effect: A positive effect indicates a positive relationship between a given variable and an outcome (i.e., as number of trips state parks increases, WTP increases) whereas a negative effects indicates a negative relationship (i.e., as Wild Pass price increases, WTP decreases).
- Statistical significance: The probability a specific effect of a given variable on the outcome is zero (i.e., very low probabilities provide evidence that the true effect is not zero).
- Relative magnitude of effect: Within similarly coded variables (e.g., the list of various indicators of region), larger coefficients indicate larger magnitudes of positive or negative effect on the outcome.

Regarding the primary effect of interest, Wild Pass price, results show:

- The initial Pass price one receives for the Wild Pass is negatively and significantly associated with both initial and follow-up purchase acceptance when controlling for other factors. In other words, as the proposed price increases, respondents are less willing to purchase the Wild Pass.
- Price in isolation has a less pronounced effect on follow-up response, meaning that while price statistically matters in all stages, its direct effect on WTP is less substantial upon multiple probes.
- Price coefficients for the “definitely” models are about half the size of the “probably/definitely” models, indicating that Price matters less for those who are very confident in the Pass’s appeal.

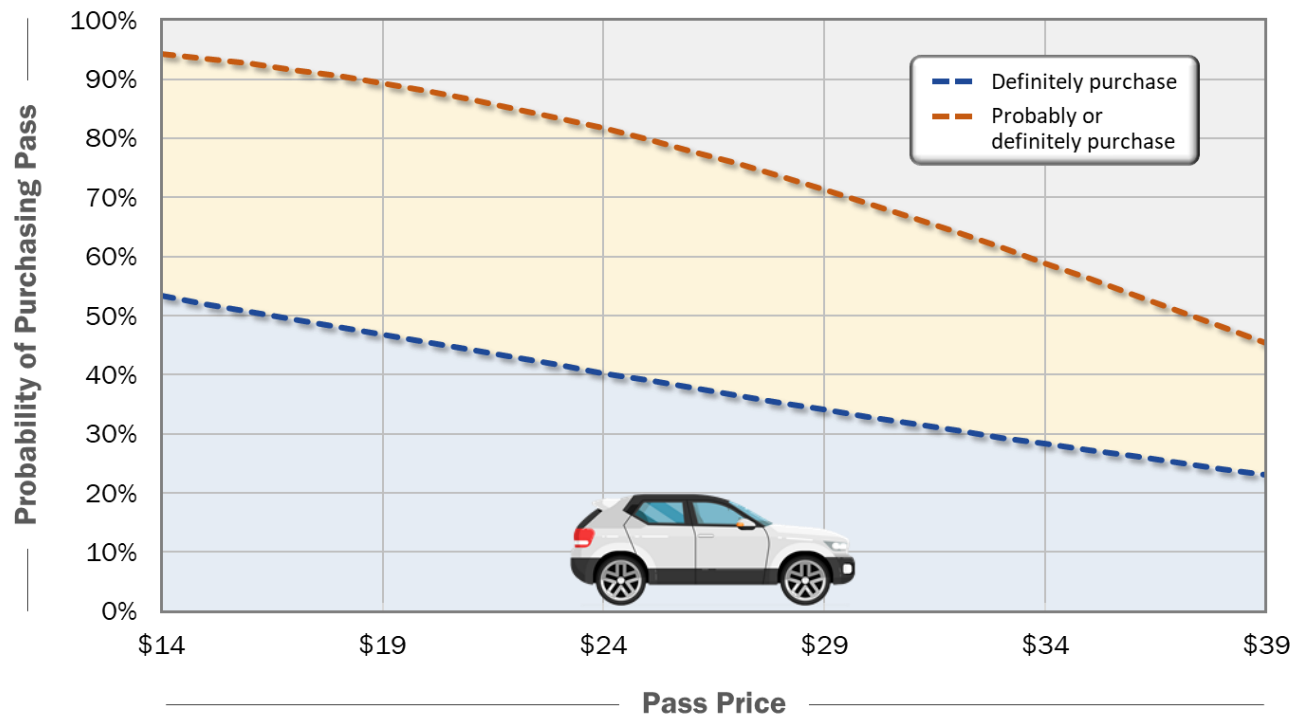
Additionally, regarding control variables and model statistics:

- Income-qualification is negative and significant in the “probably/definitely” set of models, meaning that respondents who qualify for an income-reduced Pass are somewhat more inclined to purchase the Wild Pass than respondents who do not qualify. However, significance for income-qualification is not achieved in the “definitely” model, yielding evidence that high levels of interest in the product might take precedence over one’s demographic profile when predicting WTP.
- Similarly, age (and its second-order term) was significant in the “probably/definitely” models, but not the “definitely” models. These terms indicate that WTP initially increases with age, but then decreases starting at middle-ages (45-55 years old).
- Consistent and statistically significant differences in WTP by other demographic variables, such as sex, race/ethnicity, and region of residence, were not found.
- Parks and recreation variables such as familiarity with state parks and ownership of a CPW annual pass are positive and significant in all models ($p < 0.01$) and feature some of the largest

effect sizes of all other variables. In other words, those already engaged with parks and recreation and CPW products are likely some of the most reliable sources of future purchasing.

- The coefficient “Rho” (the correlation coefficient of model residuals) is positive and significant in both sets of models. This correlation provides evidence that modeling initial and follow-up response as simultaneous dependent variables adds explanatory value.

Figure 1: Probability of Purchasing a Wild Pass for One Household Vehicle

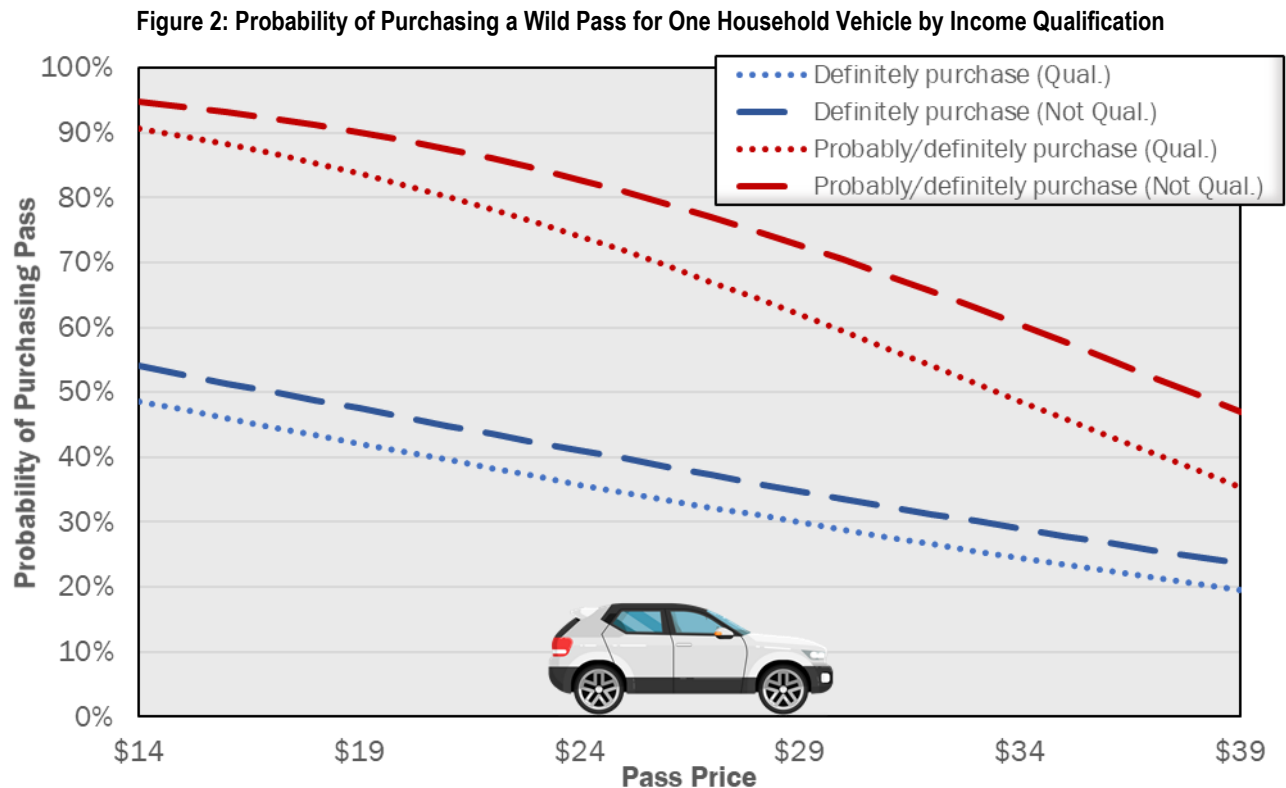


For an average respondent

Figure 1 above shows the predicted probabilities of purchasing the Wild Pass for one vehicle at two levels of confidence (“probably/definite” (optimistic) and “definitely” (conservative)) across the range of potential Pass prices between \$14 and \$39. In this scenario, all control variables are held at their means.

- For both levels of confidence, purchase probability decreases as price increases.
- Optimistic probabilities have a slightly more curvilinear slope than conservative probabilities. In other words, WTP probabilities decline more gradually than conservative estimates between Pass prices of \$14 and \$19, then proceed to decline more quickly than conservative estimates after Pass prices of \$19.
- At all Pass prices, conservative probabilities are markedly lower than optimistic probabilities with no point of crossover.
 - Optimistic probabilities range from 94% at \$14 to 45% at \$39.
 - Conservative probabilities range from 53% at \$14 to 23% at \$39.

First Vehicle: Income-Qualified Respondents



First Vehicle: Income-Qualified Respondents

Figure 2 above shows the predicted probabilities of purchasing the Wild Pass for two contrasting groups of interest: those who are income-qualified for a discounted Pass and those not qualified.

- Across the range of prices, those who are income-qualified for discounted Pass have lower probabilities of purchasing than those who are more affluent. Between-group differences are statistically significant for trends derived from the “probably/definitely” models but are not for the “definitely” model.
- The range and magnitude of between-group differences at each price are more pronounced in the “probably/definitely” models (differences of approximately 4.1 – 11.9 ppts.) compared to the “definitely” model (differences of 4.0 - 5.4 ppts.).
- Overall, curves for both groups mirror those in Figure 1 in terms of slope and degree of separation between levels of confidence.

When considering options going forward for an income-qualified pass, existing pass sales and uptake rates, as well as Panel survey data, can provide context.

- In 2019, Colorado had an estimated 213,402 households with income below the poverty level (2019 1-year ACS).
- Sales of the income-qualified Centennial Pass (benchmarked to the poverty level), which was priced at \$14 in 2021, included 592 units in FY19, 569 units in FY 20, and 755 units in FY21.

- Together, these figures imply a roughly 0.3% uptake rate for the Centennial Pass among income-qualified households in FY19, assuming one pass per purchasing household. Stated another way, roughly one in 375 Colorado households with income below the poverty level is estimated to have purchased a Centennial Pass in FY19.
- An unknown number of income-qualified households purchased other State Parks pass and entry products in FY19, or otherwise entered for free. However, Panel survey data suggests the level is significant.
 - According to Panel results, fully 64% of income-qualified respondents (identified as best as possible with the income categories on the survey, plus household size) said that they visited a Colorado State Park in the prior 12 months.
 - This is just slightly below the 72% of non-qualified, more affluent respondents who said they visited a State Park in the prior 12 months.
 - The 64% survey uptake rate is also substantially higher than the 0.3% Centennial Pass uptake rate estimated above.
 - Methods of entry to the State Parks in the past 12 months are roughly similar between the two groups, with the largest share of each group using daily passes, followed by free entrance, and annual passes.
 - It should be noted that the Panel results screen for vehicle availability at the household. Many income-qualified households may lack vehicles at home. As such, the Panel results represent just a portion of the income-qualified population. By the same token, however, Wild Pass and Centennial Parks Pass products are intended for vehicle owners/users.
- Centennial Pass revenues totaled \$8,288 in FY19, \$7,966 in FY20, and \$10,570 in FY21. In each of these years, Centennial Pass revenues comprised just 0.04% to 0.05% of total State Parks pass and entry fees.
 - As such, the Centennial Pass is clearly not a major moneymaker for the State Parks, and of course it likely isn't designed to be.
 - Adjustments to the price of a future income-qualified pass appear unlikely to have significant upward or downward revenue and visitation impacts to the State Parks, assuming that uptake rates remain modest regardless of price, and most income-qualified households continue to purchase other pass and entry products.

Second Vehicle

**Table 4: Model Results – Probability of Purchasing a Wild Pass for a Second Household Vehicle
(If would definitely/probably purchase pass for 1 vehicle and have 2+ vehicles)**

	<i>Probably/Definitely</i>		<i>Definitely</i>	
	<i>Initial</i>	<i>Follow-Up</i>	<i>Initial</i>	<i>Follow-Up</i>
Second Car, Initial Bid Price	0.005 (0.006)		0.000 (0.008)	
Second Car, Follow-Up Bid Price		-0.021* (0.010)		-0.016 (0.015)
Definite Acceptance, First Car	0.448*** (0.097)	0.413** (0.126)	0.843*** (0.128)	0.183 (0.174)
Intercept	-0.713*** (0.198)	0.125 (0.246)	-1.745*** (0.275)	-1.201*** (0.348)
N	1,134	619	1,134	619

Standard errors in parentheses.

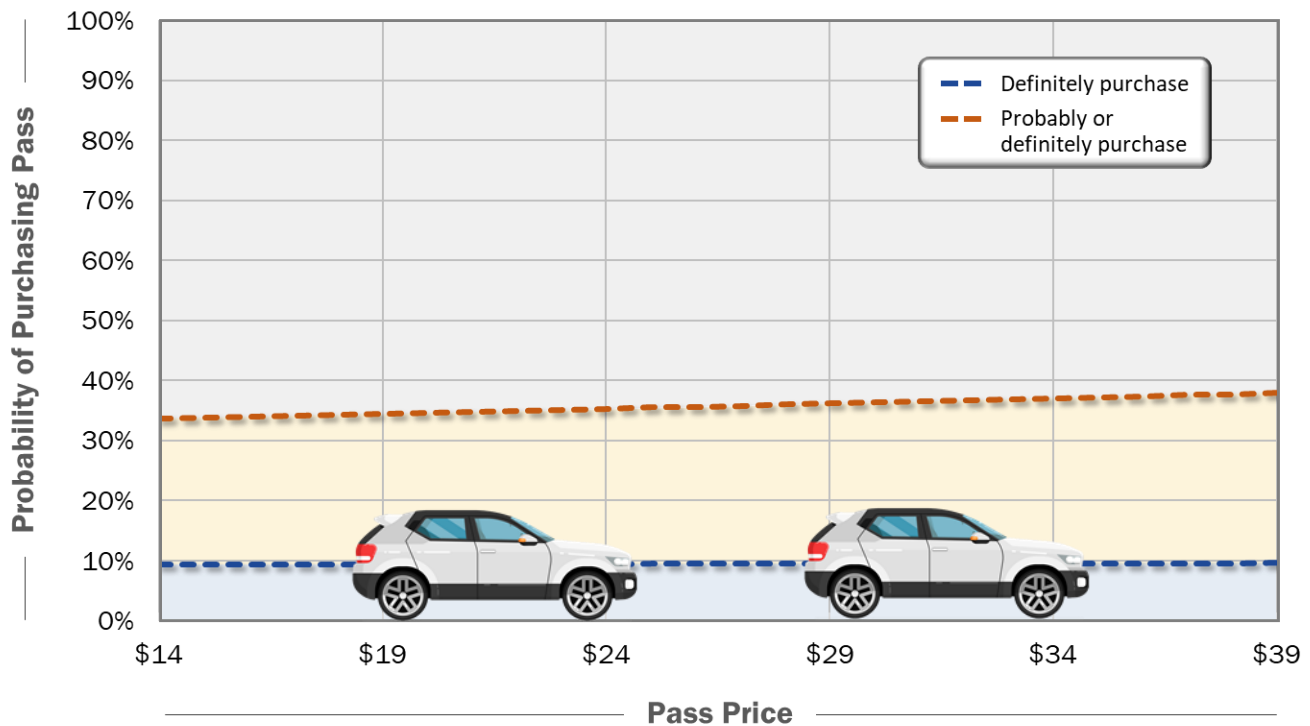
Accounts for demographic weights on age, income, race/ethnicity, and Colorado region of residence.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4 above shows coefficients of the probit regressions of second-car purchase interest on Pass price and “definite” first-car response. The universe for this analysis includes those who expressed first-car purchase interest at least once and only those who own two or more vehicles. Results show:

- The initial price shown for second car WTP is not significant, and coefficients are very small. In other words, evidence suggests that price is not an extremely active influence on one’s initial evaluation of buying the Wild Pass for multiple vehicles.
- Follow-up price is negative and significant in the “probably/definitely” follow-up model. In other words, as respondents are further probed with a lower price, price becomes a more salient factor in their WTP decision. However, this is not the case for the “definitely” model.
- Definite Pass acceptance for the first-car is positive and significant in all but the “definite” follow-up model, meaning that those who are very confident in their willingness to purchase the Pass for one vehicle, compared to those who are not, are much more likely to purchase a Pass for a second car.

**Figure 3: Probability of Purchasing a Wild Pass for a Second Household Vehicle
(If would definitely/probably purchase pass for 1 vehicle and have 2+ vehicles)**



For an average respondent

Figure 3 above shows the predicted probabilities of purchasing a Wild Pass for a second car at two levels of confidence across the range of initial prices.

- The slopes for both levels of confidence are nearly flat across the range of prices, which illustrate the very small and nonsignificant effect of price on initial response.
- “Definite” probabilities of purchasing are less than 10% across all Pass prices.

First and second-car estimates were validated against the mailback sample on direction of effect, effect size, and statistical significance. Results for both mailback models can be viewed in Appendix B.

Overall, the two samples resulted in consistent key takeaways, including:

- 1) Significant and negative effects of Pass price on WTP,
- 2) Negative effects of income-qualification on WTP (significant in the probably/definitely models only), and
- 3) Positive and significant effects of park familiarity and annual pass ownership on WTP.

Differences such as a larger effect size of income-qualification in the mailback and significance of region on WTP may be due to very small sample sizes (only 22 people were income-qualified in the mailback sample) or differences in variable coding.⁷

⁷ For the mailback models, race/ethnicity and Colorado region of residence were included as Denver Metro/non-Denver Metro and White/Non-White indicators due to very small sample sizes.

Revenue and Visitation Projections

Uptake volume for the Wild Pass and its associated revenue were derived directly from predicted probabilities with Colorado household and vehicle data extracted from the 2019 American Community Survey.

- **Uptake:** Predicted probabilities weighted by number of Colorado households with at least one, two, three, four, or five registered vehicles.
 - Multi-car uptake represents the universe of respondents who would purchase the Wild Pass for one vehicle and own at least two cars.
 - Uptake for two or more vehicles is additionally weighted by the probability of purchasing a Wild Pass for the previous number of household vehicles (e.g., uptake for purchasing a Wild Pass for two vehicles factors in the purchase probability for two vehicles, the number of Colorado households with at least two vehicles, and the purchase probability for one vehicle).
 - As the survey did not ask respondents if they would buy the Wild Pass for three or more vehicles, uptake calculations for three or more vehicles assumes a purchase probability reduction of half with each added vehicle.
- **Wild Pass Revenue:** Cumulative Wild Pass revenue is the summed Wild Pass uptake for all potential vehicles multiplied by a potential price between \$14 and \$39.
 - Revenue also deducts a “county clerk fee” of \$1.00 for each Wild Pass sold. This fee is hypothetical, set at \$1.00 for the purposes of this study alone, and does not reflect any definitive fee level.
- **Total State Parks Revenue:** Total projected revenue accounts for cumulative Wild Pass revenue (with county clerk fee deduction) plus projected revenue from resident day passes, dog off-leash passes, and out of state visitors.
 - Resident day pass revenue: To estimate resident day pass revenue after the implementation of the Wild Pass we:
 - First, calculated the proportion of respondents who indicated that their household had used a day pass in the last year (weighted by volume of park visits in the past year) and indicated that they would “definitely purchase” or “probably or definitely purchase” the Wild Pass at the Pass price midpoint (\$26.50). These respondents were categorized as the assumed share of existing day pass users who would switch to the Wild Pass.
 - Second, interpolated the proportion of respondents who would switch from days passes across the range of prices using the predicted probability curve of Wild Pass purchasing for each level of confidence.
 - Third, calculated the inverse of the switch-passes curve (=1–share retaining pass), to represent the proportion of respondents who would retain their use of day passes.

- Fourth, weighted the proportion of remaining day passholders by the revenue generated from resident day vehicle and walk-in passes in FY2021 (\$11.3M).
- Dog off-leash pass revenue: Projected dog off-leash uptake and revenue was assumed to scale in proportion to total parks visitation. With total parks visitation projected to increase with Wild Pass sales, dog off-leash revenue was assumed to rise accordingly. Dog off-leash revenues were benchmarked to the number of person-visits in FY2020 (17M), weighted by revenue generated by dog off-leash passes in FY2021 (\$509K).
- Out of state entry revenue: Out of state entry revenue was assumed to be a constant 15% of the total revenue generated in FY2020 ($\$22.7M * 15\% = \$3.4M$ out of state revenue).
- For the purposes of this study, current annual passes, such as the hangtag and transferable annual pass, were assumed to not generate additional revenue, instead being effectively replaced by Wild Pass units and revenue.

Full tables of uptake, revenue, and visitation estimates by price can be viewed in Appendix C.

Figure 4: Cumulative Projected Multi-Vehicle Wild Pass Revenue

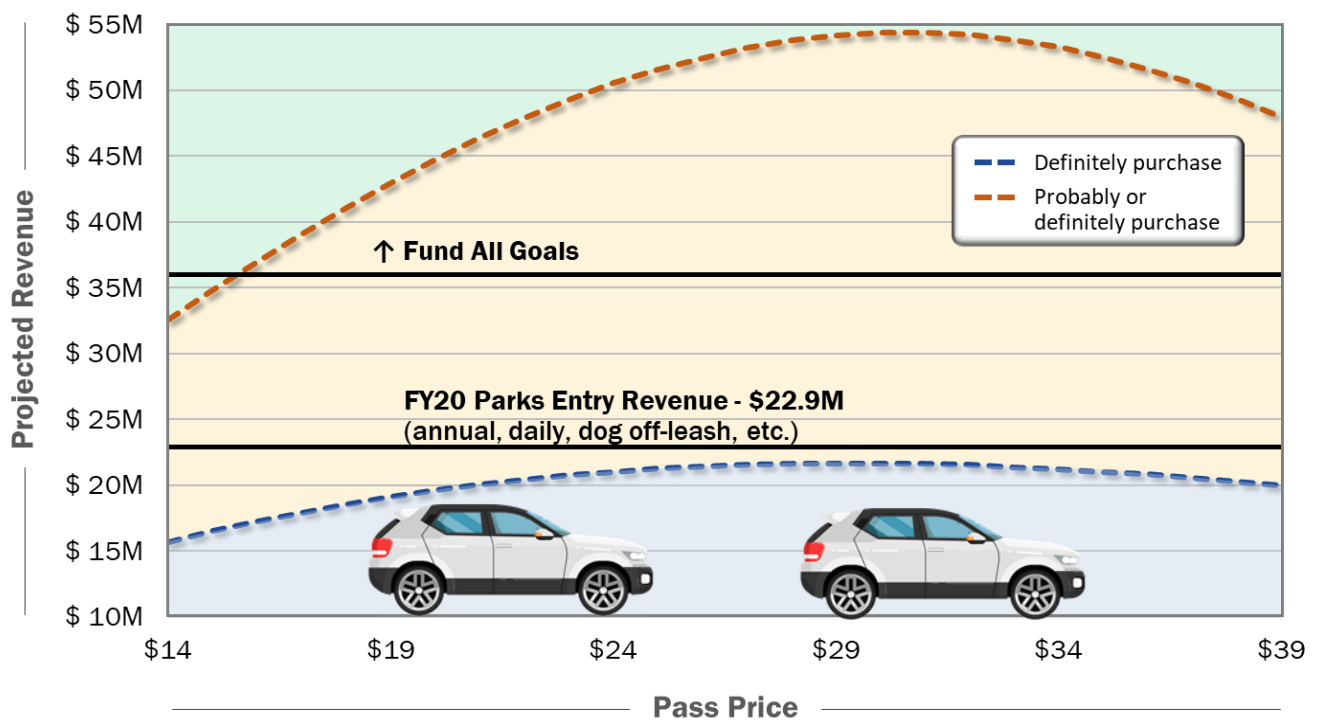


Figure 4 above shows the cumulative projected revenue attained from households purchasing Wild Passes across the range of potential prices. These estimates show that for the Wild Pass alone:

- At all levels of confidence, revenue estimates gradually increase as Pass price increases from approximately \$14 to \$29, then begin to notably decline at prices of greater than \$32.

- Under conservative projections, cumulative Wild Pass revenue peaks at about \$21.5M at Pass prices of \$29 to \$32, just below total entry revenue from FY2020 (\$22.9M).
- Under optimistic projections, cumulative Wild Pass revenue peaks at approximately \$54M between Pass prices of \$29 to \$32, well above the point at which CPW will be able to fund all state parks goals.

Figure 5: Cumulative Projected Total State Parks Pass and Entry Fee Revenue (including Wild Passes and other entry revenues)

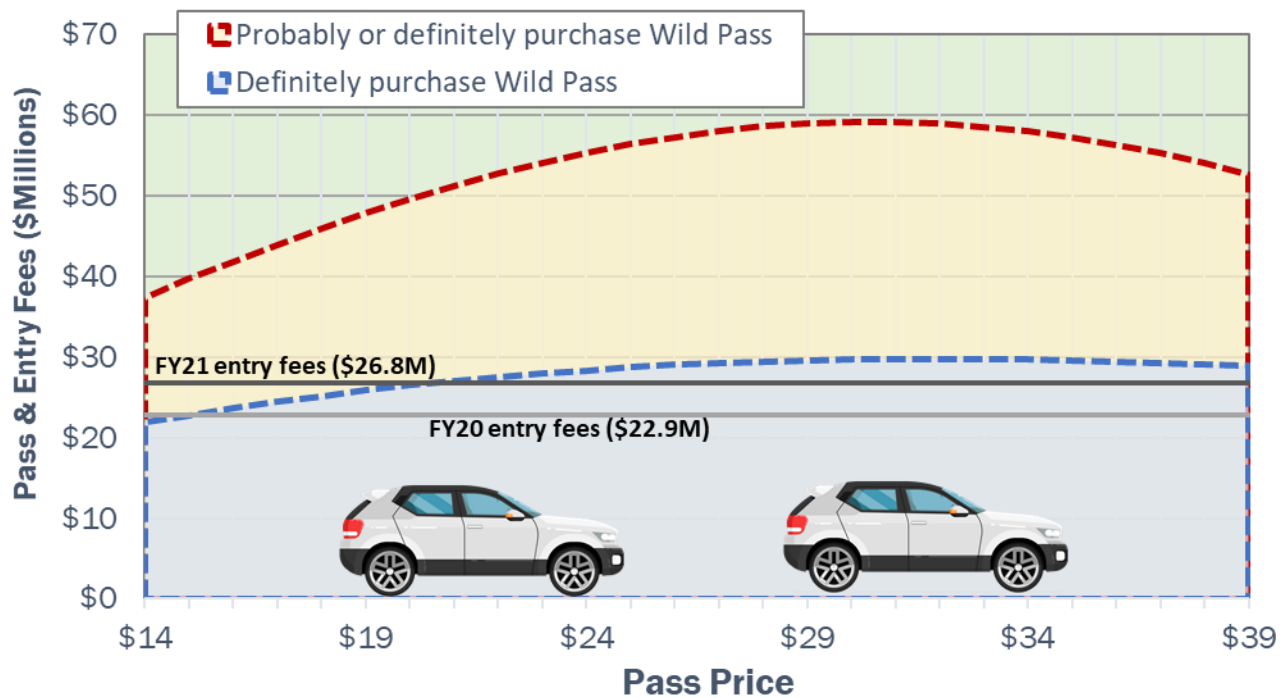


Figure 5 above shows the cumulative projected revenue from all potential revenue sources, including Wild Pass users, day passes used by Colorado residents, dog off-leash passes, and out of state visitors.

- Under conservative estimates, total entry fee revenue peaks at \$29.5M at Wild Pass prices of \$29 to \$35, and declines marginally at Pass prices of \$36 and beyond.
 - Total revenue is projected to exceed FY2020 at Pass prices of \$16 or more and exceed FY2021 at Pass prices of \$21 or more.
- Under optimistic estimates, total revenue peaks at approximately \$59M between Pass prices of \$29 to \$32.
 - All Pass prices above \$15 exceed the revenue generated from FY2020 and FY2021 as well as exceed the point at which CPW will be able to fund all parks goals.

Given the goal to expand access to Colorado state parks, it is vital to balance potential gain in revenue with heightened operations costs from increased visitation. Therefore, we also estimated projected visitation under the Wild Pass by assuming a baseline visitation of 17M (parks visitation in FY2020) plus added visitation under the Wild Pass when accounting for:

- Average change in trips⁸ if household owned a Wild Pass, assuming no incremental visits if a household currently owns a CPW annual pass and no change in incremental visits by Wild Pass price⁹.
 - Under conservative projections, Wild Pass holders who do not currently own another annual pass would take 3.61 more trips to state parks per year.
 - Under optimistic projections, this group of Wild Pass holders would take 3.21 more trips to state parks per year.
- A person-per-vehicle multiplier of 2.3.

Figure 6: Projected State Parks Visits, including Visits Stimulated by Wild Pass

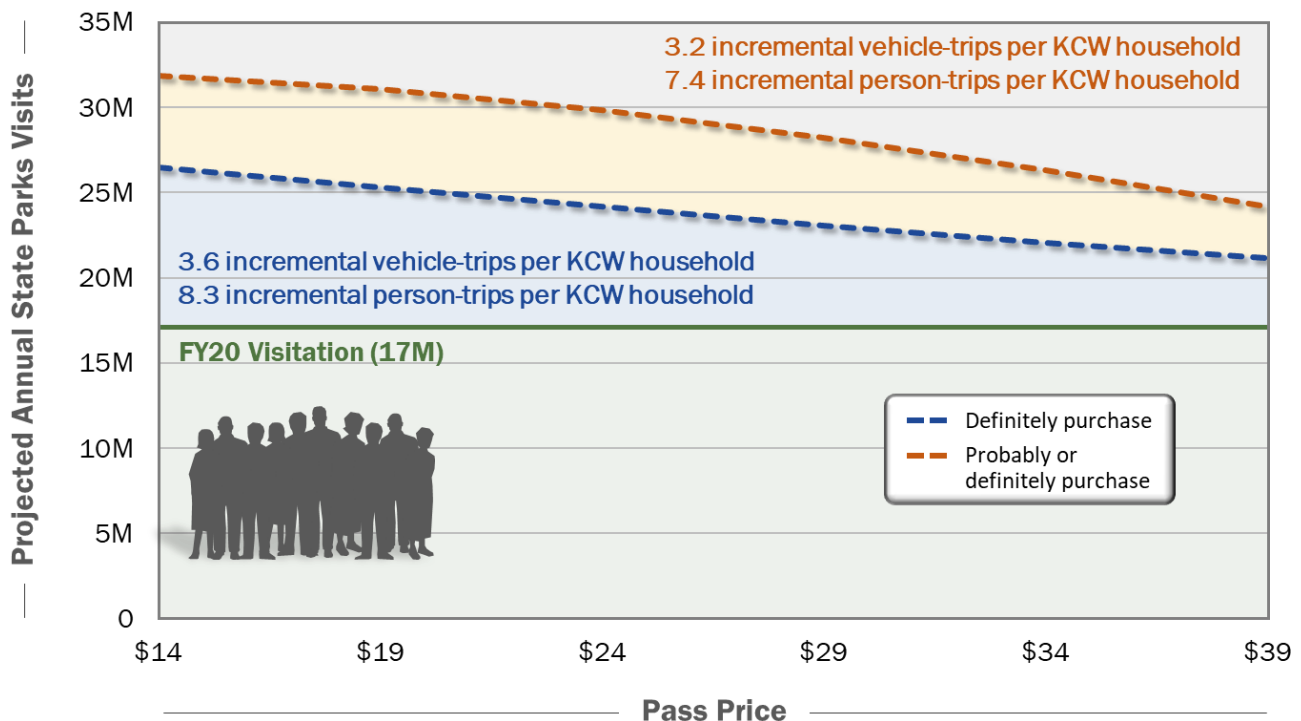


Figure 6 above shows projected visitation under the Wild Pass for two levels of purchase confidence, compared to visitation in FY2020. This figure shows:

- For both levels of confidence, visitation is projected to increase, as potential Wild Pass holders anticipate visiting State Parks more frequently than they current do.
 - Under conservative projections of Wild Pass sales, visitation is projected to increase by 25 to 55% relative to FY2020.

⁸ Change in trips is equal to the number of trips taken by respondents' households in the past 12 months minus the number of anticipated trips taken if household owned a Wild Pass.

⁹ Sensitivity of change in trips to Wild Pass price were tested for both levels of confidence, with little consistent evidence that individuals would increase change in visits under higher Wild Pass prices.

- Under optimistic projections of Wild Pass sales, visitation is projected to increase by 40 to 90% relative to FY2020.
- Projected visitation decreases as price increases, due to lower predicted update at higher prices.

Likely Pass Purchasers

As alluded to above, Colorado residents who are familiar with Colorado’s state parks, have taken trips to state parks in the last 12 months, and whose households currently own a CPW annual pass are significantly more likely to express willingness to purchase the Wild Pass than residents who are not. These relationships are corroborated by the association between Wild Pass interest and other parks and recreation variables in the survey.

Figure 7: Recent Visitation to Colorado Parks and Recreation Areas by Maximum Likelihood of Pass Purchase for 1 Vehicle (at Presented Prices)

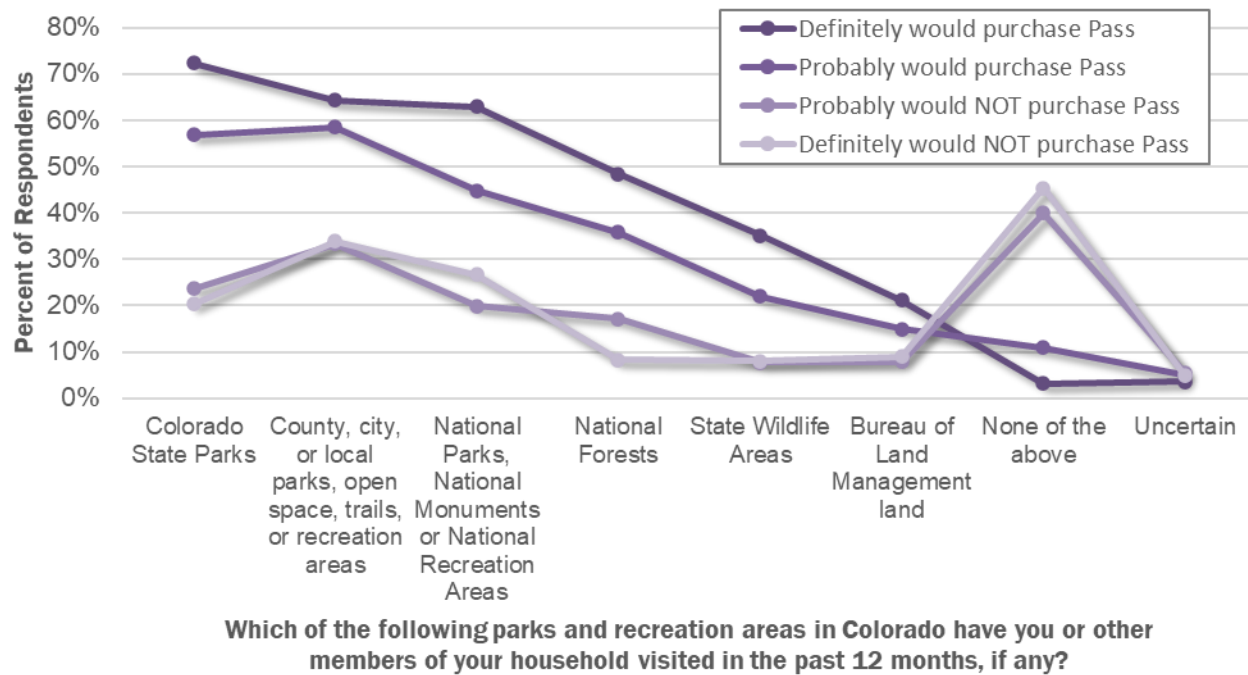
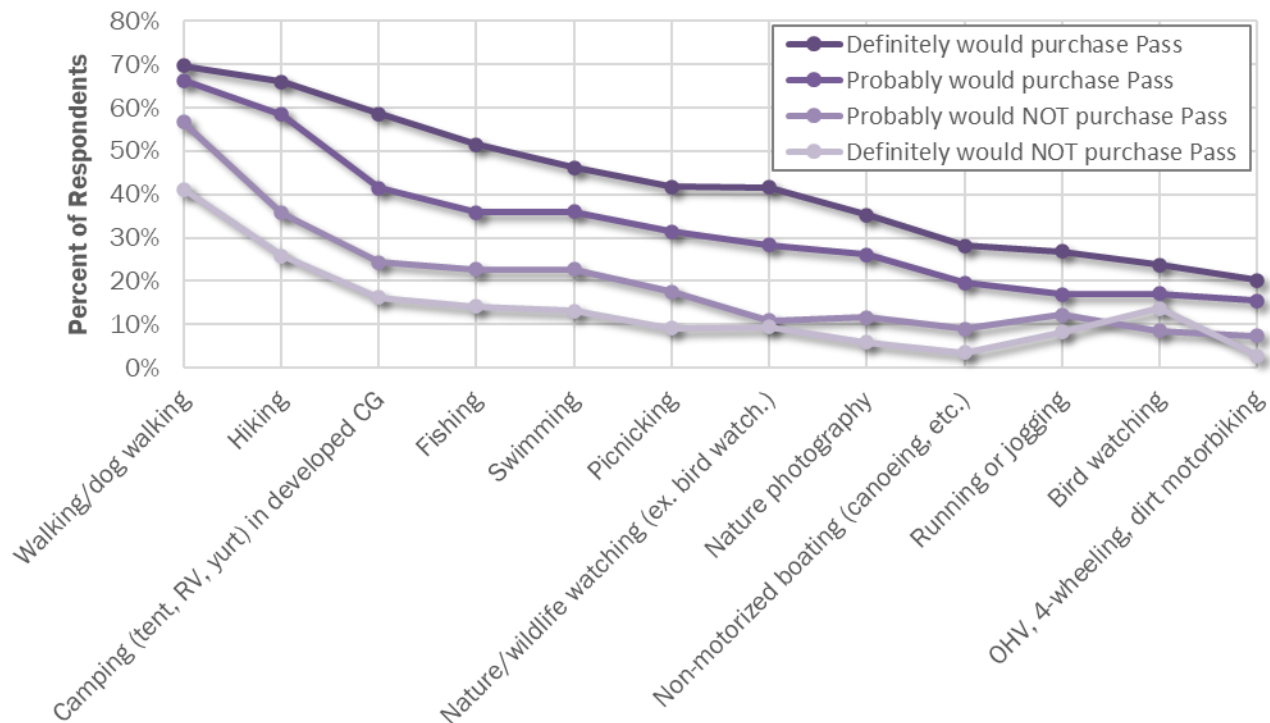


Figure 7 above shows the descriptive relationship between Wild Pass interest and the percent of respondents whose households have taken trips to Colorado state parks or other outdoor recreation areas in the last 12 months. As shown here, respondents with the highest interest in the Wild Pass have a higher propensity to visit many types of parks and recreation areas, including state parks. Specifically:

- Over 60% of respondents who have recently visited Colorado’s state parks, local area parks, or national parks also indicated that they “definitely would” purchase the Wild Pass upon its availability to the public.
- In contrast, approximately 40% of respondents who indicated they had visited no listed park or recreation area also reported that they “probably would not” or “definitely would not” purchase the Wild Pass.

**Figure 8: Participation in Outdoor Recreational Activities (top 12)
by Maximum Likelihood of Pass Purchase for 1 Vehicle (at Presented Prices)**



Which of the following outdoor recreational activities (if any) have you or other members of your household participated in during the past 12 months? (Top 12)

Furthermore, Figure 8 above, which shows Wild Pass interest by participation in various types of outdoor recreation activities, indicates that participation in multiple types of outdoor activity is associated with higher levels of Wild Pass interest. For example, over 50% of respondents who have participated in walking/dog-walking, hiking, camping, and fishing also indicated that they “definitely would purchase” the Wild Pass.

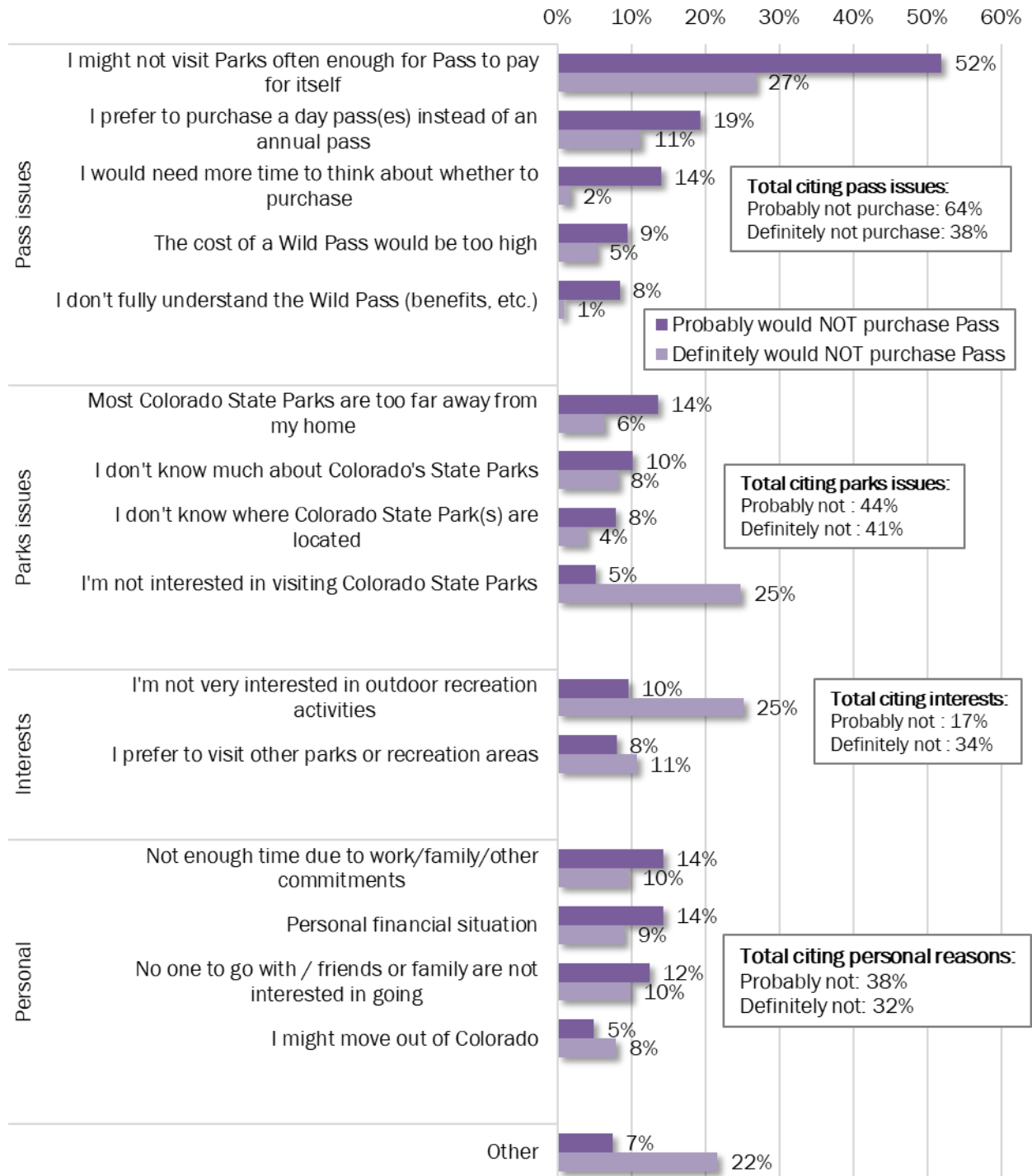
Reasons for Being Unlikely to Purchase the Wild Pass

Respondents who indicated they “probably would not” or “definitely would not” purchase the Wild Pass at any of the prices they were given were asked to indicate, from a given list of 15 possible reasons, the primary reasons they would be unlikely, or hesitant, to purchase a Wild Pass. Categories of concerns (grouped by the consultant team) included the following, and full results are shown in Figure 9 to follow.

- Concerns about the Wild Pass: 64% “probably nots” and 38% “definitely nots” cite issues with the Wild Pass, led by doubts about using the Pass enough to pay for itself.
- Concerns about State Parks: 44% of “probably nots” and 41% of “definitely nots” cite issues with Colorado State Parks (too far away, lack of knowledge, etc.).
- Different interests 17% of “probably nots” and 32% of “definitely nots” cite disinterest in outdoor recreation activities and/or a preference for other parks and recreation areas.
- Personal issues: 38% of “probably nots” and 32% of “definitely nots” cite personal issues (i.e., financial, relationships, time).

- Other: 7% of probably nots and 22% of definitely nots cite other reasons – oftentimes including ownership of a discounted pass (e.g. disabled veterans pass).

**Figure 9: (If probably or definitely would not buy pass for 1 vehicle at presented prices)
What are the primary reason(s) why you might not purchase or be hesitant about purchasing a Wild Pass?**



- A few more observations regarding reasons for disinterest in the Wild Pass:
 - The highest shares of respondents who indicated they would “probably not” or “definitely not” purchase the Wild Pass said that they might not visit State Parks often enough for the Pass to pay for itself. Among all reasons for disinterest in purchase, this was the top concern.
 - Disinterest in Colorado State Parks and/or outdoor recreation in general is comparatively high for those indicating they “definitely would not purchase” the Wild Pass.
 - Responses also highlighted the importance of information outreach regarding the Wild Pass and State Parks generally.
 - Among the “probably nots”, 10% are deterred from purchasing because they don’t know much about Colorado’s State Parks, 8% don’t know where Colorado State Parks are located, and 8% don’t fully understand the Pass and its benefits. Additionally, 14% would need more time to think about whether to purchase the Pass.

Do you have any comments or suggestions regarding the Wild Pass (e.g., with regards to pricing, benefits, your likelihood of purchasing, etc.)?

Finally, all respondents were also given the opportunity to provide general open-ended feedback about the Wild Pass. Leading themes in the comments included the following:

- Pass is a good idea (this was especially cited by persons who would definitely purchase the Pass)
- Affordability will be a key consideration in decision whether to purchase
- Price quoted is a good value
- Second/multiple vehicle issues: make pass transferable; have discount for second car; etc.
- Need more information about the Pass: How is it different from existing annual pass? Benefits/restrictions? etc.
- Have discounts for seniors, veterans, low income, repeat Pass buyers, CO residents, etc.
- Add benefits/discounts to the pass
- Frequency of use will be a purchase decision factor
- Good to support the parks
- Like convenience of purchasing at time of registration
- Pass will encourage me/others to visit Parks more
- Miscellaneous: suggestions for modifying pass, advertising pass, reasons for buying/not buying pass, etc.

Conclusions

According to the survey results, the Wild Pass alone has the potential to streamline state parks access, generate as much as \$21.5M to \$54M in revenue, increase visitation, and fuel future recreation and conservation efforts. Formulating strategies for reaching out to Colorado residents to inform and build interest in the product will likely be a vital opportunity to transform “probablys” to potential “definitelys.” Coloradans, particularly those who currently participate in CPW programs or otherwise enjoy outdoor recreation activities, are very interested in the Wild Pass’s features and goals; and keeping them in the loop in the months up to launch will prepare them to make informed decisions at the time of vehicle registration. In the coming months, Pass planning efforts should consider the following:

- Though Pass prices between \$29 and \$32 appear to **maximize KCW Pass revenue**, and similar Pass prices maximize total pass and entry fee revenue, it is recognized that **other considerations** are important in setting the price of the Pass. These considerations include accessibility and equity, capacity of the parks system, visitation management, and related concerns. Some tradeoffs between these considerations will ultimately be necessary in selecting a pass price.
- **Income-qualified** households (defined roughly consistent with Centennial Pass guidelines) are somewhat less likely than more affluent households to purchase the Wild Pass in the “would probably or definitely purchase” models, but there are no statistically significant differences in the “definitely purchase” model. Additionally, the survey results indicate that the incidence of State Parks visitation is only slightly lower among income-qualified households who own vehicles vs. more affluent households. Current uptake rates for the Centennial Pass also appear to be low, with a 0.3% purchase rate among income-qualified households.

In light of these findings, upward or downward adjustments to the price of a future income-qualified pass appear unlikely to have significant upward or downward revenue and visitation impacts to the State Parks. This assumes that uptake rates for an income-qualified pass remain modest regardless of price, most income-qualified households continue to purchase other pass and entry products, and income-qualification documentation requirements remain similar to today.

We understand that additional consultation and outreach may take place to further test these assumptions and inform pricing decisions for an income-qualified pass product.

- High **visitation** (particularly in certain parks) is salient both in the minds of park managers and at least some Colorado residents. Strategies for managing visitation should be considered in conjunction with Pass planning.
- As alluded to above, **information and communication** efforts will likely be helpful in maximizing pass interest, appeal and purchase rates, and minimizing potential confusion, uncertainty and doubt. Key **audiences** likely include the following, among others:
 - Existing state parks annual passholders, who will be curious to know whether their existing products will be continued or replaced, along with other Pass details.
 - Other state parks users, who may be prime candidates for on-site communications efforts.

- Persons with outdoor recreation interests that can be experienced in State Parks, as outdoor recreation interest is a key predictor of Pass interest.
- With a large majority of Coloradans expressing interest in the Pass, and with the Pass being offered to every vehicle registrant, it will likely be helpful to have a communications strategy which also is widely accessible to virtually the entirety of the state's population, as feasible.
- Relatedly, while most Panel survey respondents express "some familiarity" with Colorado's state parks (57%), relatively few describe themselves as "very familiar" (25%), and some are "not too familiar" (16%) or "not at all familiar" (3%). This implies room for growth in awareness, familiarity and interest the State Parks.
- The comment responses in the Pass surveys highlight some of the "FAQs" that prospective purchasers may have. (CPW likely is already aware of the nature of most or all of these from its existing pass programs, but the comments may provide additional insight regarding issues associated with the transition to a new pass product.) We can confer further with CPW about these comments as helpful.
- Related to information and communications, a couple of messages (among others) might be considered to stimulate interest, subject to other marketing considerations and consumer psychology, and subject to possible further testing.
 - Innovativeness and attractiveness of the Pass: Many of those who say they would "definitely" purchase the pass express **enthusiasm** for it, often stating that it is a great idea. (Smaller shares state specifically why they feel it is a great idea – e.g. value, convenience, etc.) Given that the most innovative features of the pass (as highlighted in the survey) are the ability to purchase at time of vehicle registration and that monies will be used for a variety of recreation and conservation purposes, those considerations – along with cost – may be important (albeit often unstated) reasons for the enthusiasm.
 - For many respondents, the perceived **value** of the Pass seems to be an important purchase consideration. Many enthusiasts perceive it to be a great value. Others do a mental calculation to see if their visitation would be enough break even. For others, affordability is a key consideration. Conveying a message of the Pass's value may be worth considering. (Or alternatively, subject to strategy, perhaps changing the subject from value to instead focus on the quality of benefits and experiences available at state parks.)
- Although not explored directly in this study, there will likely be a segment of Coloradans who decline to purchase a Wild Pass at time of vehicle registration, but **subsequently wish to purchase an annual pass**. Ensuring there are options for them, while protecting the value and appeal of the Wild Pass vehicle registration program, will likely be important. As one example, Michigan offers its recreation passport for sale at park entrance gates, but charges an extra \$5 as a convenience fee.
- **Out-of-state** parks visitors, who CPW estimates accounted for approximately 15% of visits and revenues in recent years, will likely require focus, insofar as they will not go through the state's vehicle registration process. In practical terms, if the pass and entry products available to them

remain unchanged or modestly streamlined, they might be expected to generate similar revenues and visitation in the future, as the modeling conducted for this study assumes.

- Finally, this study represents Coloradan sentiment at a specific point in time in which **little is known about the Wild Pass**. Therefore, actual behavior may differ from the hypothetical behavior depicted in this study. Information outreach is one way to encourage interested residents stay interested at the time of purchase.

Appendix A: Excel Pricing Tool Explanation

This section provides an overview of the features and assumptions of an Excel-based pricing tool. The pricing tool has been provided to CPW under separate cover.

Predicted probabilities of willingness to purchase a Wild Pass for one vehicle and a second vehicle were calculated in Stata 14 with the assumption that all control variables were held at their averages. All sets of probabilities were then placed in Excel to serve as the backbone for the dynamic, Excel-based pricing tool for Wild Pass price exploration. The following summarizes the core sections of the pricing tool, divided into “modules”, and the assumptions and calculations within each of these modules.

Module 1: Explore Keep Colorado Wild Pass Price

This module presents predicted probabilities, projected unit sales, cumulative Wild Pass revenue, cumulative total entry fee revenue, and visitation for a given Wild Pass price.

Inputs:

- Can explore Wild Pass prices designated as a whole number between \$1 and \$39
- Can modify the assumed county clerk fee that is charged per pass from \$1 (used to calculate revenue in this document) to any amount.

Table A1. Vehicle Ownership as Volume of Colorado Households

Household	Volume
CO Households with 1+ vehicles at home	2,120,176
CO Households with 2+ vehicles at home	1,474,430
CO Households with 3+ vehicles at home	592,242
CO Households with 4+ vehicles at home	204,300
CO Households with 5+ vehicles at home	65,128

Source: 1-year ACS for Colorado

Assumptions and Calculations:

- Predicted probabilities: presented for the two levels of confidence outlined in this document.
 - Predicted probabilities for purchasing a Wild Pass for a second household vehicle encompasses the universe of respondents with at least two cars and who declared they would purchase a Wild Pass for one vehicle for at least one of the given price points.
 - As the survey did not ask willingness to purchase for more than two vehicles, predicted probabilities for 3rd to 5th vehicles assume a reduction in probability by half with each added vehicle.
- Unit sales: calculated as the probability of purchase for each household vehicle multiplied by the number of households with at least that many vehicles (as shown in Table A1 above).
 - Multi-car uptake (i.e., unit sales for 2nd thru 5th vehicles) is weighted by purchase probability of the previous number of vehicles.

- **Revenue:** Wild Pass revenue is calculated as the projected unit sales for each vehicle group, multiplied by the pass price minus the county clerk fee.
 - Total Entry Revenue factors in Wild Pass revenue plus projected revenue from continued day trips, dog-off leash passes, and out-of-state visitors.
- **Visitation:** calculated as incremental visitation from Wild Pass users plus a baseline visitation volume equal to FY2020 (approximately 17M).
 - Incremental visitation from the Wild Pass is calculated as Wild Pass unit sales, multiplied by the mean change in annual State Park visits per passholder, multiplied a constant person-per-vehicle multiplier (2.3).
 - Change in trips is calculated anticipated trips to State Parks if owned a Wild Pass minus the number of trips in last 12 months, averaged of the range of prices. Evidence did not indicate that change in trips changed significantly across the range of Wild Pass prices.
 - Change in trips assumes no actual change from individuals who currently own a State Parks annual pass.
 - Visitation estimates assume no incremental visitation from Wild Pass sales for the 2nd thru 5th vehicles in a household.

Module 2: Explore Income-Qualified Keep Colorado Wild Pass Price

This module explores potential options for a reduced-price income-qualified Wild Pass based on predicted probabilities parsed by income-qualification group. It displays predicted probabilities, projected unit sales, and revenue.

Inputs:

- Overall Wild Pass price (Module 1 input)
- Income-eligible Wild Pass price (Module 2 input): any whole number between \$1 and \$39

Assumptions and Calculations:

- **Predicted probabilities:** presented for two levels of confidence and for the two income-qualified groups (i.e., qualified and not qualified; defined in the Research Methods section of this document).
 - Probabilities for the income-qualified group are generated based on the price given in Module 2.
 - Probabilities for the not qualified group are generated based on the price given in Module 1.
- **Unit sales:** calculated from each group's probability of purchasing a Wild Pass multiplied by the number of Colorado households in each group which own at least one vehicle.¹⁰

¹⁰ Qualified and non-qualified households were assumed to have equal probability of having a vehicle available at home.

- Uptake and associated revenue beyond the first vehicle is not parsed by income-qualification, assuming that very few low-income households will purchase multiple Wild Passes.
- Each group's uptake is weighted by the proportion (or inverse proportion) of households that is income-qualified in order to represent the approximate number of households who would be participated in each Pass type. The baseline setting is that 9.5% of households are income-qualified with income below the poverty line (per 2019 1-year ACS for Colorado).
 - The assumed proportion of income-qualified residents can be changed.
- **Revenue:** first-car revenue calculated as the sum of revenue from each qualification group. Multi-car revenue is calculated for non-qualified purchasers only.
- As noted in the pricing tool notes, a very modest 0.3% of income-qualified households are currently estimated to purchase the Centennial Pass, indicating very low uptake. Based on survey results, many income-qualified households instead purchase full-price State Parks entry products. Should these patterns continue to hold true in the Wild Pass era, uptake of an income-qualified Wild Pass may continue to be quite low, unless the purchase process is made as easy as it is for a regular Wild Pass.

Module 3: Explore Pricing for Alternate Pass Products

This module explores pricing options for other State Parks pass products including the vehicle day pass, the walk-in day pass, the annual dog off-leash pass, and the day dog off-leash pass. Displayed outputs include projected unit sales and revenues for these passes. Two scenarios are modeled regarding pass pricing for alternate pass products, resulting in two sections of displayed projections:

1. **Scenario A:** Uptake rate for day passes and dog off-leash passes is price inelastic. In other words, changes to alternate pass prices from their current prices do not proportionally increase or decrease uptake for these passes.
2. **Scenario B:** Uptake rate for day passes and dog off-leash passes is price elastic. In other words, increases to pass prices from their current prices reduces uptake while decreases to pass prices from their current prices boosts uptake.
 - The price elasticity curve for one-day passes (vehicle day pass, walk-in day pass, and day dog off-leash pass) is assumed to be three times as steep as the conservative Wild Pass pricing curve i.e. 1.2 ppts change in uptake for Wild Pass per \$1 change in price vs. 3.6 ppts change in uptake for day passes per \$1 change in price).
 - This steeper price elasticity for day passes is assumed due to increases in prices being amortized over fewer visits for a day pass versus an annual pass.
 - Note as well that if day prices increase, some would-be day pass purchasers may instead migrate to the Wild Pass. Conversely, if day prices decrease, some would-be Wild Pass purchasers may migrate to day passes. These interaction effects between day pass and Wild Pass prices have not been modeled.
 - The price elasticity curve for the annual dog off-leash pass is assumed to be directly proportional to the Wild Pass pricing curve (i.e. 1.2 ppts change in uptake per \$1 change in price).

Inputs:

- Pass prices of interest, as any dollar amount, for each of the four aforementioned passes.

Assumptions and Calculations:

- Vehicle and walk-in day passes: Uptake and revenue calculations for the two types of day passes are based on the process outlined in pages 21-22 of this document, then parsed into vehicle and walk-in components based on the volume of each pass's unit sales as of FY2021: approximately 1.2M for vehicle passes and 10.8K for walk-in passes.
- Day and annual dog off-leash passes: Calculations for overall uptake for dog off-leash passes are assumed to scale in proportion to total projected person visits to State Parks, then parsed into day and annual components based on the ratio of dog off-leash pass sales in FY21 to person-visits in FY20.
- Total dynamic revenue in this module accounts for projected Wild Pass revenue (as derived in Module 2), revenue from the two respective types of day passes and dog off-leash passes, and revenue from out-of-state visitors (assumed to hold constant at \$3.4M annually).

Appendix B: Mail Survey Model Results

Results for both mail survey models (first and second-car probabilities) are shown in Tables A2 and A3 respectively below.

Table A2: Model Results – Probability of Purchasing a Wild Pass for One Vehicle (Mailback)

	<i>Probably/Definitely</i>		<i>Definitely</i>	
	<i>Initial</i>	<i>Follow-Up</i>	<i>Initial</i>	<i>Follow-Up</i>
First Car, Initial Bid Price	-0.086*** (0.014)	-0.035** (0.013)	-0.059*** (0.013)	-0.038** (0.013)
Age ¹	0.023 (0.044)	0.058 (0.041)	-0.014 (0.037)	-0.018 (0.040)
Income-Qualified (<i>Ref. = Not</i>)	-1.059* (0.443)	-0.834 (0.463)	0.039 (0.455)	-6.039*** (0.325)
Female (<i>Ref. = Male</i>)	-0.045 (0.214)	-0.090 (0.198)	0.295 (0.189)	-0.227 (0.197)
Non-White Race/Ethnicity (<i>Ref. = White</i>)	0.359 (0.354)	-0.122 (0.295)	0.124 (0.319)	-0.804* (0.321)
Non-Denver Metro Region (<i>REF = Denver Metro</i>)	-0.335 (0.205)	-0.564*** (0.190)	-0.287 (0.196)	-0.417* (0.199)
Familiar with Parks (<i>Ref. = Not</i>)	0.732* (0.294)	0.830** (0.278)	0.610 (0.313)	0.967* (0.386)
Trips to State Parks	0.010 (0.012)	-0.008 (0.009)	0.012 (0.007)	0.014 (0.010)
CPW Annual Pass (<i>Ref. = Not owned</i>)	0.932*** (0.259)	0.403 (0.248)	0.810*** (0.238)	0.390 (0.215)
Intercept	2.145* (1.074)	-0.055 (1.041)	1.187 (0.942)	0.320 (1.006)
Rho	0.659***		0.810***	
N	252		252	

Standard errors in parentheses. Includes demographic weights on age, income, race/ethnicity, and region.

¹ Age-squared excluded for brevity (negative and significant in probably/definitely models).

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

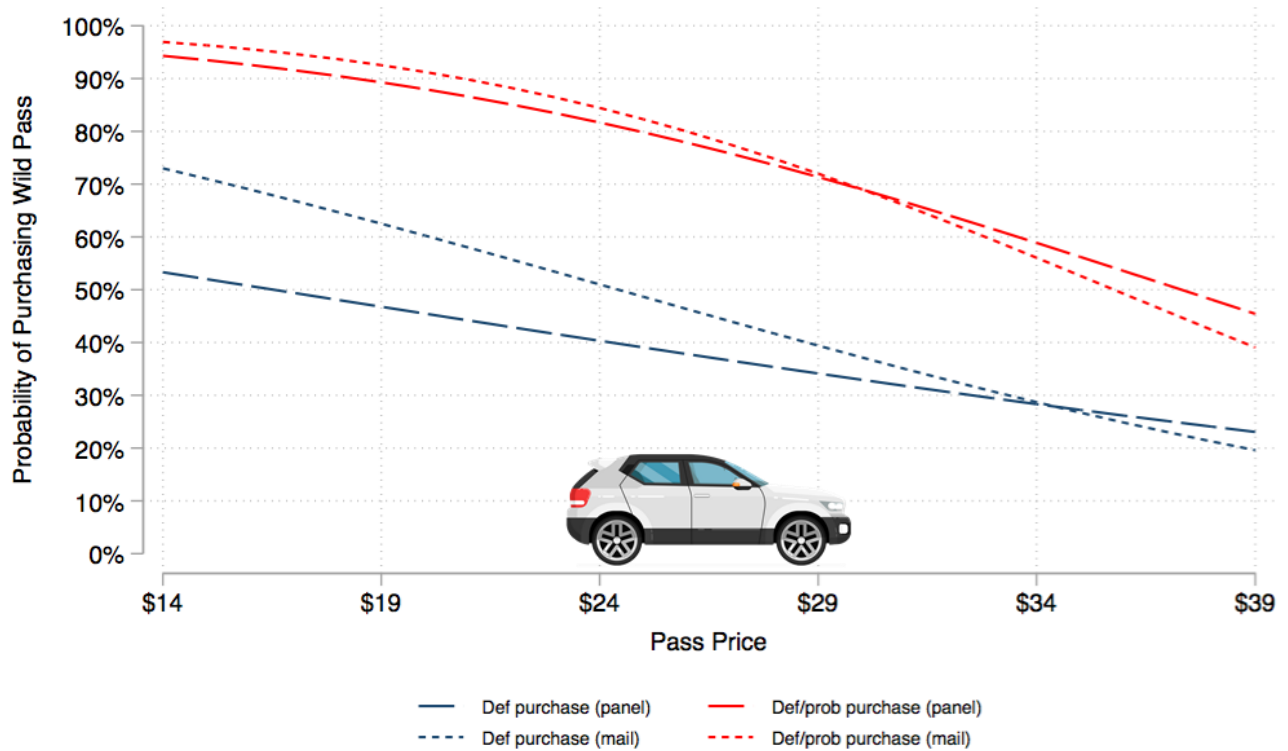
Table A3: Model Results – Probability of Purchasing a Wild Pass for a Second Household Vehicle (Mailback)

	<i>Probably/Definitely</i>		<i>Definitely</i>	
	<i>Initial</i>	<i>Follow-Up</i>	<i>Initial</i>	<i>Follow-Up</i>
Second Car, Initial Bid Price	-0.012 (0.017)		-0.009 (0.021)	
Second Car, Follow-Up Bid Price		-0.038 (0.023)		-0.056 (0.031)
Definite Acceptance, First Car	0.964*** (0.273)	0.045 (0.290)	1.134** (0.419)	1.174** (0.422)
Intercept	-0.987 (0.583)	1.127* (0.560)	-2.024* (0.786)	-0.593 (0.696)
N	125	91	125	91

Standard errors in parentheses. Includes demographic weights on age, income, race/ethnicity, and region.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure A1: Probability of Purchasing a Wild Pass for One Vehicle – Panel vs. Mailback Samples Compared



For an average respondent

Following are selected observations regarding Pass uptake rates for one vehicle, as illustrated in Figure A1 above.

- Conservative scenario (definitely purchase): Mailback survey respondents exhibit somewhat more price elasticity than panel survey respondents, with higher uptake rates at prices lower than \$34, and lower uptake rates at prices above \$34.
- Optimistic scenario (definitely/probably purchase): Mailback and panel respondents exhibit largely similar price elasticities.

Figure A2: Probability of Purchasing a Wild Pass for a Second Household Vehicle – Panel vs. Mailback Comparison



For an average respondent

Following are selected observations regarding Pass uptake rates for a second vehicle, as illustrated in Figure A2 above.

- **Conservative scenario** (definitely purchase): Mailback survey respondents exhibit minimal price elasticity, similar to panel respondents. Overall uptake rates are somewhat less for mailback respondents than panel respondents, although the differences are modest.
- **Optimistic scenario** (definitely/probably purchase): Mailback respondents exhibit modest price elasticity price elasticities. Uptake rates are lower for the mailback than the panel.

Appendix C: Summary of Data Projections

Included in this Appendix are summary estimates of Pass uptake rates, revenue, and visitation by Pass price, calculated using modeled predicted probabilities, household data (Table A1), vehicle data (Table A4), and CPW reference data (Table A5).

Table A4. Vehicle Reference Data

Measure	Value	Source
CO Households with 1+ vehicles at home	2,120,176	1-year Colorado ACS, 2019
CO Households with 2+ vehicles at home	1,474,430	1-year Colorado ACS, 2019
# Colorado cars/vans/light-weight trucks available at households	4,474,382	1-year Colorado ACS, 2019
# Colorado passenger vehicles, light/recreation trucks, motorcycles, and motorhomes	5,159,518	Colorado DOR/CPW, FY 18-19

Table A5. CPW Reference Data

State Parks	Value	Source
FY20 Colorado State Parks person-visits	17,066,500	CPW
FY21 Colorado State Parks person-visits	19,298,911	CPW
FY20 Colorado State Park pass and entry revenues	\$22,881,734	CPW
FY21 Colorado State Park pass and entry revenues	\$26,749,557	CPW
Assumed county clerk fee per Wild Pass sold	\$1.00	Assumption

**Table A6. Projections of KCW Pass Purchase Rates, Unit Sales, Revenues, and Visitation
"Definitely Would Purchase Wild Pass" Scenario**

Projections based on "Definitely Would Purchase Pass" Scenario																
KCW Price	KCW Purchase Rate (for 1st Vehicle)	Households Purchasing at Least 1 KCW Pass	Projected KCW Pass Revenue from 1st Vehicle (minus Clerk fees)	<i>(If would purchase KCW for 1 vehicle, and have 2+ vehicles)</i>		Total Projected KCW Pass Revenue (for 1st thru 5th vehicles, minus Clerk fees)	% of Household cars/vans/light-weight trucks with KCW pass (4.48M total vehicles)	% of Total pax vehicles, light & recr. trucks, motorcycles & motorhomes with KCW pass (5.16M total vehicles)	Incremental Additional State Parks Vehicle-Trips per KCW Household	Incremental Additional State Parks Person-Visits per KCW Household (@2.3 ppl/vehicle)	Incremental Additional State Parks Person-Trips Attributable to KCW Sales (above FY20 baseline of 17M)	Projected Total State Parks Visitation (using FY20 visitation as baseline)	Projected CO resident day pass revenue (for households NOT switching to KCW)	Projected dog off-leash revenue (assume grows in proportion to FY21)	Projected out-of-state revenue (assume same as FY20 - 15% share of total)	Projected total pass/entry revenues
				KCW Purchase Rate for 2nd Vehicle	Total KCW Unit Sales (for 1st - 5th vehicles)											
\$14	53.3%	1,130,054	\$14,690,700	9.4%	1,206,786	\$15,688,216	26.9%	23.4%	3.61	8.31	9,385,373	26,451,873	\$1,990,571	\$788,141	\$3,400,515	\$21,867,443
\$15	52.0%	1,102,492	\$15,434,881	9.4%	1,177,422	\$16,483,905	26.3%	22.8%	3.61	8.31	9,156,462	26,222,962	\$2,114,966	\$781,320	\$3,400,515	\$22,780,707
\$16	50.7%	1,074,929	\$16,123,938	9.4%	1,148,058	\$17,220,867	25.6%	22.3%	3.61	8.31	8,927,550	25,994,050	\$2,239,361	\$774,500	\$3,400,515	\$23,635,243
\$17	49.4%	1,047,367	\$16,757,871	9.4%	1,118,694	\$17,899,100	25.0%	21.7%	3.61	8.31	8,698,639	25,765,139	\$2,363,757	\$767,679	\$3,400,515	\$24,431,051
\$18	48.1%	1,019,805	\$17,336,679	9.4%	1,089,330	\$18,518,605	24.3%	21.1%	3.61	8.31	8,469,727	25,536,227	\$2,488,152	\$760,859	\$3,400,515	\$25,168,131
\$19	46.8%	992,242	\$17,860,363	9.4%	1,059,966	\$19,079,382	23.7%	20.5%	3.61	8.31	8,240,816	25,307,316	\$2,612,548	\$754,038	\$3,400,515	\$25,846,483
\$20	45.5%	964,680	\$18,328,922	9.4%	1,030,602	\$19,581,431	23.0%	20.0%	3.61	8.31	8,011,904	25,078,404	\$2,736,943	\$747,218	\$3,400,515	\$26,466,106
\$21	44.2%	937,118	\$18,742,356	9.4%	1,001,238	\$20,024,751	22.3%	19.4%	3.61	8.31	7,782,993	24,849,493	\$2,861,338	\$740,397	\$3,400,515	\$27,027,002
\$22	42.9%	909,556	\$19,100,666	9.4%	971,874	\$20,409,344	21.7%	18.8%	3.61	8.31	7,554,081	24,620,581	\$2,985,734	\$733,577	\$3,400,515	\$27,529,170
\$23	41.6%	881,993	\$19,403,851	9.4%	942,509	\$20,735,209	21.0%	18.3%	3.61	8.31	7,325,169	24,391,669	\$3,110,129	\$726,756	\$3,400,515	\$27,972,609
\$24	40.3%	854,431	\$19,651,911	9.4%	913,145	\$21,002,345	20.4%	17.7%	3.61	8.31	7,096,258	24,162,758	\$3,234,524	\$719,936	\$3,400,515	\$28,357,321
\$25	39.1%	828,989	\$19,895,732	9.5%	886,678	\$21,280,269	19.8%	17.2%	3.61	8.31	6,884,955	23,951,455	\$3,349,351	\$713,640	\$3,400,515	\$28,743,775
\$26	37.8%	801,427	\$20,035,663	9.5%	857,295	\$21,432,366	19.1%	16.6%	3.61	8.31	6,656,043	23,722,543	\$3,473,746	\$706,820	\$3,400,515	\$29,013,447
\$27	36.6%	775,984	\$20,175,595	9.5%	830,172	\$21,584,464	18.5%	16.1%	3.61	8.31	6,444,740	23,511,240	\$3,588,573	\$700,524	\$3,400,515	\$29,274,075
\$28	35.3%	748,422	\$20,207,397	9.5%	800,788	\$21,621,289	17.9%	15.5%	3.61	8.31	6,215,829	23,282,329	\$3,712,968	\$693,703	\$3,400,515	\$29,428,475
\$29	34.1%	722,980	\$20,243,440	9.5%	773,666	\$21,662,634	17.3%	15.0%	3.61	8.31	6,004,526	23,071,026	\$3,827,795	\$687,407	\$3,400,515	\$29,578,352
\$30	32.9%	697,538	\$20,228,599	9.5%	746,543	\$21,649,734	16.7%	14.5%	3.61	8.31	5,793,223	22,859,723	\$3,942,621	\$681,112	\$3,400,515	\$29,673,982
\$31	31.8%	674,216	\$20,226,479	9.5%	721,680	\$21,650,395	16.1%	14.0%	3.61	8.31	5,599,529	22,666,029	\$4,047,879	\$675,340	\$3,400,515	\$29,774,129
\$32	30.6%	648,774	\$20,111,990	9.5%	694,557	\$21,531,263	15.5%	13.5%	3.61	8.31	5,388,226	22,454,726	\$4,162,705	\$669,045	\$3,400,515	\$29,763,528
\$33	29.4%	623,332	\$19,946,616	9.5%	667,434	\$21,357,885	14.9%	12.9%	3.61	8.31	5,176,923	22,243,423	\$4,277,532	\$662,749	\$3,400,515	\$29,698,681
\$34	28.3%	600,010	\$19,800,324	9.5%	642,571	\$21,204,849	14.3%	12.5%	3.61	8.31	4,983,228	22,049,728	\$4,382,789	\$656,978	\$3,400,515	\$29,645,132
\$35	27.2%	576,688	\$19,607,388	9.5%	617,708	\$21,002,088	13.8%	12.0%	3.61	8.31	4,789,534	21,856,034	\$4,488,047	\$651,206	\$3,400,515	\$29,541,857
\$36	26.2%	555,486	\$19,442,014	9.5%	595,106	\$20,828,710	13.3%	11.5%	3.61	8.31	4,613,448	21,679,948	\$4,583,736	\$645,960	\$3,400,515	\$29,458,921
\$37	25.1%	532,164	\$19,157,910	9.5%	570,243	\$20,528,759	12.7%	11.1%	3.61	8.31	4,419,754	21,486,254	\$4,688,993	\$640,189	\$3,400,515	\$29,258,456
\$38	24.1%	510,962	\$18,905,609	9.5%	547,641	\$20,262,711	12.2%	10.6%	3.61	8.31	4,243,668	21,310,168	\$4,784,682	\$634,942	\$3,400,515	\$29,082,850
\$39	23.1%	489,761	\$18,610,905	9.6%	525,441	\$19,966,750	11.7%	10.2%	3.61	8.31	4,067,582	21,134,082	\$4,880,371	\$629,696	\$3,400,515	\$28,877,331

**Table A7. Projections of KCW Pass Purchase Rates, Unit Sales, Revenues, and Visitation
"Probably or Definitely Would Purchase Wild Pass" Scenario**

Projections based on "Probably or Definitely Would Purchase Pass" Scenario																
KCW Price	KCW Purchase Rate (for 1st Vehicle)	Households Purchasing at Least 1 KCW Pass	Projected KCW Pass Revenue from 1st Vehicle (minus Clerk fees)	<i>(If would purchase KCW for 1 vehicle, and have 2+ vehicles)</i>		Total Projected KCW Pass Revenue (for 1st thru 5th vehicles, minus Clerk fees)	% of household cars/vans/light-weight trucks with KCW pass (4.48M total vehicles)	% of total pax vehicles, light & recr. trucks, motorcycles & motorhomes with KCW pass (5.16M total vehicles)	Incremental Additional State Parks Vehicle-Trips per KCW Household	Incremental Additional State Parks Person-Visits per KCW Household (@2.3 ppl/vehicle)	Incremental Additional State Parks Person-Trips Attributable to KCW Sales (above FY20 baseline of 17M)	Total State Parks Visitation (using FY20 visitation as baseline)	Projected CO resident day pass revenue (for households NOT switching to KCW)	Projected dog off-leash revenue (assume grows in proportion to visitation; base \$508K FY21)	Projected out-of-state revenue (assume same as FY20 - 15% share of total)	Projected total pass/entry revenues
				KCW Purchase Rate for 2nd Vehicle	Total KCW Unit Sales (for 1st - 5th vehicles)											
\$14	94.3%	1,999,326	\$25,991,238	33.6%	2,503,040	\$32,539,519	55.9%	48.5%	3.21	7.38	14,761,071	31,827,571	\$540,836	\$948,311	\$3,400,515	\$37,429,180
\$15	93.5%	1,982,365	\$27,753,104	33.8%	2,485,309	\$34,794,322	55.5%	48.2%	3.21	7.38	14,635,845	31,702,345	\$540,836	\$944,580	\$3,400,515	\$39,680,253
\$16	92.6%	1,963,283	\$29,449,245	33.9%	2,463,326	\$36,949,896	55.0%	47.7%	3.21	7.38	14,494,965	31,561,465	\$540,836	\$940,382	\$3,400,515	\$41,831,629
\$17	91.6%	1,942,081	\$31,073,299	34.1%	2,440,268	\$39,044,283	54.5%	47.3%	3.21	7.38	14,338,432	31,404,932	\$540,836	\$935,718	\$3,400,515	\$43,921,352
\$18	90.5%	1,918,759	\$32,618,908	34.3%	2,414,527	\$41,046,954	53.9%	46.8%	3.21	7.38	14,166,246	31,232,746	\$540,836	\$930,588	\$3,400,515	\$45,918,893
\$19	89.3%	1,893,317	\$34,079,709	34.4%	2,384,555	\$42,921,988	53.2%	46.2%	3.21	7.38	13,978,406	31,044,906	\$540,836	\$924,991	\$3,400,515	\$47,788,330
\$20	88.0%	1,865,755	\$35,449,343	34.6%	2,353,441	\$44,715,372	52.5%	45.6%	3.21	7.38	13,774,913	30,841,413	\$540,836	\$918,928	\$3,400,515	\$49,575,651
\$21	86.6%	1,836,072	\$36,721,448	34.8%	2,319,619	\$46,392,381	51.8%	45.0%	3.21	7.38	13,555,767	30,622,267	\$540,836	\$912,399	\$3,400,515	\$51,246,130
\$22	85.0%	1,802,150	\$37,845,142	35.0%	2,280,445	\$47,889,345	50.9%	44.2%	3.21	7.38	13,305,314	30,371,814	\$540,836	\$904,936	\$3,400,515	\$52,735,632
\$23	83.4%	1,768,227	\$38,900,989	35.1%	2,239,722	\$49,273,883	50.0%	43.4%	3.21	7.38	13,054,861	30,121,361	\$540,836	\$897,474	\$3,400,515	\$54,112,708
\$24	81.7%	1,732,184	\$39,840,227	35.3%	2,197,746	\$50,548,159	49.0%	42.6%	3.21	7.38	12,788,754	29,855,254	\$540,836	\$889,545	\$3,400,515	\$55,379,055
\$25	79.8%	1,691,900	\$40,605,611	35.5%	2,150,385	\$51,609,245	48.0%	41.7%	3.21	7.38	12,491,341	29,557,841	\$540,836	\$880,684	\$3,400,515	\$56,431,280
\$26	77.8%	1,649,497	\$41,237,423	35.6%	2,098,891	\$52,472,263	46.8%	40.7%	3.21	7.38	12,178,275	29,244,775	\$540,836	\$871,356	\$3,400,515	\$57,284,969
\$27	75.8%	1,607,093	\$41,784,429	35.8%	2,048,687	\$53,265,849	45.7%	39.7%	3.21	7.38	11,865,209	28,931,709	\$540,836	\$862,028	\$3,400,515	\$58,069,228
\$28	73.6%	1,560,450	\$42,132,137	36.0%	1,993,065	\$53,812,761	44.5%	38.6%	3.21	7.38	11,520,836	28,587,336	\$540,836	\$851,767	\$3,400,515	\$58,605,879
\$29	71.3%	1,511,685	\$42,327,194	36.2%	1,934,663	\$54,170,560	43.2%	37.5%	3.21	7.38	11,160,810	28,227,310	\$540,836	\$841,040	\$3,400,515	\$58,952,951
\$30	69.0%	1,462,921	\$42,424,722	36.3%	1,874,875	\$54,371,367	41.8%	36.3%	3.21	7.38	10,800,784	27,867,284	\$540,836	\$830,313	\$3,400,515	\$59,143,031
\$31	66.6%	1,412,037	\$42,361,116	36.5%	1,813,581	\$54,407,415	40.5%	35.2%	3.21	7.38	10,425,105	27,491,605	\$540,836	\$819,120	\$3,400,515	\$59,167,886
\$32	64.1%	1,359,033	\$42,130,017	36.7%	1,749,486	\$54,234,067	39.0%	33.9%	3.21	7.38	10,033,772	27,100,272	\$540,836	\$807,460	\$3,400,515	\$58,982,878
\$33	61.5%	1,303,908	\$41,725,064	36.9%	1,682,582	\$53,842,639	37.5%	32.6%	3.21	7.38	9,626,786	26,693,286	\$540,836	\$795,334	\$3,400,515	\$58,579,324
\$34	58.9%	1,248,784	\$41,209,861	37.0%	1,614,420	\$53,275,856	36.0%	31.3%	3.21	7.38	9,219,800	26,286,300	\$540,836	\$783,207	\$3,400,515	\$58,000,414
\$35	56.2%	1,191,539	\$40,512,323	37.2%	1,544,583	\$52,515,828	34.5%	29.9%	3.21	7.38	8,797,160	25,863,660	\$540,836	\$770,615	\$3,400,515	\$57,227,794
\$36	53.5%	1,134,294	\$39,700,296	37.4%	1,474,590	\$51,610,645	32.9%	28.6%	3.21	7.38	8,374,521	25,441,021	\$540,836	\$758,022	\$3,400,515	\$56,310,017
\$37	50.8%	1,077,049	\$38,773,779	37.6%	1,404,440	\$50,559,835	31.3%	27.2%	3.21	7.38	7,951,882	25,018,382	\$540,836	\$745,429	\$3,400,515	\$55,246,615
\$38	48.1%	1,019,805	\$37,732,772	37.7%	1,333,180	\$49,327,647	29.7%	25.8%	3.21	7.38	7,529,242	24,595,742	\$540,836	\$732,837	\$3,400,515	\$54,001,834
\$39	45.4%	962,560	\$36,577,276	37.9%	1,262,755	\$47,984,685	28.2%	24.5%	3.21	7.38	7,106,603	24,173,103	\$540,836	\$720,244	\$3,400,515	\$52,646,280