



TRANSIT FEASIBILITY STUDY

Attachment C

Service Model Evaluation

March 23, 2020 DRAFT

Service Types Considered, Cost Estimates, & Feasibility

Service Model	Service Description	Needs/Opportunities Addressed	Pros	Cons	Other Considerations	Cost	Feasibility
Light Rail Transit	Train service that runs on a regular schedule and connects to the regional transit network	<ul style="list-style-type: none">Provides Regional ConnectionsServes Vulnerable PopulationsEnhances Economic SustainabilitySupports Population Growth	<ul style="list-style-type: none">Connects to regional transit systemProvides modal choice for commutersProvides an option for entry level workers to get to Castle Rock	<ul style="list-style-type: none">Very high cost to build (\$100M/mile)Very high cost to operate (\$300+/revenue hour)Limited geographic coverageNot a short-term solution as Castle Rock is not currently a part of RTD	<ul style="list-style-type: none">Potential for Castle Rock to be served by Front Range RailFuture Bustang stop will help support regional connectivity	\$ \$ \$ \$	
Fixed-Route Regional Buses	Buses that travel on a regular route at scheduled times, and provides access to destinations on a regional scale	<ul style="list-style-type: none">Provides Regional ConnectionsServes Vulnerable PopulationsEnhances Economic SustainabilitySupports Population Growth	<ul style="list-style-type: none">Connects to regional transit systemProvides modal choice for commutersProvides an option for entry level workers to get to Castle Rock	<ul style="list-style-type: none">High cost to operate (\$200+/revenue hour)Standard diesel 40' bus - \$450,000 each, electric 40' bus - \$900,000 eachLimited geographic coverageHigh cost limits frequency and span of service	<ul style="list-style-type: none">Potential for Castle Rock to be served by Front Range RailFuture Bustang stop will help support regional connectivity	\$ \$ \$	
Fixed-Route Local Buses	Buses that travel on a regular route at scheduled times, and provide access to destinations on a local scale	<ul style="list-style-type: none">Serves Vulnerable PopulationsEnhances Economic SustainabilitySupports Population Growth	<ul style="list-style-type: none">Provides access to local jobs/destinationsProvides modal choice for residentsPotential to connect major activity centers; support downtown events	<ul style="list-style-type: none">Cost to operate ~\$125+/revenue hourStandard diesel 40' bus - \$450,000 each, electric 40' bus - \$900,000 eachCost limits span of serviceLimited geographic coverageRequires two-way operations to make travel times feasible	<ul style="list-style-type: none">Potential to provide regional connections when Bustang begins serving Castle RockFixed route service limits flexibility to serve more of Castle Rock	\$ \$ \$	
Circulator	Runs on a fixed route between key destinations; can be a public-private partnership funded partially by large employers or retail destinations or publicly funded	<ul style="list-style-type: none">Serves Vulnerable PopulationsEnhances Economic SustainabilitySupports Population Growth	<ul style="list-style-type: none">Provides access to local jobs/destinationsProvides modal choice for residentsPotential to connect major activity centers; support downtown eventsLower capital costs; standard body-on-chassis vehicle (similar to CATCO) ~\$80,000 each	<ul style="list-style-type: none">Cost to operate ~\$75-\$125/revenue hourLimited geographic coverageRequires two-way operations to make travel times feasible	<ul style="list-style-type: none">Potential to provide regional connections when Bustang begins serving Castle RockFixed route service limits flexibility to serve more of Castle Rock	\$ \$	
Point-to-Point On-Demand Service	On-demand transportation that connects riders between any two points within a defined service and/or geofenced area	<ul style="list-style-type: none">Serves Vulnerable Populations	<ul style="list-style-type: none">On-demand service model in place through existing Taxi Voucher program and Senior Center ShuttleNo or limited capital investment costOpportunity to look at partnerships with existing ride hailing services (e.g., Uber and Lyft)	<ul style="list-style-type: none">Current Taxi Voucher program and Senior Center Shuttle limited to certain populationsWould need to consider viability of providing service to general public	<ul style="list-style-type: none">Operational model in place (Taxi Voucher program and Senior Center Shuttle)Scalable based on funding, demand, and driver availabilityPotential to provide regional connections when Bustang begins serving Castle Rock	\$	

Service Model	Service Description	Needs/Opportunities Addressed	Pros	Cons	Other Considerations	Cost	Feasibility
			<ul style="list-style-type: none">Provides lifeline/quality of life support to vulnerable populationsService could be expanded to provide trips to general publicScalable based on funding availability				
First/Last Mile Service (Service to RidgeGate)	On-demand/flex transportation where one end of the trip must be a transit stop/station	<ul style="list-style-type: none">Serves Vulnerable PopulationsEnhances Economic SustainabilitySupports Population Growth	<ul style="list-style-type: none">Private sector models/partnerships availableScalable based on demandIf deploying service in partnership with private sector, no capital investment requiredProvides connections to regional transit systemProvides modal choice for commutersProvides an option for entry level workers to get to Castle RockPotential to provide more frequent service	<ul style="list-style-type: none">Private sector service models still being proven	<ul style="list-style-type: none">Town staff in conversation with Via to learn more about microtransit operations and deploymentOpportunity for a regional microtransit service option in partnership with other public agenciesPotential to parter with other public agencies	\$ \$	
Microtransit (Local)	Transit service that offers flexible routing and scheduling but generally shared and not fully door to door (requires users to walk short distances to virtual bus stops); generally mid-size vehicles; hybrid between fixed route and on-demand transportation	<ul style="list-style-type: none">Serves Vulnerable PopulationsEnhances Economic SustainabilitySupports Population Growth	<ul style="list-style-type: none">Private sector models/partnerships availableScalable based on demandIf deploying service in partnership with private sector, no capital investment requiredProvides modal choice for residentsProvides access to local jobsOpportunity to augment existing Taxi Voucher program to support travel needs of vulnerable populationsPotential to provide more geogrpahic coveragen and service frequency	<ul style="list-style-type: none">Private sector service models still being proven	<ul style="list-style-type: none">Town staff in conversation with Via to learn more about microtransit operations and deploymentPotential to provide regional connections for vulnerable populations when Bustang begins serving Castle RockPotential to parter with other public agencies	\$ \$	
Vanpool	A formal carpool arrangement (coordinated by an employer or regional program) that pairs 4 to 15 riders with similar origins and destinations; Organizational structure varies- publicly operated, private non-profit, or public-private partnerships	<ul style="list-style-type: none">Provides Regional Connectivity, Supports Population Growth	N/A - See “Other Considerations”	N/A - See “Other Considerations”	<ul style="list-style-type: none">Vanpool program in place through DRCOG’s Way to Go programOpportunity to market existing program to Castle Rock residents and/or utilize future Park-n-Rides to support vanpoolsOpportunity for partnerships with private sector to get employees to Castle Rock	\$	
Carpool	The informal or formal pairing of riders with similar origins/destinations	<ul style="list-style-type: none">Provides Regional Connections, Supports Population Growth	N/A - See “Other Considerations”	N/A - See “Other Considerations”	<ul style="list-style-type: none">Capitalize on DRCOG’s existing programNo need for further evaluation	\$	

Legend							
\$	Less than \$75 per revenue hour*	\$ \$	\$75-125 per revenue hour*	\$ \$ \$	\$125-225 per revenue hour*	\$ \$ \$ \$	More than \$225 per revenue hour*
	Low Feasibility		Medium Feasibility		High Feasibility	Service models recommended for further evaluation and analysis	

*Average operating costs per revenue service hour: the average cost for one vehicle to supply transportation services for one hour.



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Next Steps

Based on the evaluation of potential transit operational models for Castle Rock, the project team recommends that three of the service types that ranked with high or medium feasibility move forward for further evaluation. By conducting further analysis and evaluation of multiple service models, the Town will have a menu of options to inform preferred service alternatives and how they align with community values. A single preferred alternative may not be appropriate for Castle Rock; the Town may consider a phased implementation strategy comprised of multiple operational models to meet community needs over time.

Recommended Operational Models for Further Analysis

1. Point-to-Point On-Demand Service
 - a. Enhanced Taxi Voucher program, ridehail service provider partnerships, partnerships with local specialized service providers
2. Microtransit
 - a. General public on-demand transportation with flexible routing and scheduling
 - b. Local service in the Town of Castle Rock
3. First/Last Mile Service
 - a. Commuter shuttle and/or microtransit service to RidgeGate