

City of Bozeman, Montana
Downtown Strategic Parking Management Plan

PROJECT SUMMARY AND RECOMMENDATIONS FOR PARKING MANAGEMENT

FINAL REPORT
July 5 2016 (v5)



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EXECUTIVE SUMMARY

Rick Williams Consulting was retained by the City of Bozeman to conduct an overall evaluation of the downtown parking system and develop a comprehensive Strategic Parking Management Plan. The evaluation entailed review of existing parking operations and assets, previous study findings, and municipal code; in-depth discussions and three topic-specific work sessions with the Bozeman Parking Commission (BPC); and six public forums to allow for community input and discussion. From this process, the consultant developed a comprehensive parking management plan that responds to the unique environment, goals, and objectives of Downtown Bozeman. The plan and its development process are detailed in this report beginning on page 4.

A. POLICY AND ORGANIZATIONAL ACTION STRATEGIES

Incorporating parking system management into the City's development policy ensures that the goals of the Parking Management Plan can be met. It is recommended that these strategies be implemented within six months of plan adoption.

1. Formalize the Guiding Principles as policies within the parking and transportation system plan.
2. Adopt the 85% Rule as the standard for measuring performance of the parking supply and triggering specific management strategies and rate ranges.
3. Strengthen the role of the Parking Manager and the Parking Services division to better integrate with Community and Economic development planning.
4. Establish a policy for adjusting rates (on and off-street).
5. Establish a Capital Maintenance Reserve Fund.

B. CODE-RELATED ACTION STRATEGIES

These strategies revise the municipal code to support long-term planning and efforts to "right-size" parking in new development. It is recommended that they be implemented within one year of plan adoption.

6. Re-evaluate and restructure the current "cash-in-lieu" program (38.25.040 A. 3. B 1 -4, BMC).
7. Re-evaluate code-based minimum parking requirements (See 38.25.040 A.2. a & b, BMC).
8. Re-evaluate and clarify the purpose and intent of the current code section regarding Special Improvement District (SID) No. 565. (38.25.040.A.3.b.(4), BMC).

B. RECOMMENDED PARKING MANAGEMENT STRATEGIES: PHASE 1

These strategies should be implemented within 18-24 months of plan adoption.

9. Implement a facilities maintenance plan.

10. Develop a schedule of data collection to assess performance of the downtown parking supply, including on- and off-street inventory (public and private supply) and occupancy/utilization analysis.
11. Identify off-street shared-use opportunities based on data from Strategy 9. Establish goals for transitioning employees, begin outreach to opportunity sites, negotiate agreements, and assign employees to facilities.
12. Complete the 2008 Parking District Identification Signage/Branding Plan.
13. Clarify current on-street parking signage, particularly in areas where unlimited parking is allowed. Consider incorporating the current City parking logo into on-street signage.
14. Rename all publicly owned lots and garages by address.
15. Upgrade the access/revenue control system at the Bridger Garage.
16. Install a vehicle counter system at Bridger Garage and at the Armory, Carnegie, Eagles, and Willson lots.
17. Establish best-practice protocols and performance metrics for existing enforcement personnel and support enforcement with appropriate technology.
18. Expand bike parking network to create connections between parking and the downtown to encourage employee bike commute trips and draw customers to downtown businesses.
19. Explore changes to existing residential on-street permit programs and evaluate and potentially implement new residential parking permit districts in the neighborhood north and south of the downtown commercial district.
20. Evaluate on-street pricing in high-occupancy areas.

C. RECOMMENDED PARKING MANAGEMENT STRATEGIES: PHASE 2

It is anticipated that Phase 2 will take place between January 2018 and June 2020. These strategies build upon and are facilitated by work completed in Phase 1. Phase 2 focuses on data, capacity management and growth, communications, and identification of funding.

21. Explore expanding access capacity with new parking supply and/or transit.
 - A - Identify possible new garage sites.
 - B - Explore shuttle/circulator connections.
22. Develop cost forecasts for preferred parking supply and shuttle options.
23. Explore and develop funding options.
24. Explore the implementation of on-street pricing.
 - A - Develop a marketing/communications and new system roll out plan.
 - B - Begin on-street paid parking if feasible and appropriate.

25. Consider consolidating current users of the Carnegie Lot into the Bridger Garage. Sell the Carnegie Lot to fund acquisition of better-located parking parcels and/or construction of a parking garage.
26. Initiate new capacity expansion.

The City and BPC may elect to reorder, accelerate, or moderate strategies depending on community support and consensus, opportunity, and/or funding. All strategies will require consistent and dedicated management with active participation by the private sector.

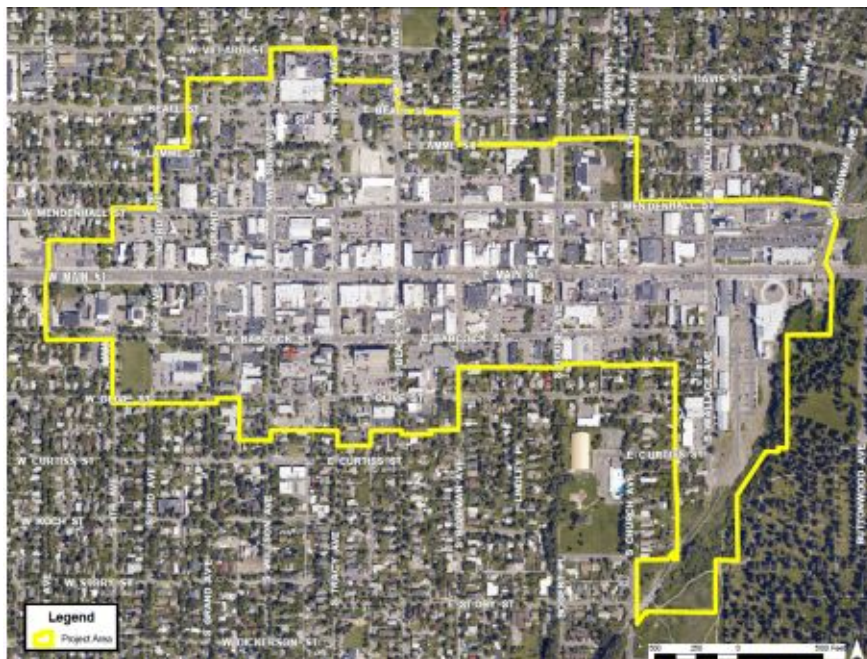
Estimated implementation timelines and cost estimates, where available, are detailed for each strategy recommendation in Section V beginning on page 10.

CITY OF BOZEMAN: DOWNTOWN STRATEGIC PARKING MANAGEMENT PLAN

I. BACKGROUND

In 2010, 2012, and 2014, the City of Bozeman commissioned studies to evaluate parking in its downtown. These studies were conducted by Montana State University, and analyzed usage and occupancy in sample areas on-street and in publicly owned facilities. The studies provided a quantitative view of parking conditions, but did not provide specific recommendations for better managing parking.

Figure A
Parking Study Area Boundary



The City subsequently determined that developing a more targeted and comprehensive parking plan for the downtown core would be beneficial, both as a guide to daily management and as a template for future decision-making. To this end, the City engaged Rick Williams Consulting to work with the Bozeman Parking Commission (BPC) to compile a simple and effective set of operating guidelines for management of the City's downtown parking supply.

II. THE ROLE OF PARKING MANAGEMENT IN DOWNTOWN

Discussions with the BPC and public meetings elicited a broad range of desired outcomes for parking management. To summarize, parking management in Bozeman should:

- Support a vital, active, and interesting downtown.
- Get the right parker to the right stall (customers, employees, residents).

- Ensure convenient, affordable, and readily available parking.
- Ensure that the needs of priority users are met.
- Ensure reasonable and safe parking for employees.
- Communicate a clear sense of movement to parking options.
- Provide for an integrated system on- and off-street.
- Allow integration with alternative modes.
- Anticipate and respond to increasing demand for access to the downtown.
- Demonstrate parking as an asset (with a true value) to the City and treat it as such.
- Leverage parking revenues to support maintenance and growth of the system.
- Minimize spillover into abutting neighborhoods and determine ways to mitigate negative impacts.
- Ensure that the parking system is financially sustainable, accommodates future growth, and supports a vital business environment.

Parking is just one tool in a downtown's economic development toolbox, and must be managed to ensure an effective, efficient system of access that caters to the needs of priority users. The BPC concluded that the objective of parking management in downtown should be:

To support the development of a vibrant, growing, and attractive destination for shopping, entertainment, recreation, living, and working. The components of this plan need to be simple and intuitive for the user, providing an understandable system that is affordable, safe, secure, financially sound and well-integrated into alternative mode options.

III. PLAN ORGANIZATION

The strategies outlined below are intended to spark discussion between the City of Bozeman and downtown stakeholders on policies and actions that will support a vital and growing downtown.

The plan begins with a set of Guiding Principles, developed by the BPC and designed to serve as a framework for decision-making.

This is followed by recommended parking management strategies, presented as a series of steps intended to follow a logical progression, with each action providing the groundwork necessary for subsequent actions. Steps are divided into policy actions and operations, and further categorized as specific action strategies intended to be carried out in two phases ranging from immediate to long-term (see Section V and Appendix A).

As the City and its partners consider these strategies, discussion of the “who, what, and how” of implementation will be essential, and it may be determined that strategies should be reordered or implemented concurrently. Such refinements will be based on opportunities and challenges that arise,

momentum, resource identification, and broader community input. The plan presented here is a new approach to parking in downtown Bozeman, and changes can be expected.

IV. GUIDING PRINCIPLES

The Guiding Principles encourage the use of parking resources to support economic development goals and to effectively serve the diversity of customers and visitors using the downtown. The key outcome for parking management in Bozeman is a *financially viable public parking system* overseen by the BPC. This is the primary Guiding Principle, and those that follow summarize priorities in a number of parking element areas that support this overarching goal.



Together these Principles establish a basis for consensus and provide near - and long-term direction for parking management in the downtown. Note that some Principles reinforce current programs and services.

A. Financial Viability

All parking operations must be financially sustainable.

Revenue from parking should cover the cost of operations and provide a reasonable surplus to ensure the highest quality product, which includes customer convenience, system maintenance, safety and service delivery. This will require multiple revenue sources, which can include leases, enforcement fees, hourly rates and other user fees, urban renewal funds, and partnerships with the private sector.

1. CITY ROLE AND COORDINATION

The City's role in parking is to:

- a) **Accommodate customers and visitors downtown and residents and guests in neighborhoods. Employee parking should be led by the private sector and through partnerships where the City can reasonably participate (financially or programmatically).**

The cost of providing parking, especially off-street, is very high, and the City cannot be responsible for providing it to all users. Customer/visitor access to the downtown and resident/guest access to neighborhoods should form the base of the City's parking program, while employee parking should be the responsibility of the private sector. The City can best manage and plan for employee parking through strong partnerships with the private sector.

- b) Centralize management of public parking to ensure optimal use of its supply. This will be led by the Bozeman Parking Commission and managed within the Parking Services Division.**

Focused, coordinated, and strategic attention to daily management of the parking supply should be implemented through a Parking Services Division, led by an adequately supported Parking Manager.

- c) Ensure that a representative body of affected private and public constituents routinely informs decision-making.**

Active participation by those affected guarantees an understanding of and consensus on parking management. This is accomplished through the BPC, which reviews performance, serves as a sounding board for issues, and acts as a liaison to the broader stakeholder community.

- d) Coordinate parking in a manner that supports the unique character of emerging downtown districts and neighborhoods. Manage parking to best support the Unified Development Code (UDC) zoning designation.**

Parking in commercial zones should be prioritized for visitors and employees. Parking in residential zones should be prioritized for residents and their guests.

2. PRIORITY USERS

- a) Preserve the most convenient on-street parking for priority users; the short-term trip (downtown) and residents/guests (neighborhoods).**

The on-street parking system must be formatted to ensure turnover and minimize conflicts between priority and other users. The City will use UDC zoning designations in parking districts to support reasonably defined priority users. For the most part, employees should not park on-street.

3. ACTIVE CAPACITY MANAGEMENT

- a) Use the 85% Rule as a parking occupancy standard to inform and guide decision-making.**

The *85% Rule* is an operating principle for coordinating parking supply. When the parking supply is routinely occupied at 85% or greater during peak periods, more *intensive and aggressive* management strategies are called for to assist priority customers in finding available parking. This “85% Rule” will inform decisions regarding time stays, enforcement, and other issues related to capacity management.

- b) Supplies in excess of the 85% Occupancy Standard will require best-practice strategies to minimize parking constraints.**

Strategies identified in the Downtown *Comprehensive Parking Plan* will be triggered by the 85% Rule. The City and the BPC are committed to moving forward with recommended strategies when demand requires them. Changes to the status quo can be difficult, but continued constraints will adversely impact the downtown's success and ability to absorb growth.

- c) Encourage shared parking in areas where parking is underutilized. This will require an active partnership with owners of private parking supplies.**

Numerous parking facilities in downtown are underutilized. Shared-use agreements between the public and private sectors can divert excess demand to these facilities to maximize existing resources. Parking data collected by the City should include capacity assessments of private facilities.

- d) Create capacity through strategic management of existing supply (public and private), reasonable enforcement, integrating parking with alternative modes, and new supply.**

Active effort must be made to manage the parking system on a daily basis. This will require partnerships with the private sector to leverage existing off-street supply and support the development of alternative modes. New parking supply may become necessary when other options are maximized.

4. INFORMATION SYSTEMS

Supply-based

- a) Implement performance measurements and reporting to inform decision-making.**

Routine and objective measurement and reporting ensures informed decision-making. Key metrics include occupancy, turnover, average duration of stay, and rate of violation. Performance monitoring also provides a basis for evaluating program effectiveness.

Customer-based

- a) Provide an "access product" that is of the highest quality to create a safe and positive customer experience.**

On-street parking should be managed and enforced to ensure an intuitive, reasonable sense of allowed time stays. Off-street facilities (surface and structured) should be of uniform

quality and identity to create a sense of safety, convenience, understandability, and coordination with the pedestrian environment.

b) Improve existing, and create new, information resources for use by the public and private sectors (e.g., outreach, education, maps, websites, etc.).

High-quality marketing materials for print and web should be integrated into a comprehensive package of services to inform the parking public. A clear schedule should be maintained for the dissemination of information; this could be coordinated through a partnership between the City and the Downtown Bozeman Partnership.

c) Expand the existing way finding system that links parking assets and provides directional guidance, preferably under a common brand/logo.

Parking resources should be clearly identified and explained through branding and signage. A common brand unifies marketing materials, signage, and other communications simplifies customer recognition and use of the system.

5. INTEGRATION WITH OTHER MODES

a) Encourage increased use of alternative modes, particularly by employees to free up parking capacity.

Every parking stall occupied by an employee means a lower rate of turnover and reduced access for customers and visitors. Employees should be given reasonable access to parking, but encouraged to use alternative modes, including walking, biking, transit, and ridesharing. A strong system of alternative modes also becomes an option for residents, visitors, and customers.

b) Increase bike parking (on and off-street) to enhance the broader bicycle network.

Bozeman's bike parking network should be as effectively formatted as the auto parking system. On- and off-street parking facilities for bicyclists are efficient and low-cost.

c) Explore remote parking locations and transit/bike connections to minimize the need for new parking structures.

Scenarios for new parking supply should include remote locations connected by transit and bike networks. Such options may be more cost-effective than structured parking and/or may be necessitated by land constraints in the downtown.

6. PLANNING FOR FUTURE SUPPLY

- a) **Ensure that the City is ready to respond to growth, and recognize that funding will require a varied package of resources and partnerships.**

The City must plan for growth of its parking supply and initiate long-term planning efforts to assemble the necessary funding and partnerships.

V. RECOMMENDED DOWNTOWN PARKING MANAGEMENT STRATEGIES

From discussions with the City and stakeholders, specific parking management strategies have been identified and are recommended for implementation. They are informed by evaluation of current policies and practices, stakeholder outreach, discussions with the BPC, analysis of the Montana State University studies, and the consultants' experience with industry best practices.

Recommendations include several Action Strategies for the first 18 months of implementation (Phase 1). The timing outlined here assumes that Phase 1 work will *formally* begin in January 2017 and run through June 2018. However, some work with the BPC, led by the Parking Manager, should precede Phase 1 from July through December 2016. Phase 2 would begin in July 2018, concluding in January 2020. *Any and all strategies can be implemented on an accelerated schedule or be reordered based on opportunity and resources.*

They are organized as follows:

- Policy and Organizational Action Strategies: Immediate
- Code-Related Action Strategies: Phase 1
- Recommended Parking Management Strategies: Phase 1
- Recommended Parking Management Strategies: Phase 2

A summary of all recommended strategies is attached as an Implementation Schedule at the end of this report (Appendix A).

A. Policy and Organizational Action Strategies

These strategies incorporate parking management into the City's development policy. It is recommended that they be adopted and implemented in the very near term.

STRATEGY 1:

Formalize the Guiding Principles as policies within the parking and transportation system plan.

Implementation Timeline: Immediate to Near-Term (by December 2016)

Incorporating these principles into City policy ensures that parking management goals established in this plan can be met. This will require actions by the City Commission.

Estimated Costs (STRATEGY 1):

It is estimated that costs associated with this strategy would be minimal and mostly expended in efforts of existing staff to develop resolutions and ordinances through routine city planning processes.

STRATEGY 2:

Adopt the 85% Rule as the standard for measuring performance of the parking supply and triggering specific management strategies and rate ranges.

Implementation Timeline: Immediate to Near-Term (by December 2016)

When occupancy rates during the peak hour routinely reach or exceed 85%, the 85% Rule requires that additional strategies be implemented to reduce constraints.

Previous studies revealed that existing occupancies in some areas often exceed 85% for significant periods of the day. Having the 85% Rule formalized in policy will assure that a process for evaluating and appropriately responding to parking activity is in place.

Estimated Costs (STRATEGY 2):

It is estimated that costs associated with this strategy would be minimal and mostly expended in efforts of existing staff to develop resolutions and ordinances through routine city planning processes.

STRATEGY 3:

Strengthen the role of the Parking Manager and the Parking Services division to better integrate with Community and Economic Development planning.

Implementation Timeline: Immediate to Near-Term (by December 2016)

It appears that the Parking Services Division currently focuses on operations and enforcement, and those decisions related to parking in Community and Economic Development planning are made without strong early input from the Parking Services Division.

It is imperative that Parking Services be integrally involved in long-term strategic and capital planning for parking, including code and development requirements, the cash-in-lieu program, and development agreements related to parking. This allows for a more seamless integration of existing parking systems, revenues and financing into planning for growth within the system. This also ensures that parking agreements that may be elements of new land use developments support the Guiding Principles for Parking (Strategy 1) and complement the existing parking system operationally and financially.

From a strategic management point of view, there needs to be a clear single point of responsibility for administration of facilities, oversight of third-party vendors, financial accounting and reporting, marketing/communications and customer service. The Parking Manager, representing the BPC and Parking Services Division, should be integrated into all levels of decision-making related to parking at the earliest points of planning.

Estimated Costs (STRATEGY 3):

At the outset, it is estimated that costs associated with this strategy would be minimal and mostly expended in efforts of existing staff to develop decision-making protocols and clearer communication among affected City departments and divisions. Over time, without other efficiency improvements recommended in this plan (e.g., technology and equipment upgrades), additional supporting staff within the Parking Division may need to be added to off-load portions of day-to-day tasks that currently consume an inordinate amount of the Parking Manager's time and energy. These costs are unknown at this time and would be influenced by success within other strategy recommendations of the Plan.

STRATEGY 4:

Establish a policy for adjusting rates (on and off-street).

Implementation Timeline: Immediate to Near-Term (by December 2016)

Understandably, adjusting parking rates is a controversial topic among downtown stakeholders. However, if rates are not routinely reviewed and adjusted within the context of a clear, fair, and objective policy framework, fiscal challenges or occupancy patterns may necessitate substantial increases that are seen as reactive rather than strategic.

Though Bozeman does not yet charge for on-street parking, pricing is in place at publicly owned off-street facilities, and a rate policy should be developed for these lots. It would also be prudent to establish a strategic approach to pricing on-street parking, so the City is prepared when that becomes appropriate (see Strategies 20 and 24).

Best practices indicate that parking rates be adjusted periodically to:

- Cover normal increases in operating costs.
- Reflect market demand.
- Ensure efficient use of parking supply.
- Provide for future growth as part of a comprehensive funding strategy (see Strategy 23). This includes normal capital planning and projected growth in the system.
- Consider rates in comparable cities.

Bozeman should establish formal systems within the municipal code that provide a basis for rate setting in both the on and off-street systems. What is lacking in most jurisdictions is a *routine commitment* to

objectively evaluating rates at all levels (i.e., including enforcement fines and fees) based on a set standard of performance metrics.

It is recommended that the City, through the Parking Division:

- A. Immediately adjust current rates (garage leases, lot leases, citations and residential permits) to address existing revenue short-falls. Actual rate changes can be calibrated to current estimated revenue/expense deficits spread across all user categories.
- B. Adopt performance metrics for rate review and adjustments into a formal operations policy. Best practices indicate two levels of analysis for determining adjustments. First:
 1. The *true cost* of ideal operations, including supplies, operating fees, maintenance, and support, as well as the reasonable cost of financing debt. Cost recovery would be the base hourly rate plus annual/bi-annual adjustments to cover the costs of inflation within operating cost expenses.

The second level that would substantiate decisions to adjust rates would include:

2. Sustained *occupancies* in excess of 85%.
 3. Consistency with *comparable cities*.
- C. *Annually* review and adjust rates for publicly owned *off-street parking* in accordance with established performance metrics, with particular emphasis on ensuring consistency with documented variations in normal operating costs. Rates could vary upward or downward based on occupancy/demand differences.
 - D. *Biannually* review and adjust rates for publicly owned *on-street parking* in accordance with adopted performance metrics.
 - E. Develop a set of comparable cities and routinely track their rate performance over time for on-street, off-street and enforcement.
 - F. Integrate routine assessments of occupancy performance into both annual and biannual rate evaluations (see Strategy 10).

Overall, it is essential that rate adjustment be viewed as a standard operating procedure within the overall parking management system; one that is data-based designed to support the fiscal health of the parking system, and not politicized.

Estimated Costs (STRATEGY 4):

It is estimated that costs associated with this strategy would be minimal and mostly expended in efforts of existing staff to develop resolutions and ordinances through routine city planning processes. Overall,

this Strategy would assure that the financial viability of the system is maintained, reducing overall costs to the City as revenue would be, at minimum, equal to expenses.

STRATEGY 5:

Establish a Capital Maintenance Reserve Fund

Implementation Timeline: Immediate to Near-Term (by December 2016)

Parking systems deteriorate over time. Best practices call for development of a strategic capital facilities plan and establishment of a capital maintenance reserve to assure that funding is in place as systems need replacement.

The Parking Division has a maintenance plan that was developed for the parking system in 2010. The plan should be reevaluated and/or revised within the context of a more consistent funding base (see below). A more strategic capital facilities plan would forecast anticipated capital maintenance and equipment needs based on normal life cycles of elevators, lighting, gates and revenue collection equipment, waterproofing, painting, etc. This plan would be supported through a capital maintenance reserve that would be provided as a rolling expense within the parking fund.

Successful parking systems allocate between 3% and 7% of gross parking revenues to a capital maintenance reserve. The lower number generally applies to newer facilities, the higher number to older buildings and systems. An established capital maintenance fund places the system's owner in a position to respond to capital maintenance issues over time rather than reactively. This is especially important for municipal systems, as "unanticipated maintenance issues" are often deferred for lack of public funds; either parking or general fund. Capital maintenance reserves are common to private parking systems and real estate management in general.

To support this recommendation, the City should:

1. Immediately establish a replacement reserve within the parking fund that allocates 3%-5% of gross parking revenue to both on- and off-street parking programs. Adjust if necessary when capital maintenance planning is complete.
2. Initiate a five-year capital maintenance plan analysis and quantify ongoing capital maintenance needs and new technology systems for the City's *off-street* parking system.
3. Initiate a five-year capital maintenance plan analysis and quantify on-going capital maintenance needs and new technology systems for the City's *on-street* parking system.

Estimated Costs (STRATEGY 5):

It is estimated that there would be minimal costs associated with establishing the protocol and accounting necessary to create the maintenance reserve fund. The City may wish to consider engaging a

third-party facilities professional to assess current assets and capital maintenance needs if internal staff capacity is not available. A third-party analysis of the parking system could range from \$20,000 to \$25,000.

B. Code-Related Action Strategies

STRATEGY 6

Re-evaluate and restructure the current cash-in-lieu program (38.25.040 A. 3. B 1 -4, BMC).

Implementation Timeline: Near-Term (by June 2017)

Growth in parking demand is becoming an issue in Bozeman. Increased traffic related to new development and visitors attracted to the City's vibrant downtown may create constraints in the existing parking supply. Surface parking lots will become attractive development sites, resulting in potential loss of parking as new development and redevelopment projects progress. The cost to developers of providing parking, especially structured parking, can adversely impact the financial feasibility of new development. As downtown redevelops, the City must find the right balance between its role and the role of the private sector in financing and building parking to support new growth.

The intent and purpose of a cash-in-lieu program allows developers to buy out of a requirement to provide a minimum number of parking stalls for a project, reducing their costs. Cash-in-lieu fees are used to support development of future public parking facilities. The City of Bozeman offers a cash-in-lieu option for new projects within the B-3 District (38.25.040 A. 3. B 1 -4) at a rate of \$5,000 per stall.

Necessarily, implementing and managing a cash or fee-in-lieu program commits the City to playing a key role in developing and managing parking in the future. This entails active planning for future parking and initiation of strategies for identifying additional sources of funding to supplement and leverage funds derived from cash-in-lieu. As such, consensus on the role of the City in developing new parking is critical to any discussion of current cash-in-lieu for Bozeman.

However, the current structure, format, and fee schedule of the cash-in-lieu program need to be re-evaluated if it is to be of consequence for future parking development. The consultant held discussions with the BPC regarding the purpose of and expectations for 38.25.040 A. 3. B 1 -4, BMC, but due to time constraints and scope limitations, no firm conclusions were drawn. A resource white paper was developed for the BPC that outlines a decision-making framework for restructuring or refining Section 38.25.040 A. 3. B 1 -4 of the development code. That memorandum is included in this report as **Appendix B.**

It is recommended that the City engage the BPC, Parking Services, Community Development, and Economic Development to re-evaluate the current cash-in-lieu provision in the Bozeman Municipal Code and determine its role in parking planning and development. Consensus on the cash-in-lieu program will

facilitate additional discussions on long-term capital funding outlined in Strategy 23, below. A consensus recommendation should be developed for City Commission action to revise the current code.

Estimated Costs (STRATEGY 6):

Costs associated with this strategy are unknown at this time, but are mostly anticipated to require staff time for scheduling work sessions that include multiple city agencies (Parking Services, Community Development, Economic Development, BPC, etc.).

STRATEGY 7:

Re-evaluate code-based parking minimum requirements (38.25.040 A.2. a & b, BMC).

Implementation Timeline: Near-Term (by June 2017)

Current code outlines a range of minimum parking requirements for specific land uses. The consultant's initial review indicates that the requirements are very high when compared to other cities, and not calibrated to multi-modal goals. For example, the current minimum requirement for restaurants is 16.6 stalls per 1,000 SF of interior space, while office starts with a minimum of 4 stalls per 1,000 SF and retail 3.3 stalls per 1,000 SF. Though provisions in the code allow for reductions in minimum requirements, the starting point may be too high, particularly in relation to goals for compact urban form, multi-modalism, and development costs. Minimums that are not "right-sized" force developers to over-build, and drive down cash-in-lieu fees. The Bozeman parking code should be re-evaluated to right size-minimums and simplify implementation. This can be facilitated through the data collection described in Strategy 10 below.

Estimated Costs (STRATEGY 7):

Costs associated with this strategy are unknown at this time, but are mostly anticipated to require staff time for scheduling work sessions that include multiple city agencies (Parking Services, Community Development, Economic Development, BPC, etc.).

STRATEGY 8:

Re-evaluate and clarify the purpose and intent of the current code section regarding Special Improvement District (SID) No. 565. (38.25.040.A.3.b.(4), BMC).

Implementation Timeline: Near-Term (by June 2017)

Input received by the consultant from both staff and public forums indicates that there is a great deal of misunderstanding of the continued applicability of this section of the parking code. There is lack of clarity and/or agreement as to:

- Perceived entitlements to parking in City supply by some in the public whose properties may have paid into the original SID.
- Assumed restrictions on how the City can operate or develop current City owned surface lots.
- Reductions against parking requirements.

These uncertainties may exist because SID No. 565 was originally established in 1978 and neither assessment for the SID nor payment of assessments has been made since at least 1999. Quite literally, the SID may be expired or “sunset.”

The City should:

- a. Initiate a legal review of 38.25.040.A.3.b.(4), BMC to garner an objective ruling as to the continued applicability of SID No. 565 for current and/or future parking operations or decision-making related to current parking assets.
- b. Make appropriate revisions to this section of the code as determined in A. This could include clarifying revisions or removal of this provision from the code.

Estimated Costs (STRATEGY 8):

Costs associated with this strategy are unknown at this time, but are mostly anticipated to require internal legal review (City Attorney) and staff time for scheduling work sessions that include multiple city agencies (Parking Services, Community Development, Economic Development, BPC, public forums/notification, etc.).

C. Recommended Parking Management Strategies: Phase 1

These strategies should be implemented within 18 to 24 months of plan adoption.

STRATEGY 9

Implement a facilities maintenance plan.

Implementation Timeline: Immediate to Near-Term (by December 2016)

Public parking facilities should be held to the highest standard of quality, both as a reflection of the City of Bozeman and as an example of industry best practices. Public lots and garages should have janitorial and maintenance guidelines that are clear, measurable, and results-oriented.

Whether maintenance is provided by the City or through third-party contracts, best practice standards should be met. Many of these standards are no different for a parking garage than they would be for

City Hall or any other municipal building.¹ However, unlike a standard office or retail building, a parking facility is subjected to more severe environmental and use conditions than most other buildings. This is especially true in Bozeman.

Anticipating and providing for necessary maintenance and repair for any facility is an essential step (and best practice) in realizing a desired service life and maximizing the attractiveness of the site as a place to park.

Key Elements of Parking Facility Maintenance

Key elements of comprehensive best-practice maintenance programs include:

1. **Routine Maintenance**, including periodic and corrective tasks, operational tasks, and safety checks required for effective day-to-day operation.
2. **Preventative Maintenance**, performed as needed to avoid future repairs and protect capital investment. Most systems inherent to garages come with manufacturers' specifications, which provide detailed information on such needs; against which maintenance programs can be developed.
3. **Repairs and Replacement Maintenance** to repair elements when possible or economical, or replace them when they have reached the end of their service lives.
4. **Rehabilitation and restoration**, often required before a comprehensive maintenance program can begin.
5. **Proactive Management** to oversee, measure, and report on schedules and procedures. Too many cities either do not have maintenance schedules or contract out such schedules to the private sector with little to no oversight to ensure compliance with adopted schedules.
6. **Financial Planning** to provide between 3% and 7% of gross parking revenue to a repair and maintenance reserve (see Strategy 5). Few cities carry such reserves in their parking budgets, so when issues arise the response is reactive rather than strategic.

The City should establish minimum standards in its facilities maintenance operations plan for tasks including, but not limited to:

- General maintenance
- Sweeping
- Pressure washing
- Routine janitorial services

¹ See for instance the Building Owners and Managers Association (BOMA) Standards (<http://www.boma.org/standards/Pages/default.aspx>)

- Non-routine janitorial services (oil cleanup, hazardous waste removal, removal of sharp objects, etc.)
- Removing waste and garbage
- Maintaining/replacing signage
- Graffiti removal
- Landscaping and grounds cleanup
- Preventative maintenance for equipment systems (to manufacturers' specifications). This would include, but not be limited to, HVAC, ventilation, fire suppression, lighting, revenue/access control, elevators, generators, waterproofing, deck maintenance, etc.).
- Fire alarm and suppression system testing
- Striping
- Pavement maintenance
- Stairwell maintenance

These elements should be summarized in a parking facilities maintenance manual that can be used to manage the system, serve as a framework for task assignment and creation of contracts and agreements, and provide a template for measurement and evaluation.

Estimated Costs (STRATEGY 9):

It is assumed that the current maintenance budget would be refined to ensure that the elements described here are incorporated as standard operating procedures, and as enforceable scope elements of any third-party agreements. Costs may increase to achieve best-practice levels of cleanliness and efficiency. In the long-term, such procedures will reduce life cycle costs and increase the attractiveness of City facilities. A sample parking facilities maintenance schedule is attached as **Appendix C**.

STRATEGY 10:

Develop a reasonable schedule of data collection to assess performance, including an accurate on- and off-street inventory (public and private supply) and an occupancy/utilization analysis.

Implementation Timeline:

Immediate (Fall 2016–Completed)

Near-Term (Summer 2017)

Long-Term (Based on strategic schedule)

Montana State University completed parking data collection efforts for the City in 2010, 2012, and 2014. Their data is extensive, but is not formatted in a manner that integrates well into a strategic plan for parking, and does not reflect the downtown as defined by the BPC and community stakeholders. In addition, private off-street parking assets were not evaluated. The strategic plan should guide future data collection, and analyses should be formatted accordingly. A summary of RWC's review of the MSU data sets is included as **Appendix D**.

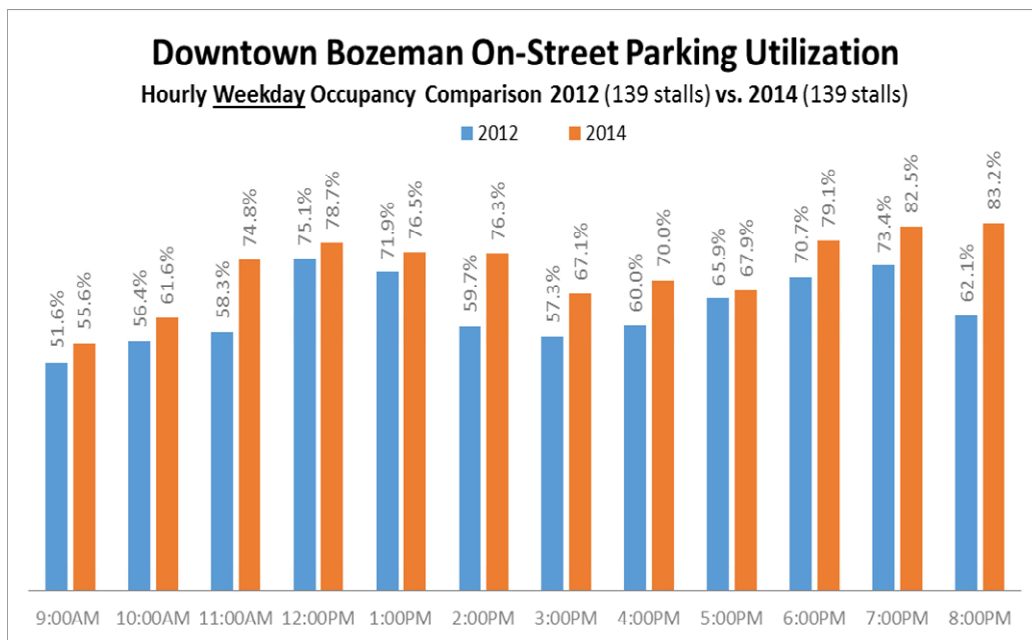
Objective and current data on occupancy, seasonality, turnover, duration of stay, patterns of use and enforcement will help the City and local stakeholders make better-informed decisions as the downtown grows. The system does not need to be elaborate, but it should be consistent and routine and structured to answer relevant questions about occupancy, seasonality, turnover, duration of stay, patterns of use, and enforcement. Parking information can be collected in samples, and other measures of success can be gathered through third-party data collection and/or volunteer processes.

A methodology for conducting parking inventories and data analyses is provided in Oregon Transportation & Growth Management’s *Parking Made Easy: A Guide to Managing Parking in Your Community*, specifically Chapter 7. The guide can be found at www.oregon.gov/LCD/TGM/docs/parkingprimerfinal71213.pdf.

To support this strategy, the City should:

- a. Work with the BPC to develop a data collection schedule. Given the recent completion of both on- and off-street occupancy studies, additional collection could be done through sampling rather than all-day occupancy counting. The near-term data collection schedule should be completed no later than October 31, 2016.
- b. Schedule and conduct a non-peak-season occupancy study for both on- and off-street systems.
- c. Conduct inventory and occupancy analyses no less than once every 24 months.

Data Set Developed from MSU 2012 and 2014 Studies



Estimated Costs (STRATEGY 10):

It is estimated that a data inventory and occupancy/utilization study would range from \$25,000-\$35,000 if conducted by a third-party consultant. Costs can be minimized in subsequent surveys through use of established templates and databases, and through sampling and use of volunteers to collect data.

STRATEGY 11:

Identify off-street shared-use opportunities based on data from Strategy 10. Establish goals for transitioning employees, begin outreach to opportunity sites, negotiate agreements, and assign employees to facilities.

Implementation Timeline:

Immediate: Short-listing sites (by February 2017)

Near-Term: Outreach (February – July 2017)

Mid-Term: Negotiations and Assignment (August 2017– December 2017)

The majority of parking in the downtown is off-street in privately owned parking assets. At present there is no data available that quantifies or evaluates how that parking is used, or whether surpluses exist that could relieve constraints in the public parking supply. Based on the principle that “employee parking should be led by the private sector (see Guiding Principle A.1.a, page 6 above)”, it will be important to identify and pursue shared uses with available supplies of privately owned parking.

Figure A (next page) provides an example from Ashland, Oregon of how data is used to identify potential shared use opportunities. Through this approach, opportunity sites are identified and outreach efforts to property owners targeted accordingly.

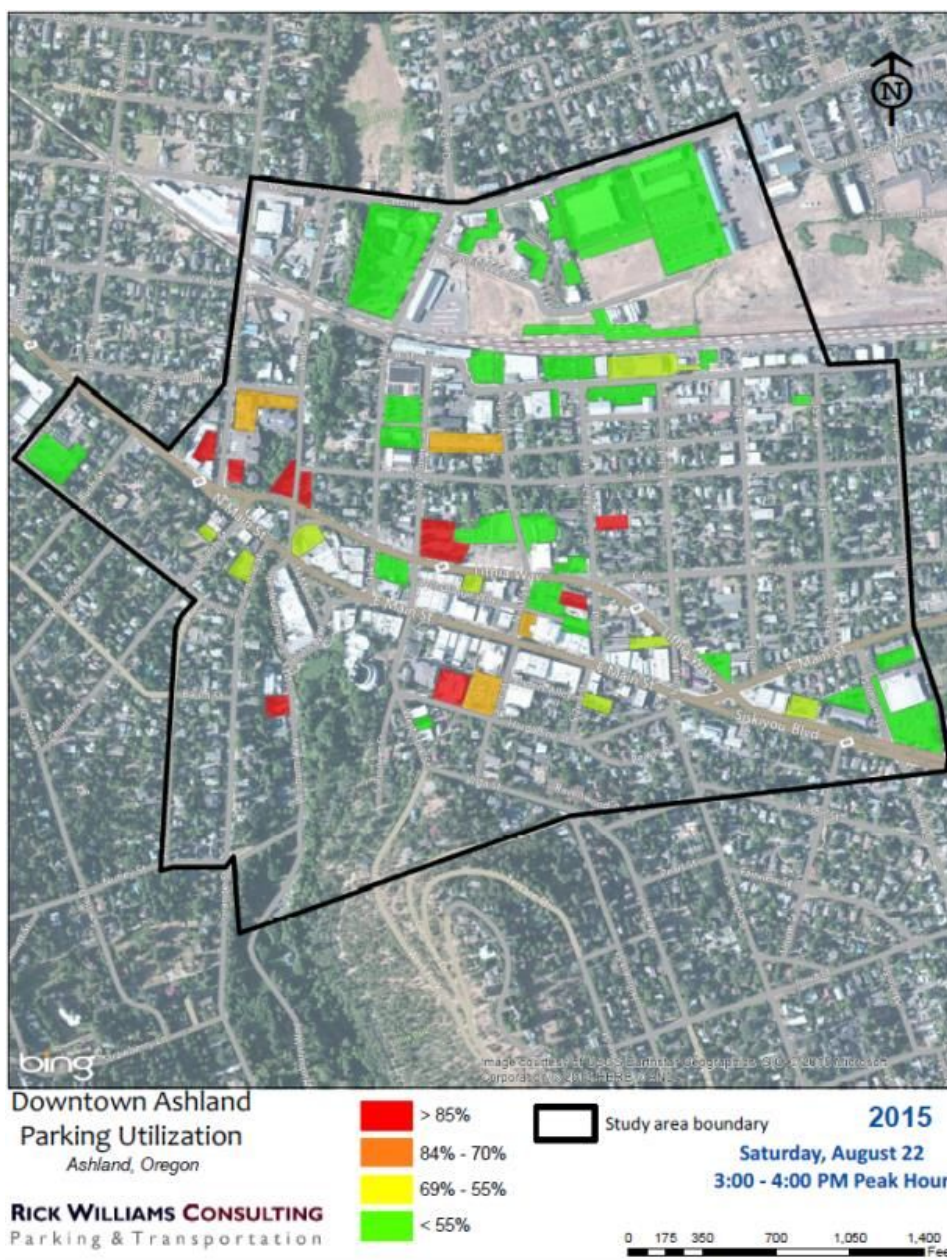
The BPC and Parking Division should consider the following for completion by July 2017:

- a. Use data from Strategy 10 to identify facilities that could serve as reasonable shared use opportunity sites. Criteria could include proximity to employers, a meaningful supply of empty stalls, pedestrian/bike connectivity, walking distance/time, safety and security issues, etc.
- b. Based on the above, develop a short list of opportunity sites and identify owners.
- c. Establish a target goal for the number of downtown employees to transition into opportunity sites.
- d. Begin outreach to owners of private lots.
- e. Negotiate shared use agreements.
- f. Obtain agreements from downtown businesses to participate in the employee assignment program.

Estimated Costs (STRATEGY 11):

Costs of deriving the data necessary for this strategy are included in data collection costs provided for in Strategy 10. Costs of outreach are not known at this time, but could be minimized through coordinated efforts of existing staff and volunteers and/or partnerships between the BPC and Downtown Bozeman Partnership to identify opportunity sites and engage the private sector. Planning in this regard may determine that funds are needed to create incentives and/or improve the condition of lots or pedestrian/bike connections.

Figure A
Example (Ashland, OR): Identifying Shared Opportunity Sites



STRATEGY 12:**Complete the 2008 Parking District Identification Signage/Branding Plan.**

Implementation Timeline: Long-Term (October 2018 - December 2018)

Bozeman has the foundation for an identity system for its downtown parking system in place. The blue and white “P” is recognizable and appealing. However, the plan for identifying facilities by name and linking to a way finding system in the public right-of-way, developed in July 2008, has not been fully implemented. This plan should be revived and integrated with Strategies 13 and 14 below. A branded and connected system of parking identity, information, and guidance is customer-friendly and efficient in moving the right parker to the right stall.



Estimated Costs (STRATEGY 12):

Costs of finalizing the Parking District Identification Plan are unknown at this time. It is assumed that the necessary elements of the 2008 Plan are detailed enough to allow for re-estimating using current market information.

STRATEGY 13:

Clarify current on-street parking signage, particularly in areas where unlimited parking is allowed. Consider incorporating the current City parking logo into on-street signage.

Implementation Timeline:

Option 1: Near-Term (January 2017 - June 2017)

Option 2: Coordinated with Strategy 23 (September 2018 on-street pricing – if decision to proceed)

Where parking is currently time-limited, rules of use are clear (see photo at right). However, there are areas where parking is not time limited, and these block faces have no signage at all. Observations during the tour of downtown indicated that these stalls are not readily used. This may be because there is no demand for parking in these areas, or because people are unaware that the stalls can be used. It is recommended that the City consider adding signage that allows, for instance, 10-hour parking in these areas. Similarly, time could be taken during re-signing to evaluate existing loading zones and other timed stalls (e.g., 15-minute, 30-minute) and make revisions to improve efficiencies. The overall philosophy for parking should be that if parking is allowed, its use should be readily understood by the user.



Current on-street signage format

Additionally, incorporating the City’s parking logo into the on-street system should be considered as a means of integrating the on- and off-street systems. In Springfield, Oregon, a stylized “P” was created for the public parking system and incorporated into on and off-street signage. (See illustration, right.)

Bozeman’s white and blue “P” would provide a recognizable reference on-street and raise awareness of the parking brand off-street.

Estimated Costs (STRATEGY 13):

Based on information from other cities:

- A standard signage package would have two poles with blade signs per block face – one at each end of the block with arrows pointing inward.

Unit Costs- Signage

- Only material costs are provided in these estimates
- Pole unit cost = \$470
- Blade sign unit cost = \$30
- Unit cost for poles (\$470) include hole boring and the pole

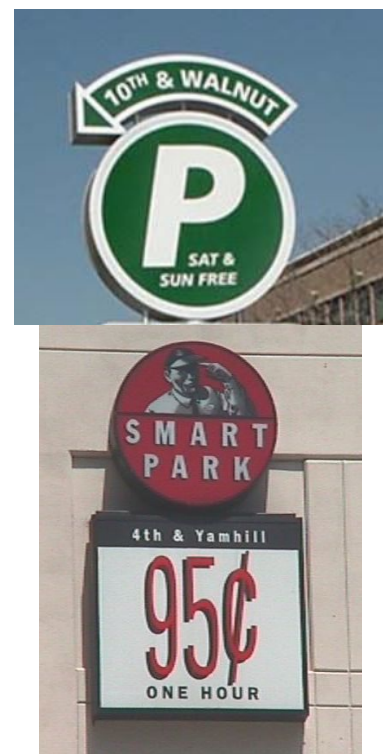
STRATEGY 14:

Rename all publicly owned lots and garages by address.

Implementation Timeline: Near-Term (January 2017 - June 2017)

As with branding, the name of parking facilities is extremely important in messaging. Names like Bridger Garage or Eagles Lot do not communicate useful information to users, particularly those who are less than familiar with the downtown.

Industry best practices for naming off-street parking facilities suggest using an address or intersection associated with the main auto ingress point. Portland, Oregon and Boulder, Colorado do a good job of branding and identifying facilities by location— names like 10th & Walnut or 4th & Yamhill easily and intuitively communicate not just a location, but, coupled with the system logo, a brand that can be



**Facility Identification:
Boulder CO & Portland OR**

integrated into web communications, apps, way finding, and other materials.

Bozeman's current facility naming format is not customer friendly or informative. The City should consider renaming its facilities as part of a broader effort to make the parking system more intuitive and easier to use.

Estimated Costs (STRATEGY 14):

Initial costs would involve changing existing signage, estimated to range between \$5,000 and \$10,000.

STRATEGY 15:

Upgrade the access/revenue control system at the Bridger Garage.

Implementation Timeline: Immediate to Near-Term (No later than December 2016)

The access and revenue control system at the Bridger Garage is unreliable and beyond its useful service life. Moreover, ***it does not provide data and reporting functions that are essential for high-level management and decision-making.*** An upgraded system at the Bridger Garage is critical to the Parking Division's ability to monitor use, calibrate rates, and accurately allocate and manage daily and monthly access across all hours of each operating day.

New technologies offering real-time data on occupancy and use are readily available from companies such as Amano, Digital Technologies, Cale, Scheidt & Bachmann, and McGann. At present, the City's ability to calibrate sales of monthly passes and to balance the mix of parkers (employees and customers) based on information supplied through the revenue control system is non-existent. Also, real time data on occupancy and use is not provided. Upgraded systems will create significant efficiencies in time, resources, management, and decision-making. This strategy should be seen as a foundational element of the overall parking management plan.



**Existing Bridger Garage
Pay Station**

Based on the system currently in place, there are two approaches the City could take at the Bridger Garage:

A. Automated Approach (Gated with Ambassador Function)

Over the past decade, technology has swung toward pay-on-foot operations (like Bridger has currently). Pay-on-foot requires non-monthly users to pay at a machine *before* returning to their vehicle. Monthly customers or integrated hotel guests access the facility through electronic passes or room keys.

These systems easily accommodate a variety of payment methods, such as cash, credit or debit cards, and permits. Once payment is made, exit gates open with the insertion of the paid ticket into a reader. This technology reduces the need for attended lanes, on-site personnel, or enforcement. Queuing at exits during peak hours is minimized.

Cost savings are the key upside for these systems—the expense of setting up pay-on-foot is generally offset by its efficiency in managing a high traffic flow. If there is a downside, it is that customers must remember to pay at a kiosk before returning to their vehicle. However, in-lane payment options can be provided at the exits for those who forget to pay in advance. The key purpose of the pay-on-foot format is to reduce paid transactions at the exit lane.



Example: Pay on Foot in elevator lobby – Fountain Square Garage, Cincinnati OH

A growing number of Class A facilities are transitioning to this format. In Portland, the City's five SmartPark garages have made this transition, as has the Brewery Blocks Garage in the north downtown. RWC has worked with 10 Class A facilities in Seattle that have transitioned to pay-on-foot, including facilities owned or managed by Unico Properties, Vulcan, and the Pine Street Group. In each case, higher revenues were realized through greater accuracy in accounting and reductions in personnel costs.

It is estimated that the costs of upgrading to a pay-on-foot system can be recouped in two to three years, with net revenue improvement thereafter. When accompanied by a well-planned roll out, good communications and customer service, and a slow reduction in personnel as customer understanding evolves, little resistance has been encountered when transitioning to this format.

B. Automated Approach (gateless with Ambassador Function)

Smaller garages often operate more cost effectively using a gateless format, primarily by reducing labor costs. The Vancouver Center and West Coast Bank Park-N-Go garages in Vancouver, Washington are completely gateless and use roving security staff to enforce compliance. All stalls require timed payment in a pay-by-space format. Monthly parkers, as well as guests at the Hilton hotel across the street, are issued hang-tags that must be displayed at all times; users without tags park their vehicle in a numbered stall and pay at a station nearby (see example pay station, right).

Time-stay options are provided at the pay station and validation options are provided at tenant destinations through apps and credits. Time can be added from a mobile app or computer. While they are gateless, the garages have in-lane counter systems, wirelessly connected to external signage, to quantify use.



Gateless systems can be had for about one-half the cost of gated systems. Their advantage lies in reduced equipment and labor costs, and as with the system described above, there has been little resistance by users to these systems.



The disadvantage is that they require routine and dedicated enforcement. “Leakage”— in customers avoiding payment because there are no gates—is a potential issue. This has not been seen in the Vancouver models because the enforcement necessary to ensure hang-tag compliance; nonetheless, Vancouver assumes a leakage rate of 2%-3%.

Estimated Costs (STRATEGY 15)

Additional discussions with the BPC and client account representatives are necessary to evaluate specifications for a competitive bid process for upgrading the access and revenue control system at the Bridger Garage. Key components of any system must include:

• Payment system (credit/debit capable)	\$15,000 - \$25,000 per kiosk
• Pay-in-lane (optional)	\$10,000 - \$13,000 per lane
• Lane controllers	\$3,000 per lane
• Accounting and revenue control software	\$19,000 - \$22,000
• Monthly pass access system (e.g. card reader system)	\$5,000 - \$8,000 per lane
• Ticket tracking software	\$5,500 - \$7,500
• Hotel system integration (e.g., through room key systems)	\$25,000
• Validation system function (optional)	Unknown at this time
• Warranties	Varies by vendor
• Installation	Varies by vendor
• Routine vendor support (maintenance/service)	\$400 - \$750 per month

STRATEGY 16:

Install vehicle counter systems at Bridger Garage and Armory, Carnegie, Eagles, and Willson lots.

Implementation Timeline: In conjunction with Strategy 15 (Bridger Garage Upgrades)

The most cost-efficient vehicle counter systems are usually in-lane counters (e.g., loop detectors) that detect vehicles entering and exiting a facility, and quantify in real time the actual use and number of available stalls. This information allows for informed decision-making on allocation of monthly permits or rate changes. Vehicle counters can also be linked to off-site way finding and/or facility signage to let users know if parking is available. Installing counter



Example: On-site signage linked to counter system to display stall availability.

systems now will allow the City to connect them with the Parking District Identification Signage/Branding Plan described in Strategy 12 above.

Estimated Costs (STRATEGY 16)

Estimated unit costs for this upgrade range from \$5,000 to \$6,500 per lane. There would be additional costs to link counter systems with external signage, but this would be minimal if the base system provides wireless communication.

STRATEGY 17:

Establish best-practice protocols and performance metrics for enforcement personnel and support with appropriate enforcement technology.

Implementation Timeline: Near-Term (No later than August 2017)

Enforcement is the foundation of sound parking management. Without enforcement, systems designed to encourage turnover and deter employees from parking on-street are ineffective. Consistent, objective enforcement ensures that performance goals for the on-street parking system are met. Key metrics include duration of stay, turnover, and rate of violation.

A. Best Practices

The key goal for parking enforcement is to promote compliance with parking regulations that are designed to maximize the efficiency and safety of public parking. Emerging best practices include the dual role of enforcement combined with downtown ambassadors, providing not only enforcement but information resources to downtown users.

Industry guidelines for efficient and effective parking enforcement include:

1. Parking enforcement officers (PEOs) should be routed such that a circuit of the enforcement area is completed every two hours.
2. Rate of violation—the percentage of vehicles parking longer than the posted time stay—should be less than 9%.
3. Capture rate for compliance (% of all total parking violations) should be between 40% and 50%. [NOTE: Capture rates can be higher in cities that couple enforcement with courtesy programs that routinely inform the public about parking rules and options.]
4. PEOs should use handheld ticket writers that track license plate numbers. Every parking stall, whether occupied or not, is entered into the handheld.
5. The handhelds should issue electronic tickets, have GPS capabilities, track stall inventory, and track and summarize customer warning programs. Handhelds should also integrate with real-time scofflaw databases. Ideally these are cloud-based.

6. Handheld units should store information for stolen vehicles, warrants, shuffling, and unpaid tickets.
7. PEOs should be dedicated to parking duties and only reassigned under special circumstances.
8. Street signs and pay stations should clearly indicate the hours of enforcement.
9. Issue courtesy tickets to first-time offenders as a gentle reminder that they have overstayed the posted time limit. Courtesy tickets can also serve as a marketing piece, thanking parkers for coming downtown and directing them to areas or facilities where longer stays are allowed.
10. Use PEOs as downtown “ambassadors” to assist parkers with directions, parking options, and use of the downtown.

B. Enforcement/Citation Rates

Costs of managing enforcement should not be combined with those of managing the on-street or off-street parking systems. Revenue from citations should cover all operating costs and future needs of the enforcement system. In other words, parkers who obey the rules should not be burdened, through parking rates, with the cost of dealing with those who violate the rules. While the cost of the enforcement program should be included in the downtown parking fund, its expenses and revenues should be carried as separate line items. The cost of the program should be fully burdened in the citation rate.

Fees for parking violations should be based on three criteria:

1. The cost of maintaining existing operations, including administration, personnel, back office, and equipment.
2. The reasonable cost of future needs, including system growth and replacement and technology improvements.
3. Targeted goals for rate of violation (less than 9%, with an ideal range of 5%-7%) and capture rate for compliance (40% - 50%).

Fees should be evaluated no less than once every two years based on the above.

To support this strategy, the City should:

- a. Review existing deployment routes to ensure highest efficiency of coverage.
- b. Evaluate violation data and assess methods to lower the current rate of violation to at most 9%.
- c. Upgrade handheld enforcement technology to industry standards.
- d. Develop a reporting format that separates tickets by type, so that the number of tickets issued for parking violations versus those issued for non-parking incidents can be determined.

- e. Consider use of courtesy tickets as a means to communicate downtown parking “rules and procedures” and to direct potential users into off-street city facilities.
- f. Consider training PEOs as downtown ambassadors.
- g. Review citation fees every two years to ensure that revenue covers, at minimum, all operating costs for the enforcement program.

Estimated Costs (STRATEGY 17)

Estimated unit costs for this upgrade will range from \$5,000 to \$6,500 per handheld. Supporting software ranges from \$100 to \$150 per month per handheld.

STRATEGY 18:

Expand the bike parking network to create connections between parking and the downtown to encourage employee bike commute trips and draw customers to downtown businesses.

Implementation Timeline: Mid-Term (January 2017 – December 2017)

When we talk about parking management, we’re not just talking about cars. Communities throughout Montana support bicycling as a key sustainable transportation strategy, and Bozeman requires bike parking in new development (Section 38.25.040 BMC). Bozeman has the benefit of a strong bike culture, a high number of local bike shops, and active efforts to improve and expand the bicycle system. What the downtown may lack is sufficient “trip-end” bike parking amenities on-street, off-street, and in private buildings. Providing adequate bicycle parking will expand the capacity of the overall parking supply downtown.



Example: Interior Wall Racks

It is recommended that the City expand its approach to bike parking to deliver a four-strategy approach. It is assumed that this would support future efforts to expand the City’s bike lane network.

The four-strategy approach includes:

- a) *Sidewalk bike parking*
Identify locations for added bike parking in pedestrian amenity zones.
- b) *Bike corrals*
Identify locations for bike corrals on-street and in



Example: Bike Corral Ashland, OR

plaza areas adjacent to high-traffic businesses. This would be an expansion of the Downtown Bozeman Partnership’s seasonal program that places corral-like bike parking in three locations.

c) *Bike parking on private property*

Identify areas on private property for bike parking improvements, especially for employees – e.g., interior bike cages, wall rack locations, and other secure areas.

d) *Identify funding/incentives*

Assemble funding sources necessary to implement a) – c).



Example: Art Rack Baker City, OR

Estimated Costs (STRATEGY 18)

The cost of inventorying potential bike parking locations could be incorporated into Strategy 9 above. Site identification could also be done through volunteer efforts and by working with downtown stakeholders and bike advocates. Costs are likely minimal.

Estimated unit costs for actual bike infrastructure:

- Staple or U racks: \$150 - \$200
- Wall-mounted racks: \$130 - \$150
- Bike Corral \$1,200²
- Art Rack variable based on design

STRATEGY 19:

Explore changes to existing residential on-street permit programs and evaluate and potentially implement new residential parking permit districts in the neighborhood north and south of the downtown commercial district.

Implementation Timeline: Mid-Term (January 2017 – December 2017)

Changes to parking management in commercial zones of the downtown may cause employees to seek parking in residential areas. In anticipation of this, the Parking Manager and BPC should begin outreach to residents and businesses in adjacent neighborhoods to raise awareness begin framing possible mitigation strategies.



² Based on City of Portland, Oregon cost estimate for six staple racks (12 bike parking spaces), striping, bollards, and installation.

The most effective strategy for managing parking in neighborhoods adjacent to commercial areas is permit programs, which are already in place in several Bozeman parking districts.

Adjacent neighborhoods not currently designated as parking districts should be *allowed the option* of requesting a permit program if spillover is considered to be a problem and constraints are identified through data collection.

The City should:

- a. Begin outreach/education to neighborhoods on the downtown parking management plan, potential on-street pricing, and use of the residential parking permit programs to mitigate spillover.
- b. Be prepared to implement residential permit programs in areas not currently designated as residential parking districts (if requested by neighborhood).
- c. Consider new and more flexible management elements in the current residential parking district program (e.g., hours/days of enforcement, selling employee permits into unused supply, expanded district boundaries).

Estimated Costs (STRATEGY 19):

There should be no additional costs for the outreach and policy work associated with this task, as it is within the ongoing responsibilities of the Parking Manager and BPC. Costs for delivery of services to newly established residential parking districts will need to be further developed. Some cities charge users for permits at a rate that covers the cost of administration; some use meter revenue to underwrite residential programs in affected neighborhoods, viewing it as a cost of mitigation, and some use revenue from employee permits to cover the cost of residential permits. Any or a combination of these funding options will need to be further explored.

STRATEGY 20:

Evaluate on-street pricing in high-occupancy areas.

Implementation Timeline: Near-Term (July 2017 – December 2017)

Recent data collection efforts have demonstrated that the on-street system routinely exceeds the 85% occupancy standard for sustained periods during the summer months. However, the data collected may not represent the larger area defined as downtown or reflect seasonal variations. Strategy 10 is intended to provide more detailed and comprehensive data related to the occupancy performance of the on-street system.



Once Strategy 10 is complete, it is recommended that the Parking Manager work with the BPC to evaluate and consider paid parking on-street, particularly if frequent constraints are confirmed using the 85% Rule.

Hourly on-street occupancy data can also be used to model potential revenue hours for different rate scenarios. Revenue hours can then be integrated into an expense/revenue pro forma to objectively estimate the feasibility of moving to an on-street pay-to-park program. Data derived from an improved inventory database and real-time use information will allow development of an accurate feasibility model.

Paid parking can support higher turnover within the system, decrease competition for on-street parking between employees and customers or visitors, create a more reasonable value relationship between parking and alternative modes, and provide revenue streams necessary to support operations, marketing/communications, program delivery, and infrastructure.

Actions to be considered include:

- a. Updating databases
- b. Developing expense/revenue models to estimate the financial viability of new revenue collection technology
- c. Determining appropriate revenue collection technology that will best serve Bozeman.
- d. Considering single meters versus pay stations
- e. Considering pay-and-display versus pay-by-space
- f. Considering seasonal pricing
- g. Finalizing pricing format
- h. Finalizing time stay format and hours of operation
- i. Soliciting vendors for revenue collection technology

Estimated Costs (STRATEGY 20)

It is assumed that the evaluation process would be incorporated into the routine schedule developed by the Parking Manager and BPC. Data collection efforts are a part of Strategy 10. General equipment costs for revenue technology are:

- | | |
|-------------------------------------|--|
| • Multi-Space Meters (pay stations) | \$5,000 - \$7,000 per unit (serving 8 – 14 spaces) |
| • Single-Space Meters | \$500 - \$700 per unit (serving one space) |
| • Back office support | Varies by system and software selected |

C. Recommended Parking Management Strategies: Phase 2

It is anticipated that Phase 2 efforts will take place between January 2018 and January 2020. These strategies build upon and are facilitated by work completed in Phase 1 (July 2016 – December 2017). Phase 2 focuses on data, capacity growth and management, communications, and identification of funding sources.

Any and all Phase 2 strategies can be accelerated or moderated as necessary depending on community support and consensus, opportunity, or funding. As with Phase 1, all strategies will require consistent and dedicated management and coordination, with active participation by the private sector.

STRATEGY 21

Explore expanding access capacity with new parking supply and/or transit or circulators.

Implementation Timeline: Long-Term (June 2018 – December 2018)

As Bozeman's downtown grows, adding jobs, residents, and visitors, existing supplies of parking and alternative mode access will need to be expanded. Adding bicycle trip capacity was discussed above in Phase 1, Strategy 18. With implementation of paid parking, and possibly expansion of area permit programs, the City should evaluate other forms of access capacity as well, including new parking supply and improved transit and/or shuttle options. These types of capacity growth require sophisticated infrastructure and are costly. Planning for, and finding funding for, new capacity is time-consuming, so focused and objective evaluation will greatly facilitate decision-making before constraints create adverse impacts on the downtown.

A. Identify possible new garage sites

Capacity could be added through construction of a parking garage or surface parking lot in a location outside the downtown and linked by transit or shuttle. The consultant team identified several potential off-street opportunity sites that provide a starting point for evaluating potential sites in the downtown.³ A map of those sites is provided in **Figure B** (next page). To date there has been no evaluation of potential "remote" sites that might be located outside the downtown and linked by transit or shuttle/circulator.

An historical analysis of traffic growth and its relationship to existing and potential future parking demand is provided in **Appendix E**.

³ In no way does the identification of these sites suggest that owners of the properties would be interested in selling or participating in a garage development project. They are only illustrated here as an example of how an identification process could begin, as a means to facilitate discussion of growing the existing parking supply and, possibly, informing a costing evaluation.

Figure B
Sample of Potential Future Garage Locations



City of Bozeman
 Downtown Parking Study

RICK WILLIAMS CONSULTING
 Parking & Transportation

 Potential Garage Sites
 Off-Street Sample - 2015 Study



0 80 160 320 480 640 Feet

Many areas of the downtown already exceed 85% occupancy in summer peak periods, and additional information on parking utilization will be developed in Phase 1, Strategy 10. Additional data should be used to evaluate constraints and determine whether there is a deficit of parking downtown. This data will be useful in “right-sizing” any parking facility that might be developed.

It is recommended that the Parking Manager and BPC:

1. Establish desired parking “need” (Strategy 10).
2. Evaluate locations where parking is possible downtown.
3. Evaluate remote sites that could be connected via shuttle/transit.
4. Evaluate public/private partnerships to develop supply.
5. Coordinate site evaluation with Community and Economic Development.
6. Coordinate with Downtown Bozeman Association, particularly through contacts with potential site partners in the private sector.

7. Engage local developers in evaluation process.
8. Narrow to feasible site(s).

B. Explore shuttle/circulator connections.

As with an evaluation of new parking supply, it will be equally important to evaluate the cost and feasibility of new transit and/or shuttle capacity. Transit and shuttles could be especially valuable as a means to improve employee commute options, provide circulation through downtown for visitors, and link remotely located parking supply.



The Parking Manager and BPC should involve Bozeman Transit, Community and Economic Development, and the community in discussions regarding an option that would best serve the downtown and effectively shift an increasing percentage of trips onto a transit/shuttle system.

It is recommended that the Parking Manager and BPC:

1. Evaluate route options.
2. Explore connections to remote parking in conjunction with evaluating the parking supply.
3. Determine desired levels of frequency, type of vehicle, and seasonality.
4. Circulator shuttle or existing transit?
5. Coordinate with existing transit providers.
6. Narrow to preferred option(s).

Estimated Costs (STRATEGY 21):

The City and BPC may wish to retain third-party assistance in this process, particularly regarding the design and formatting of transit/shuttle systems. These systems will impact traffic and circulation and create land use issues related to stops. Identifying and locating potential parking sites could be accomplished internally, with assistance from the Downtown Bozeman Association, local developers, and Community and Economic Development. As an estimate, the City could incur costs of \$50,000-\$80,000 for route and system planning for a new transit/shuttle option.

STRATEGY 22**Develop cost forecasts for preferred parking supply and shuttle/transit system options.**

Implementation Timeline: December 2018 – June 2019

Information derived from Strategy 21 will provide realistic data on parking and transit/shuttle enhancements. Parking will have been evaluated as to location, size, and format. Transit/shuttles will have been evaluated as to desired format, frequency, and routing.

Estimated Costs (STRATEGY 22):

Initial costing of garages and lots in the form of expense/revenue and financing pro formas can range from \$5,000 to \$7,500. This would be contingent on information already provided to a consultant from Strategy 20.

Rick Williams Consulting does not have expertise in costing transit/shuttle systems. These numbers need additional evaluation.

Estimated costs for new parking supply will vary by type of supply. Estimates from projects recently completed in the Pacific Northwest are provided below.

- Structured Underground \$35,000-\$45,000 per stall
- Structured Above Ground \$20,000-\$25,000 per stall
- Surface Lot \$ 5,000-\$7,000 per stall

NOTE: Does not include operating cost or full cost of land

STRATEGY 23**Explore and develop funding options**

Implementation Timeline: Long-term (July 2019 – March 2020)

A wide range of funding sources and revenue streams could be used to implement an enhanced parking management plan and develop new parking or transit capacity in Bozeman. Given the costs of new infrastructure, considering new funding mechanisms is prudent.

The list of potential sources here is not exhaustive, nor are these sources mutually exclusive. Funding for parking facilities, particularly garages, in emerging urban areas generally requires multiple sources.

The use of fees continues to evolve as various State laws or City ordinances are authorized.

Implementation of fees should be reviewed by the City Attorney to determine their feasibility in light of applicable laws.

The funding options provided below assume a more detailed discussion of the role of the City in future funding of parking and transit, and public discussion regarding use of public funds to build and operate new systems.

Options Affecting Customers

User Fees

Many cities collect revenue through parking meters and/or sale of permits and direct it to parking or transportation development enterprise funds. Transit or shuttle riders pay in the form of fares. These funds can be used to construct or bond for additional parking or transit capacity.

Event Ticketing Surcharges

Surcharges may be imposed in conjunction with local and regional facilities (e.g., performing arts, sports, and concert arenas) to support development of access systems. Fees are generally applied to ticket costs.

Parking Fines

Revenues are collected for parking violations and a portion directed to parking development enterprise funds.

Options Affecting Businesses

Parking and Business Improvement Area or District (BIA or BID)

An assessment on businesses rather than property owners, these can be based on assessed value, gross sales, square footage, number of employees, or other factors established by the local legislative authority. Salem, Oregon assesses a fee on businesses in its downtown Parking District to support parking services and future supply. Portland assesses a business income tax through the State of Oregon to support transit.

Options Affecting Property Owners

Special or Local Improvement District (SID/LID)

An SID or LID is a property tax assessment that requires buy-in by property owners within a specifically identified boundary. LIDs usually result from a petition process requiring a majority of owners to agree to an assessment for a specific purpose—in this case, a parking facility or transit infrastructure improvement.

Options Affecting Developers

Cash-in-Lieu

Developers may be given the option to pay a fee in lieu of providing parking with a new private development. Cash-in-lieu fees provide the developer access entitlements to public parking facilities near the development site.

Cash-in-lieu fees can be assessed up to the full cost of parking construction. Generally, these do not provide sufficient revenue to fully fund parking facilities, and are combined with other revenue sources.

If a cash-in-lieu fee is considered as a realistic funding source for new parking supply, completion of Strategy 6 is very important. There needs to be greater clarity on the intent and purpose of the fee and its use in increasing capacity either through new parking supply or through enhancement of alternative mode programs. Lack of specificity in this regard limits discussion of the type of fee, the rate, and the programs and strategies that would need to be in place to implement desired outcomes. A useful guide to the diversity of cash-in-lieu programs and their advantages and disadvantages is Donald Shoup, *Journal of Planning and Education Research*, 18:307-320, 1999.

Public/Private Development Partnerships

Development partnerships are generally associated with mixed-use projects in which parking is used to reduce the cost of private office, retail, or residential development. Public/private development can occur through a variety of arrangements, including:

1. Public acquisition of land and sale or lease of land/air rights not needed for parking to accommodate private use.
2. Private development of integrated mixed-use development with sale or lease-back of the public parking portion upon completion.
3. Responsibility for public sector involvement directly by the City, through a public development authority or other special purpose entity, such as a public facility district created for the project district or downtown area.

Options Affecting the General Public

General Obligation (GO) Bonds

Local jurisdictions may issue voted or non-voted bonds to develop parking or transit infrastructure, subject to overall debt limit requirements. With GO bonding, the municipality pledges its full faith and credit to repayment of the debt from general fund resources. In effect, general fund revenues would be reserved to repay debt that could not be supported by parking or transit revenues alone. Again, there may be imposed limits on the municipality for voter-approved or non-voted debt.

Refinancing GO Bonds

This involves refinancing existing debt at lower rates, and pushing the savings from the general fund to debt coverage for new infrastructure. In these times of lower interest rates, the City of Bozeman may have already maximized this option.

Revenue Bonds

Revenue bonds dedicate parking fees and other designated revenue sources to the repayment of bonds, but without pledging the full faith and credit of the issuing authority. Revenue bonding is not appropriate in situations where a local jurisdiction's overall debt limit is a factor and projected revenues are insufficient to cover required debt service.

63-20 Financing

A potential alternative to traditional GO bonds, revenue bonds, and LID bond financing, 63-20 financing allows a qualified non-profit corporation to issue tax-exempt bonds on behalf of a government. Financed assets must be capital and must be turned over free and clear to the government by the time bonded indebtedness is retired. When a municipality uses this technique to finance a public facility, it can contract for the services of a non-profit corporation (as the issuer) and a builder. The issuer acts on behalf of the municipality, but has no real business interest in the asset being acquired.

Community or Urban Renewal (Tax Increment Financing)

Though originally created for the limited purpose of financing the redevelopment of blighted communities, tax increment financing (TIF) has developed into an integral part of the revenue structure of many local governments. The rapid growth of TIF as an economic development technique of choice to finance land acquisition, site development, and property rehabilitation/revitalization began in the early 1980s. Tax increment financing can provide an ongoing source of local property tax revenue to finance economic development projects, and other physical infrastructure projects, without having to raise property tax rates. Moreover, TIF can leverage future general fund revenues to support the repayment of property-tax backed debt, without having to go directly to voters for approval, and without violating debt limitations.

State and Federal Grants

In the past, a variety of state and federal grant programs have been applied to funding parking and transit infrastructure in business districts. In the current environment of more limited government funding, there may no longer be readily identifiable programs suitable for parking facility development, though transit may be more feasible.

General Fund Contribution

Local jurisdictions may make either one-time capital or ongoing operating contributions to a downtown parking or transit/shuttle program.

Estimated Costs (STRATEGY 23):

This is very much a process task, requiring research and conversations with City policy- and decision-makers and legal counsel, and discussion with a range of potentially affected stakeholders. For the purposes of this discussion, it is assumed that costs would be absorbed internally by the City and the new Parking Services Division.

STRATEGY 24:**Explore the implementation of on-street pricing.**

Work completed in Strategies 10 and 20 of Phase 1 will establish the feasibility of and timing for implementing on-street parking pricing (completed by December 2017). This will leave the City prepared if this strategy is deemed appropriate. Initial steps would include outreach to potentially affected residential communities, and development of a marketing and communications plan to be rolled out in advance of any on-street parking pricing.

Step A (Strategy 24)**Develop a marketing/communications and new system roll out plan.**Implementation Timeline: Mid-term (January 2018 – July 2018)

Implementation of paid parking and new rules of use will come with many questions, which are best anticipated and proactively solicited. A clear plan for marketing and communicating the new system and its purposes, goals, and benefits will facilitate community awareness, understanding, and acceptance. The Parking Manager and BPC should develop a plan that incorporates any of the following elements deemed appropriate.

Goal

- Inform and involve the downtown business community—employers, merchants, employees, and customers—in preparing for implementation of new time limits and paid on-street parking.

Approach

- Enlist a subgroup of the BPC and Downtown Bozeman Association to help design communications with downtown stakeholders and customers. This could require assistance from a third-party public engagement professional.
- Engage and update the downtown business community through credible partner organizations.
- Communicate with downtown customers and employees through merchants and employers.
- Provide friendly, timely response to persons who have questions or problems.

Materials & Tools

- Website/updates
- Letter to downtown businesses
- Fact sheet/map
- Presentation tools: PowerPoint, display boards
- Merchant/employer packet: "Customer Parking Kit"
- Point-of-purchase customer information
- FAQs
- Posters
- Utility bill inserts
- Business cards with hotline number
- Meter graphics/instructions
- Pay Station demo video
- New signage: permanent, temporary (samples for merchants)
- List of off-street parking resources/rates
- Bicycle options
- Transit options
- Grace period notice
- Interested parties email list
- Social media: Facebook, Twitter, YouTube
- Order form for additional materials
- Paid advertising



Tacoma Downtown Parking Implementation
Rollout Schedule (2010) – Rev. 3/12/2010

	February	March	April	May	June	July	August	September
Task Force	Task Force Recruitment	*Task Force Meetings	*	*	*	*	*	*
Stakeholders	**Stakeholder Meetings					*		
City Council			O	O				
Code Changes/Ordinances			Code Changes/ Ordinances					
Enforcement			Enforcement Planning			Enforce New Time Limits		Enforce Paystations
Signage	Procurement		Installation					
Paystations	Procurement		Preparation & Testing			Installation Area A	Area C	Area B
Communications	Communications Plan	Materials & Tools	Advance Communications		Rollout Communications		Celebration	
Phase	PREPARATION February to March 15	ROLLOUT PLANNING March 15 to April 30	INSTALLATION PREP May 1 to June 30		INSTALLATION July 1 to September 5			EVALUATION

O = Environment and Public Works Committee

**Sample: Pay to Park Rollout Schedule
Tacoma, Washington**

Target Audiences

- City policymakers
- City staff
- Bozeman Parking Commission
- Police Department
- Enforcement staff
- Downtown merchants/employers
- Downtown customers/visitors
- Downtown employees
- Downtown residents
- Neighborhood associations
- Business district associations
- Chamber of Commerce

- News media
- Hard-to-reach audiences

Communications Partners

- Downtown Bozeman Partnership
- Chamber of Commerce
- Neighborhood Associations
- Montana State University
- Major employers

Community Briefings

- Organize a speakers' bureau to reach interested stakeholders in their regular group meetings

Media Strategy

- Seek understanding and editorial support of local media outlets (print, radio, TV)
- Demonstration workshop/training session for media
- Monitor local media coverage and respond as needed

Customer Support

- Pay station/meter demonstrations (established in contract with selected vendor)
- Customer parking cards to distribute to merchants/customers (option in contract)
- Hotline: single point of contact (established in contract)
- Grace period for enforcement during rollout
- Protocols and service levels for handling problems, complaints (established in contract)

Spokesperson(s)

- City spokesperson
- BPC spokesperson
- Partner organizations

Estimated Costs (STRATEGY 24 – Step A):

Costs of a communications and rollout plan are difficult to ascertain at this time, as such costs would entail time allocated by the Parking Manager and BPC and by existing internal City public relations and information resources. Some cities have opted to employ third-party communications firms and/or added certain rollout functions to the responsibilities of the selected parking revenue collection technology firm(s).

Step B (Strategy 24)**Begin on-street paid parking if feasible and appropriate.**Implementation Timeline: Mid-Term (September 2018 launch)

Work completed in Strategy 20 of Phase 1 will establish the format, type of technology, and timing for implementation of this strategy. Strategy 20 is scheduled to be completed in December 2017, leaving nine months before the implementation of on-street pricing in September 2018 to:

- a. Conduct outreach to the community
- b. Develop a marketing/communications plan
- c. Solicit vendor bids through an RFP process
- d. Evaluate proposals
- e. Award contract to preferred vendor
- f. Refine budgets and expense/revenue forecast model (Strategy 20)
- g. Select a target launch date
- h. Launch

Estimated Costs (STRATEGY 24– Step B):

Estimated costs for a new on-street pay-to-park system were provided in Strategy 20.

STRATEGY 25**Consider consolidating current users of the Carnegie Lot into the Bridger Garage. Sell the Carnegie Lot to fund acquisition of better-located parking parcels and/or construction of a parking garage.**Implementation Timeline: Long-term (July 2019 – December 2019)

The City could consider selling existing assets (e.g., surplus land) to provide funding for new garage development or the purchase of land more geographically convenient for parking growth. For instance, the City's Carnegie surface parking lot is located directly across the street from the Bridger Garage. The City could consider selling this lot to private development, consolidating existing users of the lot into the Bridger Garage, and directing proceeds to a larger funding package for future garage development, directed by siting information derived from Strategy 21 A. The City's ability to sell the lot would also be informed by the findings related to SID 565 in Strategy 8.

In the long view, surface parking facilities should be envisioned as high value infill sites. The Carnegie Lot, because of its proximity to the Bridger Garage, appears to be an asset that the City could divest itself of in the context of a more strategic parking growth plan.

Estimated Costs (STRATEGY 25):

There would be no cost to the City given the intent would be to sell the lot to raise revenue for future capacity expansion or garage development.

STRATEGY 26**Initiate new capacity expansion****Implementation Timeline: Long-term (January 2020)**

This strategy would be catalyzed by completion of Strategies 20-23 and would complete Phase 2 of the downtown Strategic Parking Management Plan. By June 2020, the City and BPC would have evaluated and researched the most effective option(s) for expanding access capacity in the downtown. This would be a capacity enhancement that provides the highest benefit to downtown in accommodating growth, funded through a package of finance options that are cost-effective and publicly supported.

VII. SUMMARY

The parking management strategies recommended here are intended to provide a template for action that leads to a more efficient and organized parking system for the downtown. The strategies would be led by the Parking Manager and Parking Services Division, with informed insight and direction from the Bozeman Parking Commission.

The strategies envisioned here will be implemented over a minimum of three years, informed by the 85% Rule and documented parking demand. Overall, the strategies are designed to “get the right parker to the right parking spot” in a manner that supports the Guiding Principles established as a part of this plan.

APPENDIX A
ACTION STRATEGIES IMPLEMENTATION SUMMARY

ACTIONS & IMPLEMENTATION SCHEDULE

Strategy	Phase 1 Immediate (0 – 6 months) Beginning 7/1/2016	Phase 1 (6 – 24 months) Beginning 1/1/2017	Phase 2 (24 – 42+ months) Beginning 7/1/2018	Comment	Estimated Cost
POLICY ACTION STRATEGIES (PHASE 1)					
1 Formalize the Guiding Principles as policies within the parking and transportation system plan.	✓			Provides decision-making framework and policy foundation for decisions/actions. Target by December 2016.	-Existing Staff
2 Adopt the 85% Rule as the standard for measuring performance of the parking supply and triggering specific management strategies and rate ranges.	✓			MSU data for areas of the Bozeman downtown revealed that existing peak period occupancies are often parked in excess of 85% for significant periods of the day. Having the 85% Rule formalized in policy will assure that a process for evaluating and responding to future parking activity is in place.	-Existing Staff time
3 Strengthen the role of the Parking Manager and the Parking Services division to better integrate with Community and Economic Development planning.	✓			The success of any multi-faceted parking system is dependent on administration, management, and communication of the City's parking program at all levels. This includes daily management of facilities, oversight of third-party vendors, financial accounting and reporting, marketing/communications and customer service. It is also imperative that Parking Services also be integrally involved in long-term strategic and capital planning for parking in the downtown.	-Existing Staff time -Potential for new management staff

Strategy	Phase 1 Immediate (0 – 6 months) Beginning 7/1/2016	Phase 1 (6 – 24 months) Beginning 1/1/2017	Phase 2 (24 – 42+ months) Beginning 7/1/2018	Comment	Estimated Cost
4 Establish a policy for adjusting rates (on and off-street)	✓	✓		Bozeman should establish formal systems within the municipal code that provide a basis for rate setting in both the on and off-street systems. What is lacking in most jurisdictions is a <i>routine commitment</i> to rate evaluation at all levels (e.g., this could include enforcement fines and fees as well) that objectively calibrates rates against a set standard of performance metrics.	-Existing Staff time -BPC consideration and recommendation -City Commission approval
5 Establish a Capital Maintenance Reserve Fund	✓	✓		Best practice planning in parking would call for (a) development of a strategic capital facilities plan and (b) establishment of a capital maintenance reserve to assure that funding is in place as systems need replacement.	-Existing staff time to establish accounting protocol.
CODE RELATED ACTION STRATEGIES (PHASE 1)					
6 Re-evaluate and restructure current cash-in-lieu program (38.25.040 A. 3. B 1 -4, BMC).	✓	✓		The current structure, format and fee for the cash-in-lieu program needs to be re-evaluated if it is to be of consequence for parking development in the future. The consultant team held discussions with the BPC regarding the purpose and expectations for 38.25.040 A. 3. B 1 -4, BMC, but due to time constraints and scope limitations, no firm conclusions were drawn.	-Existing Staff time -BPC consideration and recommendation -City Commission approval

Strategy	Phase 1 Immediate (0 – 6 months) Beginning 7/1/2016	Phase 1 (6 – 24 months) Beginning 1/1/2017	Phase 2 (24 – 42+ months) Beginning 7/1/2018	Comment	Estimated Cost
<p>7 Re-evaluate code-based parking minimum requirements (38.25.040 A.2. a & b, BMC).</p>		✓		<p>Bozeman’s current parking code outlines a range of minimum parking requirements for specific land uses. RWC’s initial review indicates that the minimum requirements are (a) very high when contrasted with other comparable cities and (b) not calibrated at all to desired multi-modal goals.</p>	<p>-Existing Staff time -BPC consideration and recommendation -Public review and input -City Commission approval</p>
<p>8 Re-evaluate and clarify the purpose and intent of the current code section regarding Special Improvement District (SID) No. 565. (38.25.040.A.3.b.(4), BMC).</p>		✓		<p>This code provision is unclear and may not be applicable to existing conditions. A legal review is necessary to create more clarity and an objective review of whether to keep, modify or eliminate this provision from the code.</p>	<p>-Existing Staff time -Internal legal review and recommendation -BPC consideration and recommendation -Public review and input -City Commission approval</p>
PARKING MANAGEMENT ACTION STRATEGIES (PHASE 1)					
<p>9 Implement a facilities maintenance plan.</p>	✓	✓		<p>Public parking facilities should be managed to the highest standard of quality, both as a reflection of the City of Bozeman and as an example of industry best practices. To this end, public lots and garages should have janitorial and maintenance guidelines that are clear, measurable and results oriented.</p>	<p>-Estimated at \$73,350 in latest 2016 – 2020 capital maintenance plan. -Likely needs to be revised and refined based recommendations of this plan.</p>

Strategy	Phase 1 Immediate (0 – 6 months) Beginning 7/1/2016	Phase 1 (6 – 24 months) Beginning 1/1/2017	Phase 2 (24 – 42+ months) Beginning 7/1/2018	Comment	Estimated Cost
<p>10 Develop a reasonable schedule of data collection to assess performance, including an accurate on- and off-street inventory (public and private supply) and an occupancy/utilization analysis.</p>	✓	✓	✓	Objective and up-to-date data will help the City and local stakeholders make better informed decisions as the downtown grows and redevelops.	\$25,000 to \$35,000 (single data collection season)
<p>11 Identify off-street shared-use opportunities based on data from Strategy 10. Establish goals for transitioning employees, begin outreach to opportunity sites, negotiate agreements, and assign employees to facilities.</p>	✓	✓		The majority of parking in the downtown is off-street in privately owned parking assets. At present there is no data available that quantifies or evaluates how that parking is used, or whether surpluses exist that could relieve constraints in the public parking supply. It will be important to identify and pursue shared uses with available supplies of privately owned parking.	-Included in Strategy 10.
<p>12 Complete the 2008 Parking District Identification Signage/Branding Plan</p>	✓	✓		The full plan for identifying facilities by name and linking to a potential wayfinding system in the public right of way (developed in July 2008) has not been fully implemented. This plan should be re-engaged.	-Not known at this time. Cost estimates from 2008 plan need to be revised to current market.
<p>13 Clarify current on-street parking signage, particularly in areas where unlimited parking is allowed. Consider incorporating the current City parking logo into on-street signage.</p>	✓	✓		There are areas within the downtown where parking is not time limited and these block faces have no signage at all. Observations during the tour of downtown indicated that these stalls are not readily used. It may be useful in a signage upgrade to redesign on-street signage to make use of the City's stylized P logo/brand.	Unit costs: <ul style="list-style-type: none"> • Pole unit cost = \$470 • Blade sign unit cost = \$30 -Unit costs would need to be calibrated to numbers identified through a signage inventory.

Strategy	Phase 1 Immediate (0 – 6 months) Beginning 7/1/2016	Phase 1 (6 – 24 months) Beginning 1/1/2017	Phase 2 (24 – 42+ months) Beginning 7/1/2018	Comment	Estimated Cost
14 Rename all publicly owned lots and garages by address.		✓		Industry best practices for naming off-street parking facilities suggests using addresses associated with the main auto ingress point into a facility.	\$5,000 - \$10,000
15 Upgrade the access/revenue control system at the Bridger Garage.	✓	✓		The access and revenue control system at the Bridger Garage is very old, unreliable and beyond its useful service life. Also, it does not provide data and reporting functions that are essential for high level management and decision-making.	\$100,000 - \$150,000 depending on technology system selected.
16 Install a vehicle counter system at Bridger Garage and at the Armory, Carnegie, Eagles, and Willson lots.	✓	✓		Vehicle count information is extremely useful to facility managers as peaks and valleys in use can be tracked by time of day, day of week and season of year; allowing for informed decision-making on the allocation of monthly permits or changes in daily and hourly rates.	\$5,000 - \$6,500 per lane controlled.
17 Establish best-practice protocols and performance metrics for enforcement personnel and support with appropriate enforcement technology.		✓		The foundation of sound parking management is enforcement. Without enforcement, systems designed to encourage turnover (time stays, pricing) and deter employees from maximizing on-street parking are ineffective.	Unit costs: <ul style="list-style-type: none"> • \$5,000 - \$6,500 per hand held. • \$100 - \$150 per hand held per month for software and software support system.

Strategy	Phase 1 Immediate (0 – 6 months) Beginning 7/1/2016	Phase 1 (6 – 24 months) Beginning 1/1/2017	Phase 2 (24 – 42+ months) Beginning 7/1/2018	Comment	Estimated Cost
<p>18 Expand the bike parking network to create connections between parking and the downtown to encourage employee bike commute trips and draw customers to downtown businesses.</p>		✓		<p>What the downtown may be lacking is sufficient “trip-end” bike parking amenities, both on-street, off-street and in private buildings. Providing adequate bicycle parking will expand the capacity of the overall parking supply downtown.</p>	<p>Unit costs:</p> <ul style="list-style-type: none"> • Staple or U racks: \$150 - \$200 • Wall-mounted racks: \$130 - \$150 • Bike Corral: \$1,200 • Art racks: variable by design
<p>19 Explore changes to existing residential on-street permit programs and evaluate and potentially implement new residential parking permit districts in the neighborhood north and south of the downtown commercial district.</p>		✓		<p>The most effective strategy for managing parking in neighborhoods adjacent to commercial areas is permit programs, which are already in place in several Bozeman parking districts.</p>	<p>-Staff costs related to revisions to existing districts. -Costs for new districts not known at this time. -Permit costs should be imposed that ensure program cost recovery.</p>
<p>20 Evaluate on-street pricing in high occupancy areas.</p>		✓		<p>Data collection would provide updated information on use for multiple seasons; it is recommended that the Parking Manger initiate a process with the Bozeman Parking Commission to evaluate a transition of the downtown on-street parking system to paid parking.</p>	<p>Unit costs:</p> <ul style="list-style-type: none"> • Multi-Space Meters (pay stations): \$5,000 - \$7,000 per unit • Single-Space Meters: \$500 - \$700 per unit • Back office support: Varies by system and software selected

Strategy	Phase 1 Immediate (0 – 6 months) Beginning 7/1/2016	Phase 1 (6 – 24 months) Beginning 1/1/2017	Phase 2 (24 – 42+ months) Beginning 7/1/2018	Comment	Estimated Cost
PARKING MANAGEMENT ACTION STRATEGIES (PHASE 2)					
21 Explore expanding access capacity – new parking supply and/or transit/circulator options.			✓	As Bozeman’s downtown grows employment, residents and visitors; existing supplies of parking and alternative mode access will need to be expanded.	\$50,000 - \$80,000 for concept designs and cost estimating
22 Develop cost forecasts for preferred parking supply and shuttle/transit system options. A. Identify possible new garage sites B. Explore shuttle/circulator connections.			✓	Information derived from Strategy 21 will provide realistic data on parking and transit/shuttle enhancements that have community input and initial feasibility. Parking will have been evaluated as to location, size and format (garage or surface lot). Transit/shuttles will have been evaluated as to desired format, frequency and routing.	<ul style="list-style-type: none"> • Structured Underground: \$35,000-\$45,000 per stall • Structured Above Ground: \$20,000-\$25,000 per stall • Surface Lot: \$5,000-\$7,000 per stall • Transit or shuttle line(s) determined in Strategy 22.
23 Explore and develop funding options			✓	There are a wide range of potential funding sources and revenue streams that could be used to support implementation of an enhanced parking management plan in the Bozeman downtown as well as to plan for and support development of new parking or transit capacity.	-Existing Staff time -Internal legal review and recommendation -BPC consideration and recommendation -Public review and input -City Commission approval

Strategy	Phase 1 Immediate (0 – 6 months) Beginning 7/1/2016	Phase 1 (6 – 24 months) Beginning 1/1/2017	Phase 2 (24 – 42+ months) Beginning 7/1/2018	Comment	Estimated Cost
<p>24 Explore implementation of on- street pricing</p> <p>A. Develop a marketing, communications and new system roll out plan</p> <p>B. Begin on-street pricing if feasible and appropriate.</p>			✓	Completes the necessary outreach, data collection and planning for launching paid parking within the downtown on-street parking supply if deemed feasible and appropriate.	Not known at this time.
<p>25 Consider consolidating current users of the Carnegie Lot into the Bridger Garage. Sell the Carnegie Lot to fund acquisition of better-located parking parcels and/or construction of a parking garage.</p>			✓	The City could consider selling existing assets (e.g., surplus land) to provide funding that could then be directed to new garage development or the purchase of land more geographically appropriate to parking growth.	Would result in revenue to City
<p>26 Initiate new capacity expansion</p>			✓	This strategy would be catalyzed by completion of Strategies 22- 25 and would complete Phase 2 of the downtown Strategic Parking Management Plan.	To be determined.

APPENDIX B

**Technical Memorandum - Task 3: Strategic Use of Cash-in-Lieu as a Source of Funding for Public
Parking**

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MEMORANDUM

TO: Thomas Thorpe, City of Bozeman

FROM: Rick Williams, RWC
Owen Ronchelli, RWC
Pete Collins, RWC

DATE: December 15, 2015 (v.2)

RE: **Downtown Bozeman - Comprehensive Parking Study**
Task 3: Strategic Use of Cash-in-Lieu as a Source of Funding for Public Parking

I. BACKGROUND

Parking standards in city codes often require that each land use provide parking on-site, or limit the use of parking provided to a specific “accessory” use. This can limit density, increase development costs, challenge small sites, and discourage shared use parking. A common solution to this problem is allowing developers to pay fees into a municipal parking fund *in lieu* of providing the required parking on-site. The fees are then used to provide centralized public parking in place of on-site parking for individual properties. By consolidating parking in centralized public lots or structures and offering developers an alternative to providing parking on-site, a cash-in-lieu system can encourage in-fill development and redevelopment in existing downtowns, support land use intensification, and reduce the overall amount of built parking through more efficient use of the supply.

In the 1970’s the City of Bozeman implemented a Special Improvement District (SID) for development in the downtown. That SID was based on very suburban minimum parking requirements in the code at that time. The current parking requirements for Bozeman’s cash-in-lieu program within the B-3 District are less and result in a large credit for most projects that minimizes the number of spaces to be provided (see: 38,25.040 A.3.B 1-4). This means that unless the project(s) are very large they never need to provide parking and there will be a tiny amount of CIL funds (assessed at a rate of \$5,000 per stall), never enough to build a garage.

The fact that Bozeman offers cash-in-lieu is progressive; however, current parking requirements, program format and fee may not provide the funding necessary to develop new parking and support the intensification of uses. In addition, the current code is not clear on the strategic intent for use of the fees collected, the expectation of an *access entitlement* that may or may not be granted to fee payers, or a consistent and equitable methodology for calculating fees.

To this end, the City is interested in evaluating its existing cash-in-lieu option, particularly in its use as a reasonable funding source for new public parking facilities. The discussion herein will provide a framework for such an evaluation and for potential revisions to Bozeman’s existing cash-in-lieu program. The discussion will also be informed by a reevaluation of the City’s current minimum parking requirements, which will need to be strategically integrated into whatever fee structure is developed.

II. FRAMEWORK APPROACH - PARKING CASH-IN-LIEU

Growth in parking demand is becoming an issue in Bozeman. Increased traffic related to new development and visitors attracted to the City’s vibrant downtown may create constraints in the existing parking supply. Surface parking lots will become attractive development sites, resulting in potential loss of parking as new development and redevelopment projects progress. The cost of providing parking, especially structured parking, can adversely impact the financial feasibility of new development. Inadequate parking places burdens on existing development and is a disincentive for new development. As downtown redevelops, the City must find the right balance between its role and the role of the private sector in financing and building parking to support new growth.

This memorandum assumes the City intends to continue to play a prominent role in owning, managing and (ultimately) growing its off-street parking supply. Therefore, examining and refining the current cash-in-lieu program supports the City’s efforts to create a more strategically coordinated parking management plan for the downtown.

Key challenges for Bozeman in this process are:

- Continuing to attract new development to the downtown.
- Supporting developments constrained by the cost of parking development while reducing reliance on and impact of surface parking areas.
- Recognizing site constraints, including historic preservation that may limit the ability to incorporate parking.
- Removing barriers to new development or redevelopment of existing buildings.
- Maintaining and encouraging an urban form for new development that is consistent with the downtown vision.
- Appropriately recognizing previous investments in parking both public and private.

Cash-in-lieu allows a new or intensified development to buy out of a requirement to provide a minimum number of parking stalls. Fees paid by the developer are used by the City to fund development of new public parking facilities.

Cash-in-lieu is an *option* to providing parking.¹ A strong cash-in-lieu program can be a powerful tool for achieving efficient development through the provision of common, centralized and/or district parking facilities. Giving developers the option to reduce or eliminate their on-site parking requirement can result in better-designed and more productive developments and streetscapes.

Offering developers the option to pay a cash-in-lieu for all or a portion of their minimum parking requirement may be an attractive alternative for addressing the challenges outlined above, and provide a means for building structured parking in the future. A cash-in-lieu rate is generally set at a level less than the cost for a developer to provide parking themselves. The rate can also be variable to reflect specific benefits of use between projects; varied (for instance) between those that use more or less parking in relation to a minimum parking standard. Overall, a cash-in-lieu option encourages developers to seriously consider downsizing their parking need, and to explore shared-use opportunities in reasonable proximity to their development site. When successfully structured, cash-in-lieu programs can reduce development costs, making projects more feasible and providing a revenue source that the City can invest in a consolidated parking development plan.

Implementing a cash-in-lieu program commits the City to playing a key role in developing and managing off-street parking, a role that Bozeman already fills. *This memorandum assumes the City intends to continue playing a prominent role in owning, managing, and ultimately growing its off-street parking supply. Examining and refining the current cash-in-lieu program supports the City's efforts to create a more strategically coordinated parking management plan for the downtown.*² This will entail active planning for future parking, and identifying *additional sources of funding to supplement and leverage funds derived from cash-in-lieu.*³

Few cash-in-lieu programs around the country cover the full cost of parking development. Most cities couple cash-in-lieu with other strategically identified revenue sources to create a package of funds that can fully support new parking development.

¹ A private development should not be discouraged from providing parking without City assistance, within the requirements of the code.

² Many cities do not have cash-in-lieu or similar programs related to public off-street parking, choosing to put the responsibility for off-street parking growth completely on the private sector.

³ Few cash-in-lieu programs around the country cover the full cost of parking development. Most cities couple cash-in-lieu with other strategically identified revenue sources to create a package of funds that can fully support new parking development. These include fees generated from parking, bonds, infrastructure financing districts, parking benefits districts, etc.

III. PROGRAM ELEMENTS

As previously stated, the waiving of minimum requirements in a private development through a cash-in-lieu option requires a firm commitment by the City to provide public parking in Downtown.⁴ Clear expectations regarding the City's use of funds raised by cash-in-lieu payments should be developed.

For Bozeman, there are several considerations in designing and refining the existing cash-in-lieu option. Below are several program elements that should be considered in refining the current cash-in-lieu option.

A. Use of Funds

Barring the existence of immediate funds to construct a parking facility in advance of a cash-in-lieu option, it is doubtful that the City could commit to a structured facility in the initial stages of a more robust cash-in-lieu program. As such, payments will need to be collected and allocated to a dedicated parking fund, configured to provide for a future parking garage when coupled with other funding sources (e.g., bonding, Local Improvement Districts, urban renewal).⁵

The fund should be flexible enough to allow the City to:

- Develop new parking structures
- Purchase or lease underutilized private parking in the Downtown for conversion to public access
- Partner with the private sector to add public parking in new developments

B. Level of Expectation

Cash-in-lieu fees are generally calibrated to the level of commitment the City makes to the payer for access to an off-site parking supply: an "entitlement" to parking access. The lower the payer's expectation of entitlement as a result of the fee, the lower the fee assessed. Conversely, the higher the expectation of entitlement to parking, the higher the fee. Currently, 38.25.040 does not meet this standard. The City will need to determine its comfort level in terms of expectation which will then dictate the assessed fee. Creation of clear expectations regarding its obligations for funds raised by cash-

The City will need to create clear expectations regarding its obligations for funds raised by cash-in-lieu payments. These obligations need to be developed and adopted concurrent with whatever fee is implemented. The lower the expectation for the payee that parking is being provided as a result of the fee the lower the fee assessed. Conversely, the higher the expectation that the payee is entitled to parking, the higher the fee assessed.

⁴ This would not disregard the viability of a shared use agreement credit if it could be successfully developed and administered.

⁵ Bozeman may already have such a fund established for its existing program. The consultant had not verified this by the time of this writing.

in-lieu payments will result in a more efficient cash-in-lieu parking program. These obligations need to be developed and adopted concurrent with whatever fee is implemented. The present fee charged of \$5,000 per stall represents approximately 17% of the cost of a constructed parking space and a correspondingly low level of commitment.

Several key questions about cash-in-lieu are outlined below. The consultant has provided single answers to the questions, but only for context as to how they *might* be addressed. It is recommended that these questions form the basis of future stakeholder discussions regarding the role of cash-in-lieu within the downtown parking management plan. Consensus answers derived from this process would then inform a revised cash-in-lieu program and set of specific expectations:

- a. **What type of access entitlement is a development assured in return for payment of a cash-in-lieu fee based on an established minimum parking requirement?** Entitlements do not imply ownership, but long-term rights to parking. These access rights can be attached to the property title and carried with it over time, including transfer in a sale. Because the cash-in-lieu fee is assessed at a rate less than the cost of construction, those entitled to parking agree to pay the current posted rates for parking in facilities built with cash-in-lieu in the form of monthly passes, daily and hourly rates. These rates can be transferred to tenants, employees, and customers.
- b. **Is a development entitled to full access to a specific parking facility, or can access be spread across multiple locations?** The payment of the cash-in-lieu to the City would allow a development to take advantage of all available parking under the City's control, but would not guarantee parking at any specific facility. This can be an important element when cities begin to assemble cash-in-lieu payments in advance of building a new parking facility; using surplus in existing supplies to accommodate cash-in-lieu entitlements.
- c. **Are there proximity entitlements that assure access within a specified distance of a development site?** The City would ensure that development of new parking funded with cash-in-lieu revenues is located within the Downtown Parking Management area. The area boundaries and, in turn, the reasonable proximity to the development would be determined by the City. The current code limits off-site parking to a 1,000 foot distance (just under ¼ mile or a about three blocks downtown).
- d. **Can access entitlements be changed over time? For instance, could parking be moved from one location to another over time as development patterns evolve?** Yes. The City would retain the right to redevelop parking facilities and to provide entitlement parking in different locations within the downtown over time. This type of flexibility is important, as was referenced in (b) above. The City may need to create temporary or interim sites as new structures are built. Surpluses within the parking system will need to be actively monitored so that entitlements may be allocated accordingly.

- e. **What if the City is collecting cash-in-lieu payments, but cannot concurrently build a parking facility?** Cash-in-lieu could be used to build interim surface lots to meet entitlements until a new supply (e.g., a garage) is both needed and feasible. If the City cannot meet near-term cash-in-lieu demand requirements, the program can be suspended to ensure that existing/paid entitlements can be accommodated.
- f. **Can cash-in-lieu payments be used by the City to fund other forms of access (e.g., transit or bike/walk options)?** In some cities, that is the case. However, given the costs necessary to develop structured parking, it is not anticipated that cash-in-lieu payments, as currently configured, would allow the City of Bozeman to fund other forms of access.
- g. **Are there any other charges associated with cash-in-lieu to those with access entitlements?** There could be. Given that most cash-in-lieu entitlements are assessed at a rate less than the cost of actually developing off-street supply, agreements formalizing the entitlements would allow the City to charge the then-posted monthly, daily and hourly rates at public facilities in the downtown. As demand for parking increases, monthly and daily rates would also increase. Such charges are necessary to cover, at minimum, costs of maintenance, operation, and administration of the public facilities, as well as debt service.
- h. **What happens if a development does not fully utilize its access entitlements?** Given that access is an entitlement and not a form of ownership, the City (or owner of the parking facility) has the right to sell underutilized parking to the general public on a month-to-month basis. This ensures that the City can maximize parking on weekdays, weekends, and evenings. Access entitlements give priority to those with entitlements, but do not prevent the City from capitalizing on unused space. Management of cash-in-lieu entitlements will require accurate and ongoing data on occupancy and utilization of parking.

C. Rate and Format

The appropriate rate for a cash-in-lieu varies by city and is influenced by the type of parking provided (surface versus structure), costs of land and development in specific areas, and expectations associated with the level of entitlement granted with payment of the fee. In order to make an informed recommendation, the consultant team reviewed cash-in-lieu programs in jurisdictions throughout the country.

The City of Tualatin, Oregon assesses a cash-in-lieu of \$3,500 per stall required. The City of Bend, Oregon's cash-in-lieu is \$26,000.⁶ A 2008 study of 27 cities by Carl Walker Consulting established a range of fees between \$2,000 and \$27,520, with an average of \$11,500 per stall. The formula for determining

⁶ Tualatin's original fee-in-lieu was calibrated at approximately 50% of the cost of developing *surface parking* and Bend's fee was calibrated at approximately 67% of the cost of *structured parking*.

rates in the sampled cities was generally based on a wide variety of factors, both parking-related and non-parking-related; as such, the literature offers no clear standard on which to draw in Bozeman.

It is recommended that the City of Bozeman consider restructuring its current cash-in-lieu program accordingly:

1. The current unit cost of garage development in the Pacific Northwest is approximately \$28,000 to \$35,000 per stall, including land, design, and construction. Variation in the range is most typically influenced by land cost. This range offers a good starting point for a cash-in-lieu rate discussion, which would be refined *with further research on the actual cost of developing parking in Bozeman* versus the average used here for discussion purposes.
2. Once a unit cost is established for parking in Bozeman, base the cost of cash-in-lieu at a rate less than this cost —e.g., 60% (see Section IV. A Sample Methodology for Rate Setting, below).⁷ As described earlier, the lower cost is intended to encourage developers to downsize their on-site parking and explore the shared-use opportunity that would exist within a consolidated public parking supply. The cash-in-lieu rate should provide a reasonable funding base from which the City can then develop a full funding package that would likely leverage other funding sources (i.e., user fees, bonding, local improvement district, etc.).
3. Establish a periodic review of the cash-in-lieu program, allowing the City to evaluate (a) the number of developments exercising the options, (b) factors contributing to developers' use or non-use of the program, and (c) adjustments to the rate as necessary based on (a) and (b). The periodic review would also evaluate the capacity of the City to absorb new cash-in-lieu entitlements.
4. Adjust the cash-in-lieu payment annually based on the Engineers News Record Index (ENRI). The ENRI is a respected standard within the industry and would provide an objective index for adjusting City fees and charges associated with a cash-in-lieu program.⁸
5. Recognize that other funding sources will be necessary for successful development of public parking facilities, particularly structured facilities. These could include public facility districts, business improvement districts, local improvement districts, general fund allocations, and state and local grants.

Assuming the City intends to create a more efficient downtown, one capable of accommodating the intensification of land uses, continuing to offer a cash-in-lieu option is reasonable and strategic. This is

⁷ This figure was chosen only for purposes of discussion. It is hoped that this memorandum is used as a basis for structuring work sessions and/or in-depth discussions with stakeholders to develop a rate format that is both appropriate and feasible for Bozeman.

⁸ The City of Bozeman currently uses the ENRI for inflation adjustments for impact fees and this source has been accepted by the development community. There are other construction indexes as well, including the Rider Levett Bucknall quarterly construction cost index and the Turner Construction index.

underscored by the financial challenges associated with developing structured parking facilities. It is recommended that the City reevaluate and refine its current cash-in-lieu program so that it can be successfully applied as new development and intensified uses emerge. That process should take place within the context of the elements outlined above.

IV. A SAMPLE METHODOLOGY FOR RATE SETTING

As stated above, a review of other jurisdictions did not provide a clear methodology for determining cash-in-lieu rates. Generally, the rate bears some relationship to the full cost of constructing a surface or garage parking facility. Most jurisdictions set rates at less than the full cost of construction. The fee should be an incentive for developers to work with the City to consolidate the parking supply in district facilities. Cash-in-lieu funds are then complemented by other sources to construct the consolidated supply.

For Bozeman, new cash-in-lieu payments would be allocated toward future parking garage development, as full funding for a garage is likely not in place at this time. Future cash-in-lieu fees would be calibrated to the full cost of constructing a garage in downtown Bozeman, a key change to the current program.⁹

Table 1 offers a potential methodology for deriving a cash-in-lieu rate. The discussion that follows provides additional information and data sources. Any methodology would need to be regularly revised and data sources refreshed, as stated in the discussion of Rate and Format above.

[NOTE: The cost assumptions used in Table 1 are considered reasonable based on the consulting team's experience in Pacific Northwest parking garage developments. Final figures should be informed by additional discussion with stakeholders and research in the actual Bozeman market. The purpose of this exercise is to provide a realistic and usable framework for structuring a cash-in-lieu approach and facilitating discussion.]

⁹ The final fee rate would be completed as per Section III, c, Rate and Format above.

Table 1
Sample Model: Cash-in-lieu Rate Methodology

A	B	C	D	E	F
Square Feet Per Stall	Hard Cost of Construction per stall (Garage)	Soft Cost of Construction per stall (@ 28% of hard cost)	Cost of Land per Stall	Total Cost to Build per Stall (w/o land)	Fee-in-lieu @60% of Total Cost per stall
350	\$23,450	\$6,566	Varies by size of lot/mix of uses and size of garage	\$30,016	\$18,010 ¹⁰
Square Feet Per Stall	Hard Cost of Construction per Square Foot	Soft Cost of Construction per Square Foot	Cost of Land Per Stall per Square Foot	Total Cost to Build per Square Foot (w/o land)	Fee-in-lieu @60% of Total Cost per Square Foot
350	\$67.00	\$18.76	N/A	\$85.76	\$51.46

A. Square feet per stall

The total square feet per structured parking stall varies greatly, ranging from as little as 300 SF per stall up to 400 SF per stall.¹¹ In general, 350 SF per stall is a reasonable standard used in most private development proforma, which accounts for the parking stalls, two-way drive aisles, and area for pedestrian ways and plazas, and is consistent with efficient and attractive facilities constructed in medium-sized cities.¹² This number is reflected in Column A in **Table 1** above.

B. Hard cost of construction

Hard costs are direct costs incurred by a specific construction project. For a structured parking facility, this would include site preparation, including labor, materials, and equipment.

Several West Coast sources were evaluated to determine the hard cost of constructing a garage parking stall in an urban setting like Bozeman. A 2010 study in Ventura, California estimated hard construction costs for a 283-stall downtown parking garage at \$23,288 per stall (\$67.25 per foot).¹³ A study conducted for Providence Health Group in Portland, Oregon estimated the average hard cost of above-

¹⁰ As stated above, the final fee would be adjusted periodically (preferably annually) based on an adopted index of construction costs.

¹¹ See http://www.webs1.uidaho.edu/niatt_labmanual/Chapters/parknglotdesign/theoryandconcepts/ParkingStallLayoutConsiderations.htm as well as VTPI (2008), *Parking Cost, Pricing and Revenue Calculator*, Victoria Transport Policy Institute (www.vtpi.org); at www.vtpi.org/parking.xls.

¹² See <http://www.squarefeetblog.com/commercial-real-estate-blog/2008/07/08/construction-costs-for-parking-stalls/>

¹³ See Rick Williams Consulting, *Review/Assessment of Block 35 Associates Parking Structure Proposal*, January 3, 2011

grade parking construction at \$24,661 per stall (or \$71.50 per square foot) for a 384 stall garage.¹⁴ A 2015 study by IPD Consulting and Rick Williams Consulting for Santa Monica, CA estimated hard costs for a 500 stall garage (with retail) at \$22,785 per stall (\$65.10 per foot). Walker Parking Consultants estimated hard costs for development of a 500-stall above-grade parking garage in Venice, California to be \$18,010 per stall (\$63.00 per foot).¹⁵

For purposes of this exercise, the consultant used a conservative estimate of \$67 per foot hard cost for parking structure development. This is reflected in Column B in **Table 1**.

C. *Soft costs related to construction*

Soft costs are those incurred in addition to direct construction costs. Items generally categorized as soft costs include design and design fees, legal fees, permits, engineering, licensing fees, toxic report fees, and plan check fees. A reliable and widely used source for estimating soft costs is RSMMeans and Reed Construction Data. These databases serve as national resources for tracking construction costs. According to a recent search of Reed Construction Data, soft costs for parking construction generally run at about 31% of hard costs.¹⁶ A 2015 parking project in Santa Monica, California, in which Rick Williams Consulting was involved, calculated soft costs of 25%, as developed by IPD Consulting, an international engineering and project management firm.

For purposes of a base methodology for Bozeman, the consultant used a soft cost calculation of 28% of hard costs; an average of multiple data sources that includes national sources (e.g., RSMMeans) and the experience of the consultant team. This is reflected in Column C in **Table 1**.

D. *Cost of land*

Land costs are generally difficult to establish for a model such as this, and can be “spread” differently into a development depending on the mix of land uses that might be associated with a parking garage (i.e., how much of total land cost is allocated to the overall per stall cost in a development proforma). Column D, **Table 1**, is left open in this model, assuming that if such a model were used by Bozeman, real cost information would be developed specific to a site and applied accordingly in determining a reasonable cash-in-lieu rate.

¹⁴See JE Dunn, Hard Cost Estimate Sheet for POP

¹⁵Information provided by Walker Parking Consultants. MSU is also currently in construction for a new parking garage. The MSU project could provide a current and locally relevant data point to be included in any final calculation of construction costs for purposes of establishing a revised cash-in-lieu fee.

¹⁶<http://www.reedconstructiondata.com>.

E. Total cost to build

Based on the methodology in **Table 1**, the total average cost of a structured, above-grade parking stall in Bozeman would be \$30,016 per stall or \$85.76 per square foot per stall, assuming 350 square feet per stall built. This is reflected in Column E in **Table 1** above. Again, this does not assume the cost of land.

F. Cash-in-lieu rate

If the actual construction cost of a stall is \$30,016 (Column E), the total cost would be factored by a predetermined percentage (in this case 60%) to derive an in-lieu fee rate of \$18,010, or \$51.46 per foot (Column F).

Bozeman already provides a cash-in-lieu option for new development and/or intensification of land uses. The program needs to be reevaluated to ensure that it offers developers a reasonable option to consider, and provides a sound financial basis for the City to build new parking facilities. The fee must be calculated using a credible market-based methodology that can be regularly updated as economics and parking development costs evolve. The rate must be calibrated to reasonable expectations for access that the payer can rely on. Finally, the fee must be strategically coordinated with other funding sources to ensure that the City has a financially feasible system for offering the cash-in-lieu option as a development incentive, and can meet any demand for parking by those who pay the fee.

V. SUMMARY

The authors of this memorandum have endeavored to provide context for and key elements of a cash-in-lieu program as an option for managing and growing downtown Bozeman's parking supply. This information is intended to facilitate additional discussion and questions from staff and stakeholders on the continuing role of cash-in-lieu, and how it is integrated into the downtown's parking and economic development planning. Cost estimates are only a means to focus discussion and create a platform for examining, refining, and clarifying Bozeman's current program. The consultant team hopes the information provided helps to increase understanding of cash-in-lieu and stimulate discussion on the appropriate role for such a program in the larger context of a strategic downtown parking management plan.

APPENDIX C
Sample Parking Facilities Maintenance Schedule

A. Sample Maintenance Schedule

Elements of a maintenance plan are provided below. This format could be used by the City as the basis for a manual or as contract elements of a third party agreement. The elements here provide a beginning point for the City's review. Elements could be expanded, revised or improved upon as clarity is provided in the future regarding unique factors related to specific garages and decisions necessary to roles and responsibilities for carrying out a maintenance plan and schedule. Again, the information below should be considered "draft" for purposes of initiating development of a parking maintenance schedule for the City of Bozeman.

1. Minimum Maintenance Requirements for Public Parking Garages

Operating Outline

- Provide 4 to 6 hours of daily janitorial maintenance to each facility at least five (5) days per week. Janitorial services will be provided through a separate maintenance service agreement with a private operator or through on-site janitorial services provided by the City.
- Maintain an on-site checklist of maintenance tasks to be checked off by the maintenance provider with date of service and signature of provider.
- Maintain an on-site maintenance/repair report for the purpose of recording maintenance and repair tasks requiring additional assistance or contracting (i.e., capital repairs, equipment replacement, deck/wall repairs, etc.). The on-site maintenance/repair report shall be completed monthly and forwarded to the "Management Team."¹

Janitorial Maintenance

DAILY (Monday – Friday)

- Empty all trash receptacles in the parking area (including stairwells) and remove to the central trash storage area.
- Patrol all parking areas, elevator areas and stairwells accessing parking throughout the day or once daily as determined by the Management Team and remove any trash or debris.
- Sweep elevator-landing areas (i.e., pedestrian accesses).

¹ Within the overall context of the City's parking management system, a formal parking management team should be established. The team would meet routinely, monitor performance, compile progress reports and communicate information to internal and external parking stakeholders. The management team could have responsibilities that cover broader areas of the parking system (i.e., maintenance, operations, safety, security, enforcement, marketing/communications, etc.)

- Remove trash/debris from entry/exit plaza(s) and sweep and/or hose main entry/exit ramp area.
- Mop out (using safety/environmentally-approved detergents) then rinse with clear water any areas where public urination or defecation has occurred. Apply odor control to these areas immediately upon completion of mop out.
- Inspect all walls and surfaces for the presence of graffiti. Graffiti shall be removed from surfaces in garage areas, plaza areas or stairwells (using safety/environmentally-approved solvent) immediately upon its discovery and/or **within 48 hours of occurrence**.
- Also, while patrolling the garage, make note and report to the Facility Manager any necessary repairs, electric light or equipment failures, unauthorized, suspicious, or illegally parked vehicles.

WEEKLY

- Sweep all stairwells accessing the parking garage from top to bottom.
- Clean/dust/sweep out attendant booth.
- Clean/polish attendant booth glass.
- Dust all revenue/access control equipment.
- Inspect for oil spotting in parking stall areas. Effectively absorb and dry such areas to ensure safe and manageable parking areas. Dispose of absorbents as required by City/State environmental codes.
- The attendant booth shall be kept in an orderly and attractive manner. No items shall be posted on the glass or visible to customers.
- Replace burnt out light bulbs/fixtures within the elevator(s).

MONTHLY

- Hose off sidewalk and drive surfaces in main entry/exit plaza(s).
- Wipe down all rate boards and entry area informational signage.
- Check and maintain on site current MSDS sheets for any chemicals used while cleaning or performing maintenance services.
- Check all decks and walls for cracking and/or deterioration. Signs of such shall be recorded on the maintenance/repair report and submitted to the Management Team.
- Inspect all floor drains to ensure they are in working order and remove any debris that may be covering or obstructing the drain(s).

QUARTERLY

- Replace burnt out light bulbs/fixtures. [NOTE: At no time shall the parking area (including elevator landings and stairwells) have in excess of 5% of all total light fixtures burnt out.] (Except for elevator lighting discussed above.)
- Spot painting with matching paint (color & sheen) to any scratches or scuffs vertical areas (as necessary).

BI-YEARLY

- Pressure wash elevator landing area(s).
- Pressure wash stairwell landings and stairwell areas showing staining or undue grime buildup.
- Pressure wash plaza entry/exit area(s).

GENERAL MAINTENANCE RESPONSIBILITY

At all times maintain in effect a Preventative Maintenance Contract (“PMC” or “PM”) for the elevator(s) serving the parking areas. The PMC shall be entered into with a qualified and licensed elevator maintenance firm. The PMC shall be established to require regularly scheduled maintenance visits to the facility to ensure that PM services are actually performed, and that all such PM meets or exceeds the Original Elevator’s Manufactures specifications. The PMC with the provider shall state that PM services can only be performed on the scheduled service dates. Calls for service regarding additional elevator operating assistance (i.e., failures) shall be separately tracked and administered. **No PM service shall be performed during a call for service.**

Capital Maintenance

Replace operating equipment on a schedule based on the operating service life of the equipment as may be called for in the manufacturers' specifications for such equipment, or as prudently required. When the capital maintenance costs for any specific project exceed \$5,000, prior to replacement, City or designated vendor shall obtain at least 3 competitive bids for such equipment or goods, and obtain the owner’s approval prior to purchasing such equipment, goods or services. All purchasing must be in compliance with City of Bozeman’s Procurement policies. Equipment items to be included in the Capital Maintenance Schedule will include:

- CCTV/security monitoring equipment (if in place)
- Revenue/access control equipment
- Lighting fixtures (i.e., ballast)
- Elevators

- Painted surfaces
- HVAC systems
- Waterproofing (decks and landings)

The City of Bozeman's off-street parking assets should be of the highest standard and quality. This can be achieved through best practice procedures related to janitorial and maintenance. This is not only important from a customer services perspective - ensuring clean, safe and attractive facilities - but from a financial management and investment perspective as well. The care and maintenance of public parking facilities should be at no less a standard than that given to other buildings in public ownership. These are that produce revenue; necessary investments in their cleanliness and operational integrity will increase their revenue potential. For these reasons it is important that Bozeman develop formal janitorial and maintenance plans for each of its facilities. Once developed these plans should be routinely supervised and monitored, with reporting of key performance metrics to internal and external stakeholders.

Recommendations

- Develop formal parking janitorial and maintenance plans for each facility based on the sample maintenance schedule provided herein.
- Develop a schedule of routine oversight, measurement and reporting of plan implementation.
- If janitorial and maintenance is contracted out to a third party, the individual parking janitorial and maintenance plans should become a contracted work scope item in final service agreements with third party providers.
- Program and allocate between 3% - 5% of gross parking revenue to maintenance reserves for each parking facility (a higher percentage for older facilities and lower percentage for newer facilities).

APPENDIX D

Technical Memorandum - Task 2: Analysis of Historical Parking Occupancy Data

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MEMORANDUM

TO: Thomas Thorpe, City of Bozeman

FROM: Rick Williams, RWC
Owen Ronchelli, RWC
Pete Collins

DATE: November 23, 2015

RE: **Downtown Bozeman - Comprehensive Parking Study**
Task 2: Analysis of Historical Parking Occupancy Data

I. BACKGROUND

Task 2 of the Downtown Bozeman Comprehensive Parking Study scope of work entails a look at historical and recently compiled parking occupancy data for the downtown. Occupancy data was collected by Montana State University and provided to Rick Williams Consulting (RWC). In order to better understand the abundance of information collected, RWC has analyzed and interpreted the data in a more understandable and useful manner. This memorandum describes the individual data sets and the methodology used to assemble them, and presents a summary of key findings.

There are three usable parking data sets (2012, 2014, and 2015)¹. Each set varies in magnitude and breadth of geography covered. Interestingly, on-street parking utilization data was collected by combining occupancy numbers from opposing block faces. While the data is not detailed enough to provide distinctive occupancies block face by block face, it does provide combined occupancies from both sides of the street. In each study, the number of blocks counted also varied from one year to the next. It appears that the 2014 data set was the most comprehensive in the number of block faces surveyed. *It should be noted that in each of the three data samples, occupancies for Main Street were not collected and/or reported.*²

¹ Data was also provided from 2010; however, the data collection methodology and the completeness of the sample differed significantly enough to exclude it from this comparison.

² This is a large data gap given that Main Street is the primary corridor in the downtown, and its occupancy levels would greatly influence outcomes related to parking constraints or surpluses. In its next data collection effort, the City should endeavor to compile a complete picture of parking occupancy and utilization on Main Street. This is a recommendation the consultant team made in *Technical Memorandum: Task 1 – Initial Summary Notes and Considerations*, (October, 30, 2015).

II. PARKING SURVEY SAMPLE SIZE

- 2012: 139 on-street stalls were surveyed across 16 block faces. The study also reported parking occupancies at 5 off-street facilities, totaling 624 stalls. Combined, the 2012 parking study sampled 763 parking stalls. **Figure A** (page 3), details the block faces and off-street lots sampled during the 2012 survey.
- 2014: 214 on-street stalls were surveyed across 24 block faces, a 54% increase in sample size over the 2012 study. The data set also included parking occupancies at 5 off-street facilities, totaling 624 stalls. Combined, the 2014 parking study sampled 838 parking stalls. **Figure B** (page 3), details the block faces and off-street lots sampled during the 2014 survey.
- 2015: Parking counts were taken in 5 off-street facilities, totaling 622³ stalls. No on-street stalls were sampled in 2015. **Figure C** (page 4), details the off-street lots sampled during the 2015 survey.

Both of the on-street parking studies (2012 and 2014) included three separate counts, one in July, one in August, and one in September. For the purposes of this analysis, these counts were averaged into a single normalized number. The off-street counts (except 2015) were conducted in conjunction with the on-street counts. The 2015 off-street study also included three counts; however, all were conducted in the month of September. Again, these counts were averaged for direct comparison.

³ 2015 data showed one fewer stall on both the Willison (43 rather than 44) and Carnegie (70 rather than 71) lots. The discrepancy could be due to restriping the lot or repurposing of a parking stall (e.g., provision of bicycle parking or relocating a waste dumpster).

Figure A – 2012 Parking Study Sample Area



Figure B – 2014 Parking Study Sample Area

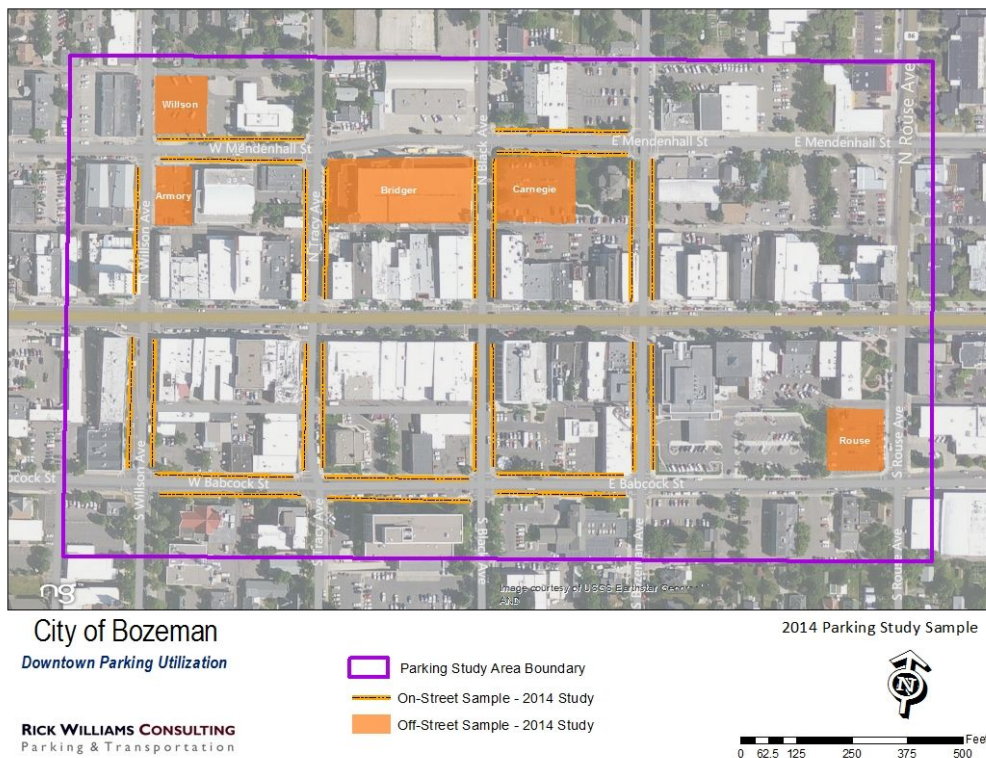


Figure C – 2015 Parking Study Sample Area



The primary difference between the on-street sample sizes is that the 2014 survey replicated the 2012 study area but added four block faces on Mendenhall and six block faces on Babcock. On Mendenhall, these included the north and south sides between Willson and Tracy, and the north and south sides between Black and Bozeman. On Babcock, they included the north and south sides between Willson and Bozeman. In each year’s parking study, the same five off-street facilities were sampled: Willson Lot, Armory Lot, Bridger Garage, Carnegie Lot, and Rouse Lot.

III. PARKING DATA SYNTHESIS – UTILIZATION FINDINGS

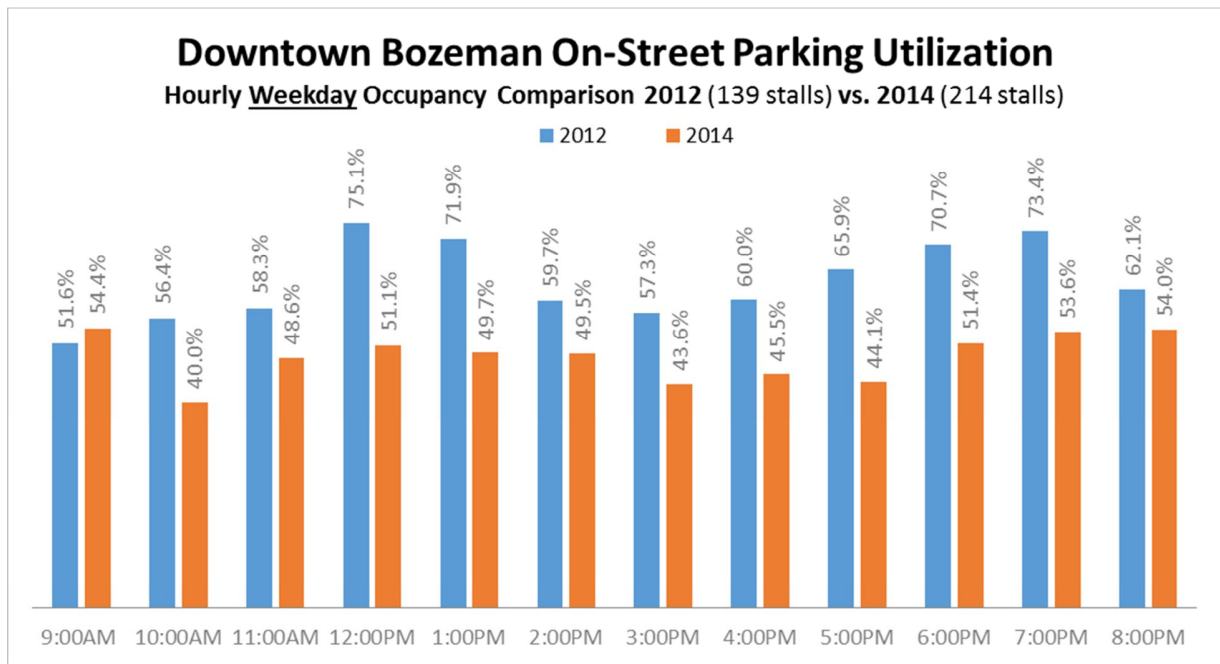
The intent of the parking data assessment is to provide as complete a picture of downtown Bozeman’s daily parking dynamics as the data will allow. The consultant team, where possible, maximized the amount of sampled data sets to be displayed in order to provide the clearest understanding of parking in Downtown Bozeman. Unfortunately, the on-street data presented here is limited in its breadth and provides an incomplete picture of how the parking supply is truly functioning. In the Considerations section of this memo (p. 15), it is recommended that the City commission a more thorough study of the on- and off-street parking supply, which would analyze all parking within a defined downtown study area including Main Street. This would establish a baseline inventory and data template, which would allow for accurate comparative analyses in subsequent years.

The following section describes the findings from each of the three survey years. The data is separated into weekday versus weekend results. Each of those categories is further broken out by on-street versus off-street results.

A. ON-STREET OCCUPANCIES – Weekday

Figure D provides a visual comparison of average on-street weekday occupancies.

Figure D – On-Street Weekday Parking Occupancies – Full Survey Samples



From **Figure D**, the following results can be derived:

- The 2012 weekday peak hour reaches 75% from 12:00 to 1:00 PM.
- The 2014 weekday peak hour reaches 54% from 9:00 to 10:00 AM and from 8:00 to 9:00 PM.
- At first glance it appears that 2012 weekday on-street occupancies are significantly higher than 2014 in 11 out of the 12 hours surveyed.

It is not surprising that the 2012 results reflect higher occupancy rates, as the block faces in the survey sample are immediately adjacent to Main Street, where parking occupancies are suspected to be highest. The 2014 sample includes an additional 10 block faces consisting of 75 parking stalls located a full block off of Main Street. For a more direct comparison, **Figure E** provides a side-by-side contrast of hourly occupancies.

From **Figure E** (next page), the following results can be derived:

- In contrast to **Figure D**, **Figure E** shows a true comparison of the exact same stalls surveyed two years later, using similar survey days.
- The 2012 weekday peak hour reaches 75% from 12:00 to 1:00 PM.

- The 2014 weekday peak hour reaches 83% from 8:00 to 9:00 PM.
- While there is less variation in the hourly occupancies compared to **Figure D**, it is evident that 2014 results exceed 2012 findings in each hour of the 12-hour survey.
- Both data sets show a dual peak, one during the lunch hour and a second in the evening post-dinner hours.
- Given that the data samples are on block faces that do not include Main Street, peak occupancies in **Figure E** may actually be understated.

Figure E – On-Street Weekday Parking Occupancies – Exact Sample Size

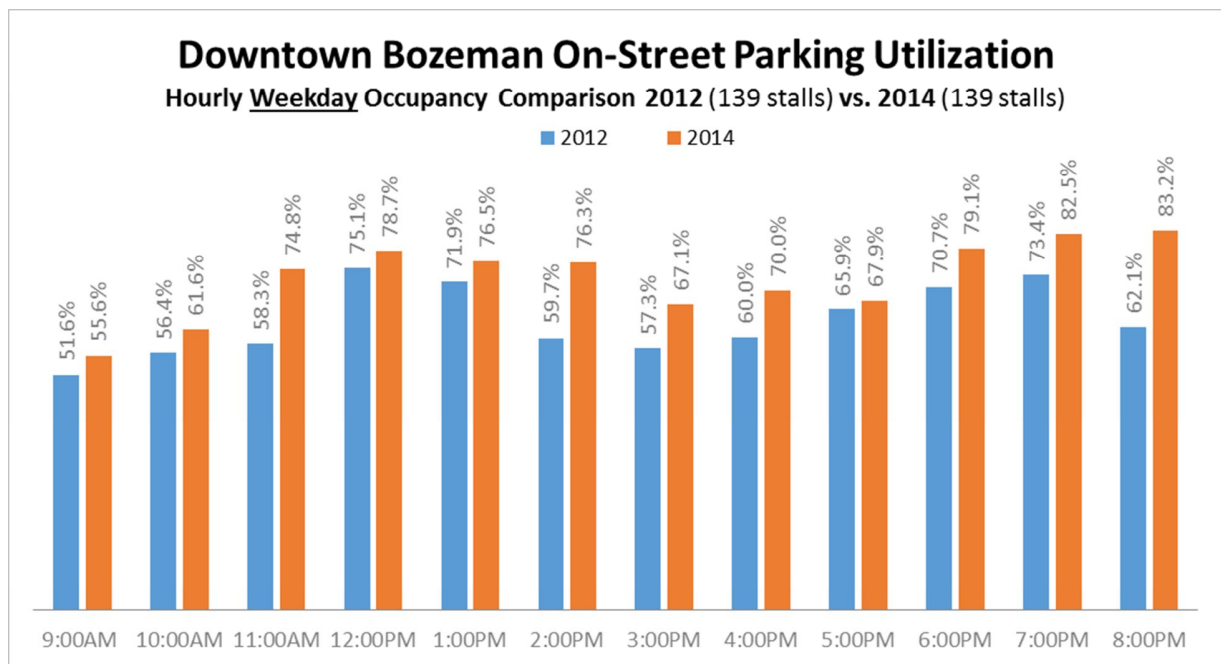


Table 1 summarizes on-street peak-hour occupancies for each of the comparative weekday survey data sets. It also shows stalls empty/available based on the surveyed sample size.

Table 1: On-Street Weekday Parking Utilization

Year	Supply	Survey Sample Size	Peak Occupancy	Peak Hour	Stalls Empty/ Available
2012	On-Street	139	75.1%	12:00 – 1:00 PM	35
2014	On-Street	214	54.4%	9:00 – 10:00 AM	98

Figure F (next page) shows 2012 weekday peak-hour occupancies by block face. These parking utilization “heat maps” provide a visual snapshot of parking occupancies on each block face during the peak hour. This tool displays areas of high occupancy at a quick glance using color codes. Red indicates a parking

constraint (>85%) at a specific block face, orange indicates robust activity (70% - 84%), yellow is moderate activity (55% - 69%) and green is low activity (<55%).

- The four block faces on Willson and Tracy Avenues between Main and Babcock exhibit occupancies in excess of 85%, highlighted in red.
- Off-street, only the Willson and Armory lots show moderate off-street occupancy levels, shown in orange highlight. The three remaining off-street lots show low occupancy levels, shown in green highlight.

Figure F – 2012 Weekday Parking Occupancies by Block Face – Peak Hour 1:00 – 2:00 PM

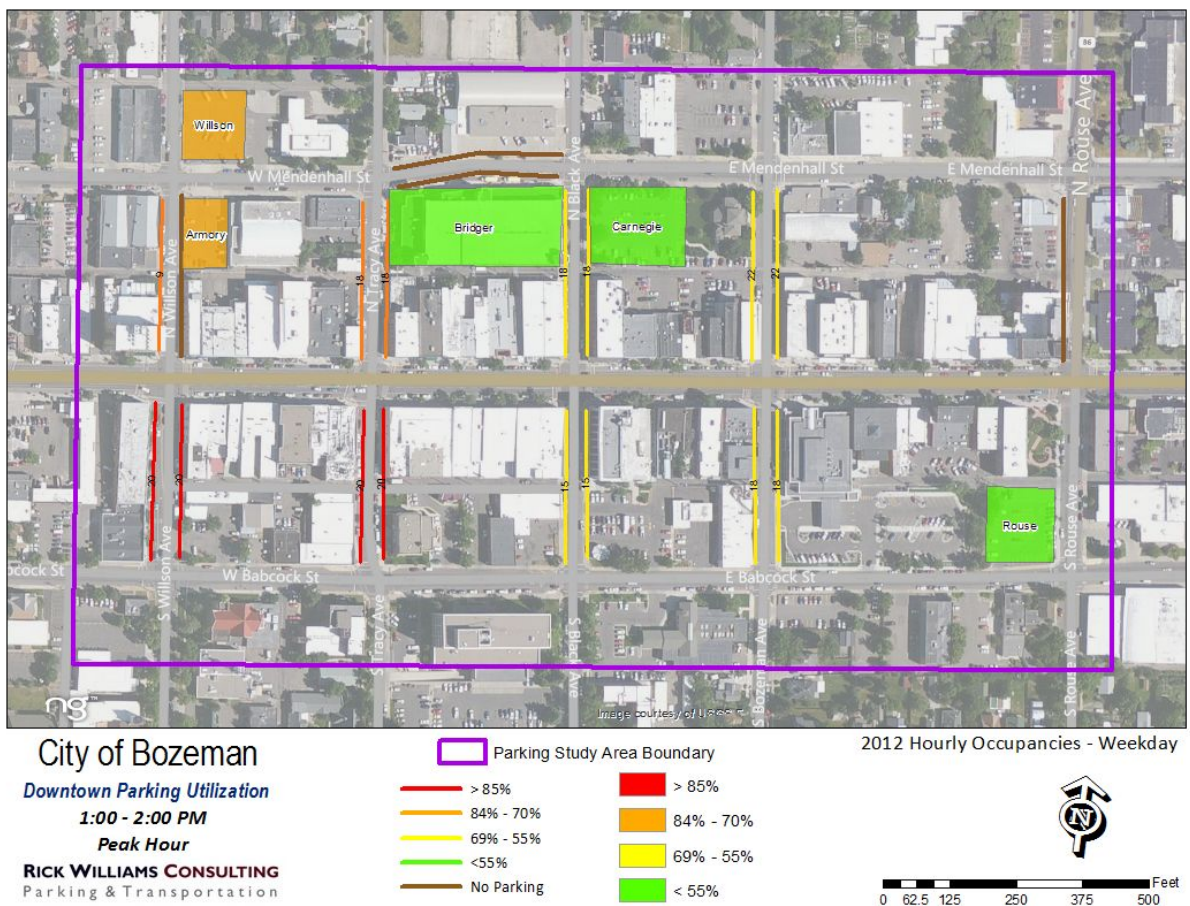
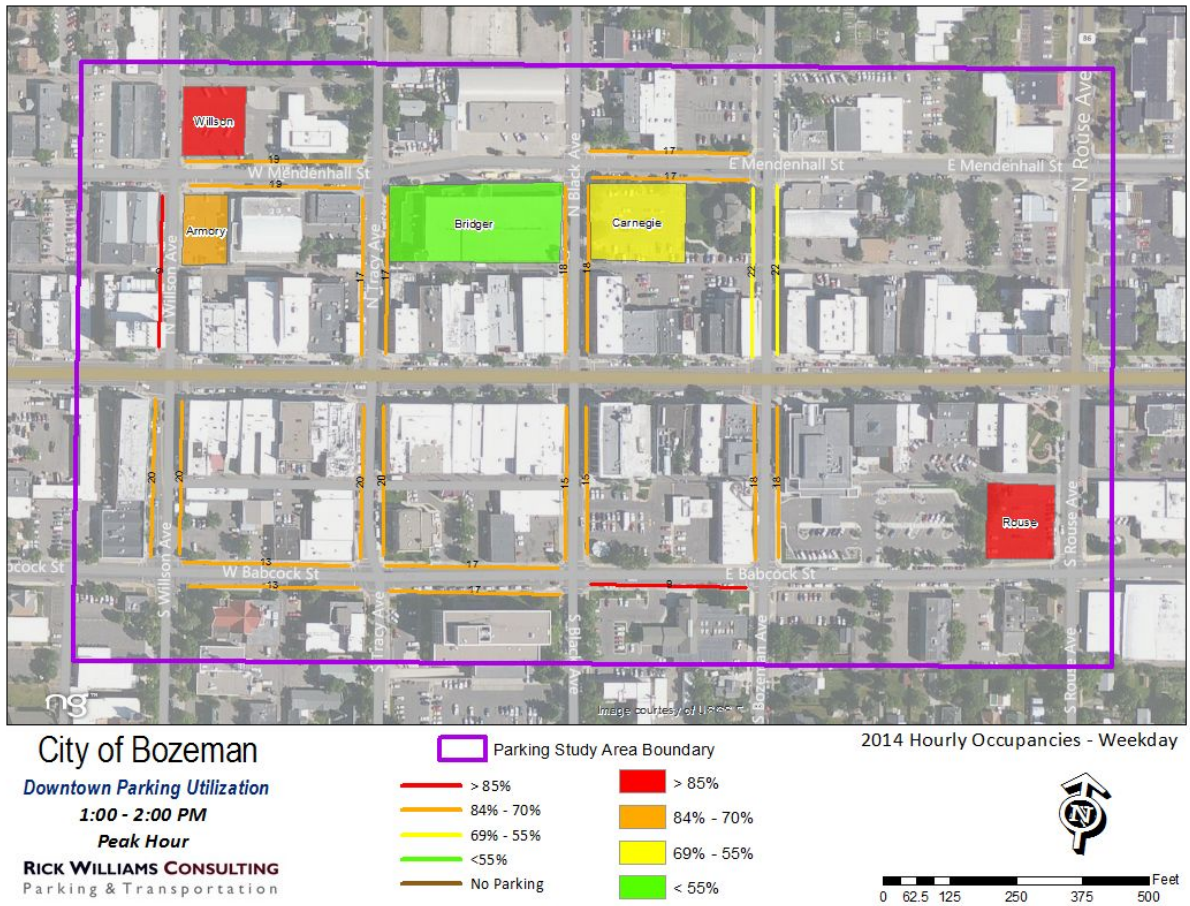


Figure G (next page) shows 2014 weekday peak-hour occupancies by block face.

- Only two block faces exceed the 85% threshold: the west side of Willson between Mendenhall and Main and the south side of Babcock between Black and Bozeman are shown highlighted in red.
- Twenty other block faces show a moderate occupancy level, shown in orange highlight.
- Only two block faces (on Bozeman Avenue between Main and Mendenhall) showed lower occupancy levels, shown in yellow highlight.

- Two off-street lots, Willson and Rouse, meet or exceed 85%, shown highlighted in red.
- Overall, off-street use in 2014 exceeds that demonstrated in 2012 (particularly at Willson and Rouse).

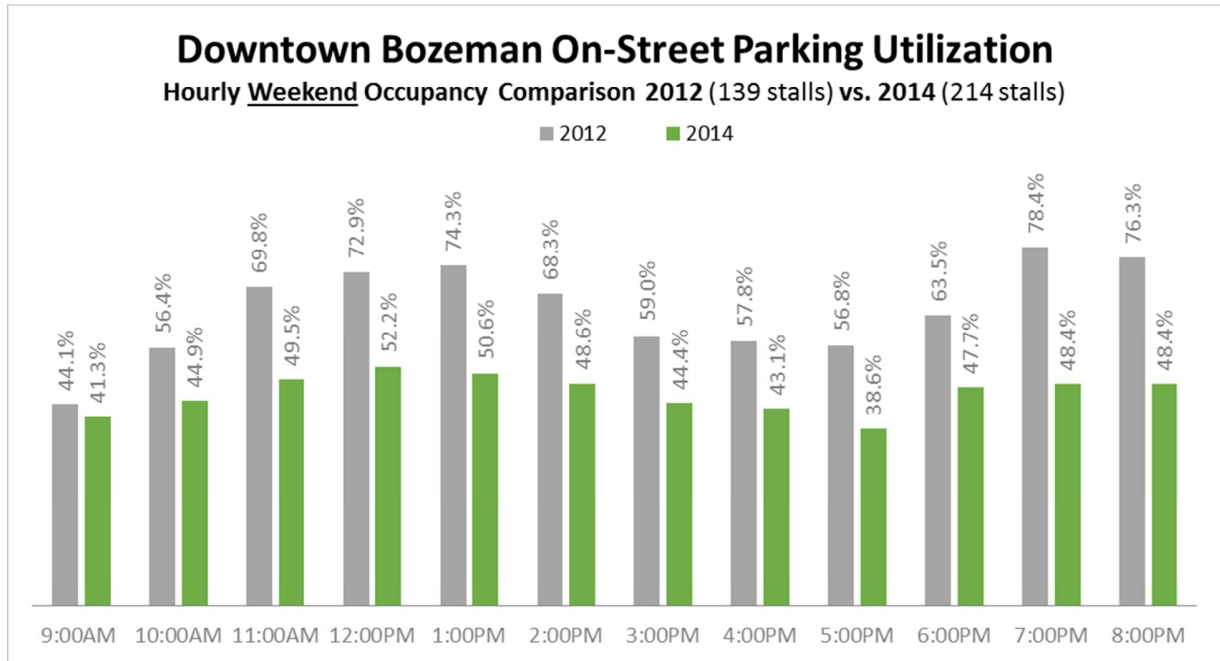
Figure G – 2014 Weekday Parking Occupancies by Block Face – Peak Hour 1:00 – 2:00 PM



B. ON-STREET OCCUPANCIES – Weekend

Figure H provides a visual comparison of on-street average weekend occupancies.

Figure H – On-Street Weekend Parking Occupancies – Full Survey Samples

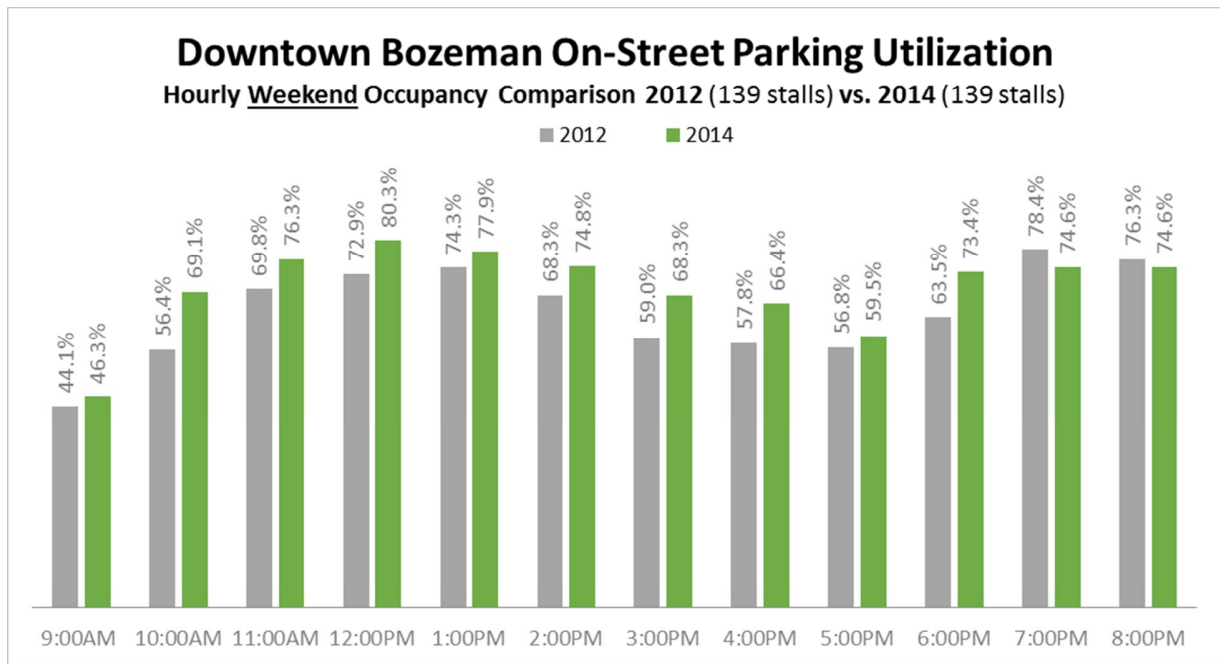


From **Figure H**, the following results can be derived:

- The 2012 weekend peak hour reaches 78% from 7:00 to 8:00 PM.
- The 2014 weekend peak hour reaches 52% from 12:00 to 1:00 PM.
- Both data sets exhibit a “dual peak hour,” during the midday and again during the evening dinner rush.
- Similar to the weekday comparison (**Figure D**, page 5), the smaller 2012 parking sample has overwhelmingly higher hourly occupancy rates.

Again, because each sample size is small, it is important to show the broadest data sample possible, which may more accurately reflect overall parking occupancy in the larger study area (purple boundary in Figures A, B, and C). **Figure I** (next page) provides a side-by-side contrast of hourly occupancies for the two years using a 139-stall survey sample that is apples-to-apples.

Figure I – On-Street Weekend Parking Occupancies – Exact Sample Size



From **Figure I**, the following results can be derived:

- The 2012 weekend peak hour reaches 78% from 7:00 to 8:00 PM.
- The 2014 weekend peak hour reaches 80% from 12:00 to 1:00 PM.
- Similar to **Figure E** for weekday data (page 6); 2014 results exceed 2012 occupancies in 10 out of the 12 hours surveyed.
- Though peak hours oscillate between midday and evening, both weekend data sets show a similar dual peak to those observed during the work week.
- The lack of data for Main Street may be understating the overall occupancy situation in the core area.

Table 2 summarizes on-street peak-hour occupancies for each of the comparative weekend survey data sets. It also shows stalls empty/available based on the surveyed sample size.

Table 2: On-Street Weekend Parking Utilization

Year	Supply	Survey Sample Size	Peak Occupancy	Peak Hour	Stalls Empty/Available
2012	On-Street	139	78.4%	7:00 – 8:00 PM	30
2014	On-Street	214	52.2%	9:00 – 10:00 AM	102

Figure J (next page) illustrates 2012 weekend peak-hour parking demand by block face using an occupancy heat map.

- Close to the lunch hour, there is a high concentration of parking demand on the west end of the downtown, specifically on Willson Avenue, both north and south of Main.
- Three block faces on Willson Avenue between Mendenhall and Babcock exhibit occupancies in excess of 85%, highlighted in red.
- The Willson and Armory lots show high (or constrained) off-street occupancy levels, shown in red highlight, adding to the on-street constraint along Wilson.
- The Bridger, Carnegie, and Rouse facilities have low occupancy, and therefore abundant stall availability.

Figure J – 2012 Weekend Parking Occupancies by Block Face – Peak Hour 1:00 – 2:00 PM

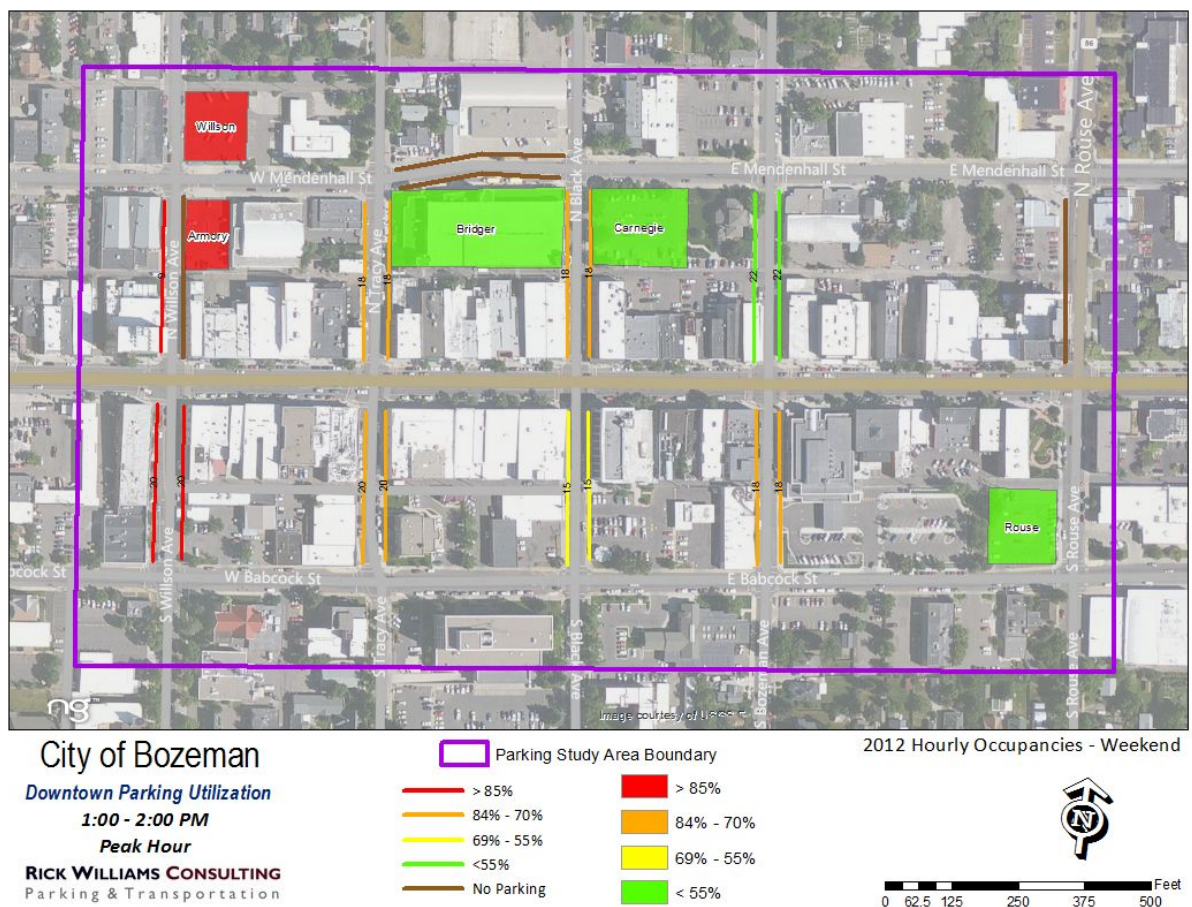
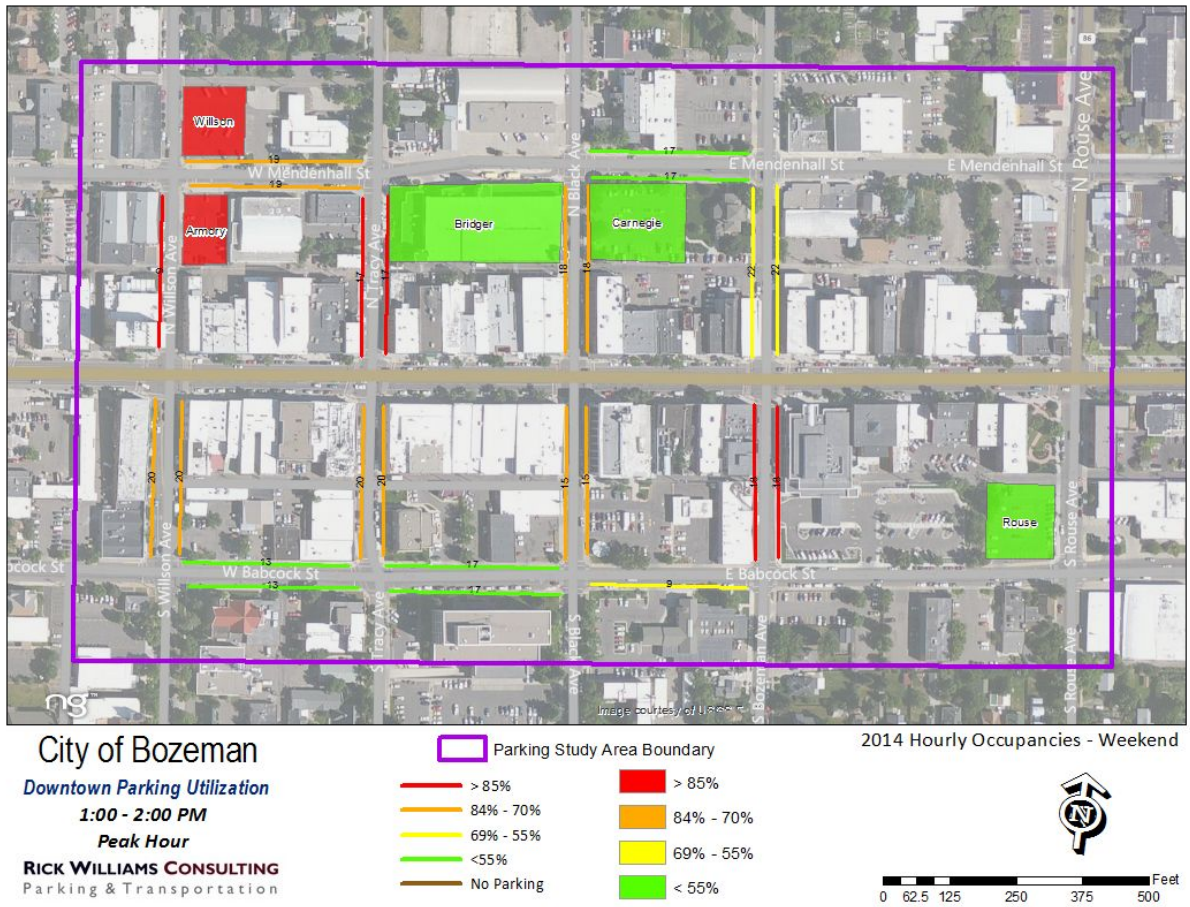


Figure K (next page) shows 2014 weekend peak-hour occupancies in heat map format.

- During the 2014 weekend peak hour, five block faces exceeded the 85% threshold: Willson and Tracy Avenues between Mendenhall and Main, and Bozeman Avenue between Main and Babcock, shown highlighted in red.
- An additional 10 block faces experience moderate occupancy levels, shown in orange highlight.
- Two off-street lots, Willson and Armory, meet or exceed 85%, shown highlighted in red. As with the 2012 data set, Bridger, Carnegie and Rouse demonstrate low use.

Figure K – 2014 Weekend Parking Occupancies by Block Face – Peak Hour 1:00 – 2:00 PM

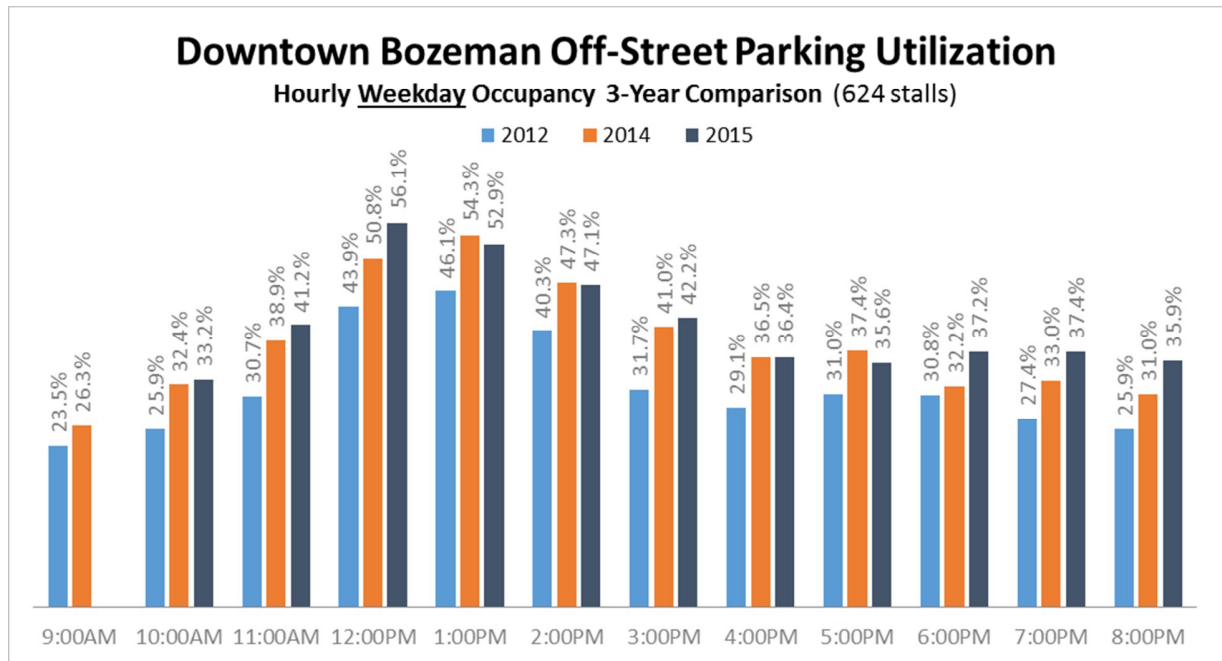


C. OFF-STREET OCCUPANCIES – Weekday

Unlike the on-street survey samples, each of the three off-street survey years are consistent, evaluating the same facilities and sample size, which provides a direct year-to-year comparison for the off-street system.

Figure L provides a visual comparison of off-street average *weekday* occupancies.

Figure L – Off-Street Parking Occupancies – Weekday



From Figure L, the following results can be derived:

- The 2012 weekday peak hour reaches 46% from 1:00 to 2:00 PM, delayed one hour from the on-street peak.
- The 2014 weekday peak hour reaches 54% from 1:00 to 2:00 PM.
- The 2015 weekday peak hour reaches 56% from 12:00 to 1:00 PM.
- All survey years show similar hourly demand patterns, yet do not experience the dual evening peak as prominently as the on-street system.
- These results show a modest but steady growth in demand for off-street parking from one survey year to the next.
- Despite growth in off-street demand, there is still an abundance of parking availability during all weekday hours.

Table 3 (next page) summarizes off-street peak-hour occupancies for each of the comparative weekday survey data sets. It also shows stalls empty/available in the peak hour based on the surveyed sample size.

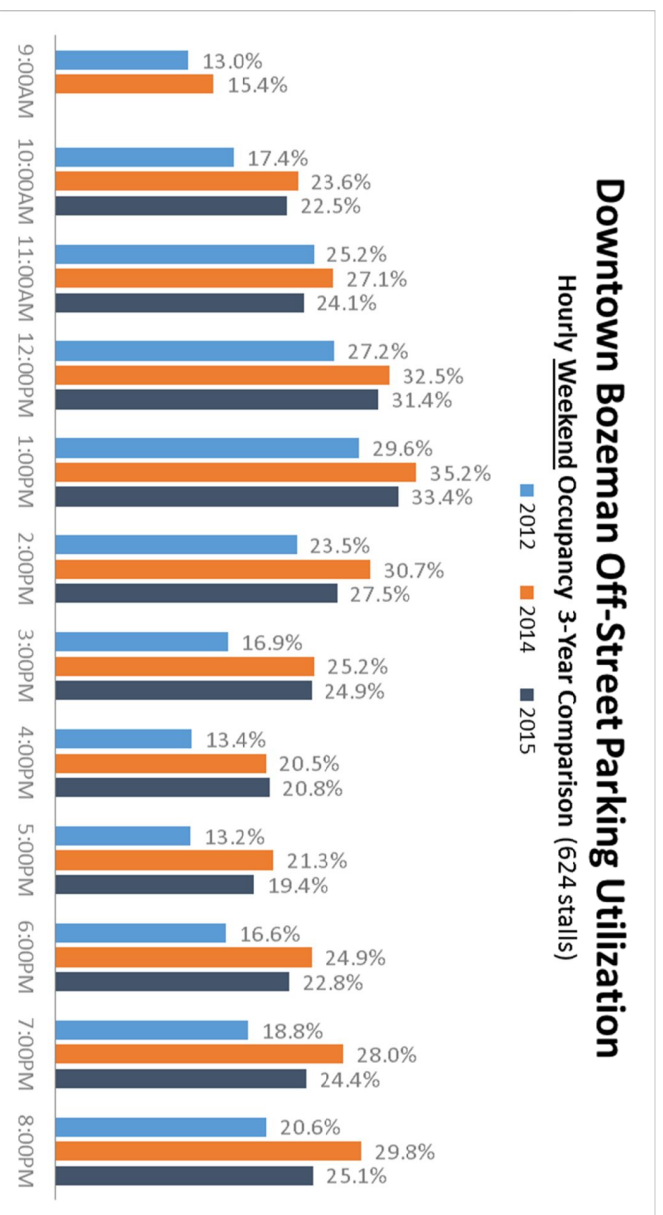
Table 3: Off-Street Weekday Parking Utilization

Year	Supply	Survey Sample Size	Peak Occupancy	Peak Hour	Stalls Empty/Available
2012	Off-Street	624	46.1%	1:00 – 2:00 PM	336
2014	Off-Street	624	54.3%	1:00 – 2:00 PM	285
2015	Off-Street	622	56.1%	12:00 – 1:00 PM	273

D. OFF-STREET OCCUPANCIES – Weekend

Figure M provides a visual comparison of off-street average weekend occupancies.

Figure M – Off-Street Parking Occupancies – Weekend



From Figure M, the following results can be derived:

- The 2012 weekend peak hour reaches 29% from 1:00 to 2:00 PM.
- The 2014 weekend peak hour reaches 35% from 1:00 to 2:00 PM.
- The 2015 weekend peak hour reaches 33% from 1:00 to 2:00 PM.
- Interestingly, 2014 results display the highest overall hourly occupancies, rather than 2015 weekday results shown in Figure L (page 13).
- Weekend off-street occupancies are, on average, between 10 and 20 percentage points lower than during the weekdays.

Table 4 (next page) summarizes off-street peak hour occupancies for each of the comparative weekday survey data sets. It also shows stalls empty/available based on the surveyed sample size.

Table 4: Off-Street *Weekend* Parking Utilization

Year	Supply	Survey Sample Size	Peak Occupancy	Peak Hour	Stalls Empty/Available
2012	Off-Street	624	29.6%	1:00 – 2:00 PM	439
2014	Off-Street	624	35.2%	1:00 – 2:00 PM	404
2015	Off-Street	622	33.4%	1:00 – 2:00 PM	414

IV. CONSIDERATIONS AND NEXT STEPS

Bozeman has an active downtown that is beginning to experience some of the strain that comes with success, including customer and visitor anxiety about finding parking. The parking occupancy information collected over the years shows a trend toward a more constrained supply, but falls short of providing a true picture of daily parking dynamics that occur throughout the larger downtown. Some of the shortfalls in the previous data include:

- Small datasets. All three datasets focused on only a small portion of Downtown Bozeman.
- Aggregated data. Data from opposing block faces was merged. By separating out block faces, more refined analyses and recommendations can be made.
- Lack of data for Main Street. There were no on-street counts for Main Street, likely the most occupied street in Downtown Bozeman.

The consultant team would recommend the following steps to better understand how and by whom the parking supply is currently being used.

- Complete a thorough inventory of the entire downtown parking supply, cataloguing each parking stall by block, numbering the stall based on its location on the block face, and recording its time restriction (if applicable). The inventory could also include striping, stall orientation (parallel or angled), and other attributes such as street signage, parking permits, loading zones, bus zones, etc. Equally important, the inventory would include a quantification of off-street parking by facility (public *and* private), and its supported land use (e.g., retail, office, restaurant, residential).
- Initiate a complete parking turnover utilization study of the entire downtown. The parking metrics and efficiency indicators from this type of analysis should include:

On-street

- Hourly license plate survey
- Hourly occupancy summary
- Average duration of stay system-wide
- Average duration of stay by stall type
- Parking turnover rate
- Percent of vehicle trips violating the posted time stay
- Number of vehicles parked 5 hours or more (identifies employee parking locations)

- Number of unique vehicle trips
- Total vehicle hours parked (to assist in developing future revenue models)
- Number of vehicles moving to evade a citation
- Occupancy heat maps for each block face in the downtown
- Identification of areas of parking surpluses and deficits

Off-street

- Hourly occupancy counts in all public lots/garages and meaningful sample of private facilities
- Occupancy heat maps for each surveyed lot/garage in the downtown
- Total vehicle hours parked (to assist in developing future revenue models)
- Identification of areas of parking surpluses and deficits

Downtown Bozeman is a wonderful example of a vibrant “Main Street” city, with an active retail environment and a friendly pedestrian feel. Uncertainty around parking often follows such success, and Bozeman is currently experiencing these concerns. Additional parking data will allow the City to better plan and manage on- and off-street parking to support both the existing demand and the new growth coming to Bozeman.

APPENDIX E

Technical Memorandum - Task 4: Future Parking Needs: Vehicle & Correlated Parking Counts

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MEMORANDUM

TO: City of Bozeman

FROM: Owen Ronchelli, RWC

Pete Collins, RWC

Rick Williams, RWC

DATE: April 13, 2016

RE: **Task 4: Future Parking Needs: Bozeman Vehicle & Correlated Parking Counts**

This Technical Memorandum summarizes the methodology and findings of correlating annual vehicle counts in Bozeman to the parking occupancy data provided by Montana State University. The intent of this analysis is to determine if there is a correlation between average daily traffic volumes and parked vehicles using Main, Mendenhall, and Babcock Streets. In other words, the hypothesis postulates that increasing vehicle counts along any one of the streets would result in higher daily average parking occupancy levels along that corridor. Trends in vehicle count data could then be used as a measure for predicting future parking need; particularly if there were demonstrated percentage increases in vehicle traffic counts.

I. BACKGROUND

Rick Williams Consulting (RWC) set out to assess parking demand in Downtown Bozeman using existing data counts previously collected by Montana State University.¹ Unfortunately the data sets were not as complete as originally thought and as such, the data analysis yielded only a partial picture as to the condition of parking in the downtown. Main Street parking data was not collected, thereby leaving RWC to create parking occupancy assumptions.

To supplement the limited parking data, the City and RWC turned to traffic volume counts as a predictor of vehicles accessing the parking system. With yearly traffic volume counts throughout the greater downtown collected by the City dating back to 1983, this data set was plentiful. At least three of the counts (Main Street, Mendenhall, and Babcock) occur within the downtown parking study area.

Before an explanation of the correlation methodology, an understanding of the traffic volume data is prudent.

¹ MSU parking occupancy data provided to RWC by the City was reviewed in *Technical Memorandum: Task 2: Analysis of Historical Parking Occupancy Data (November 23, 2015)*.

II. VEHICLE VOLUME: DATA ANALYSIS

The following section summarizes the results of the analysis.

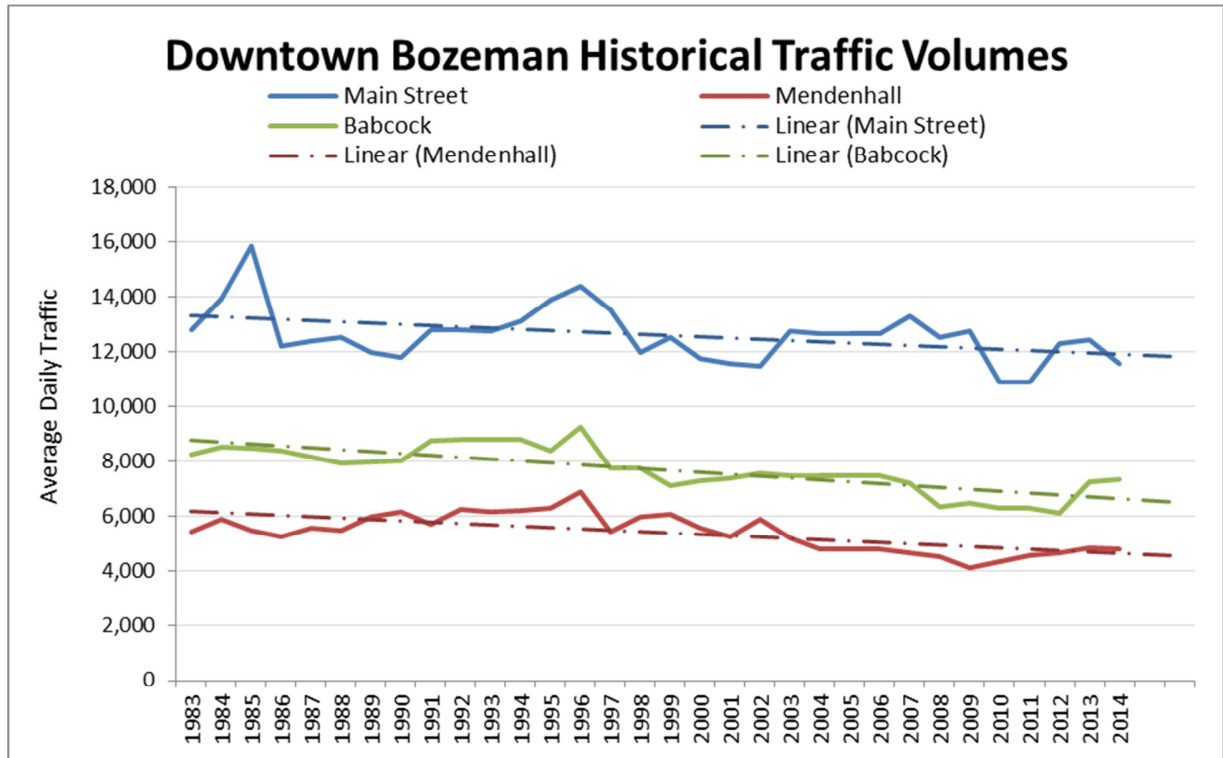


Figure 1: Average Daily Vehicle Volumes (1983 – 2014)

Surprisingly, vehicle traffic volumes for the three affected streets within the study area (Main Street, Babcock, and Mendenhall) show an overall downward trend from 1983 to 2014. *Figure 1* illustrates this descending trend. The solid lines depict the average vehicle counts for each of the three streets, whereas the dotted lines show the prevailing trend for those average counts. While there are a number of yearly averages with figures above the trend line, there are an equal number showing the declining movement.

Despite the descending trend, Main Street, with a number of shops and restaurants, remains the most traveled road among the three studied streets. Both Mendenhall and Babcock, parallel streets to the north and south of Main, remain well used, but are likely used more so by local, residential traffic.

Year	Main Street	Mendenhall	Babcock
2005	12,680	4,820	7,480
2006	12,680	4,830	7,490
2007	13,321	4,670	7,240
2008	12,520	4,530	6,380
2009	12,750	4,120	6,510
2010	10,890	4,360	6,320
2011	10,890	4,580	6,300
2012	12,290	4,700	6,140
2013	12,470	4,870	7,270
2014	11,600	4,810	7,340
10-Year Average²	12,388	4,675	6,963
Average Annual Percentage Change³	-0.01%	-0.13%	-0.21%

Table A: Average Daily Vehicle Volumes (2005 – 2014)

Table A provides the traffic volumes figures from the last decade. The bottom of the table shows the historical average year over year change for daily trips in the downtown over the course of the entire dataset (1983 – 2014). As mentioned previously, the counts show a gradual decrease in vehicle volumes, Main Street (-0.01%), Mendenhall (-0.13%), and Babcock (-0.21%).

The 10-year Average provides a synopsis of the average traffic volumes per year from 2005 to 2014. Again, Main Street is by far the most popular street with traffic volume approximately three-times that of Mendenhall and twice that of Babcock.

III. CORRELATION METHODOLOGY: TRAFFIC VOLUMES & PARKING OCCUPANCY DATA

As mentioned earlier, parking occupancy and use data for Main Street has not been collected, thereby, in order to establish a form of correlation for Main Street, an assumption of parking occupancy was determined based upon the parallel streets, Mendenhall and Babcock. This is summarized in Table B, Row C (next page). Both Mendenhall and Babcock had similar average daily weekday parking occupancies, 56.40% and 58.76%, respectively and both occupancies were derived from averaged 2014 MSU data. For the purposes of this analysis and because Main Street parking occupancy was not collected, RWC estimates Main’s average daily parking occupancy at approximately 70%. The rationale for this assumption is that Main Street averaged the highest traffic volume in the study area with nearly 12,700 vehicle trips per day. Main Street is the major travel corridor with the most parking stalls and the most destinations for patrons to the downtown, which would suggest a ‘higher’ parking capture rate.

² 10-Year Average includes average daily vehicle counts from 2005 through 2014.

³ Average annual percentage change is based on the average year over year percentage change dating back to 1983.

To then determine the parking capture rate (the correlation ratio to determine cars parked to the traffic volume); Daily Vehicle Volume (*Row A*) was divided by the number of Daily Cars Parked (*Row B*), which resulted in a Parking Capture Rate (*Row D*). To estimate the Main Street capture rate, RWC first determine the rates for both Babcock and Mendenhall using the MSU data - Daily Cars Parked (*Row B*). Not surprisingly, Mendenhall, which is a slower paced, lower volume street, had the ‘highest’ parking capture rate – one car parked for every 19.71 vehicles that drove by; whereas, on Babcock (a higher volume street) one car parked for every 26.69 vehicles that drove by. Although fewer cars use Mendenhall, it serves more localized trips, whereas Babcock and more so Main Street are used more as a travel corridor with a lower percentage of localized trips.

Using these rates, if Babcock had a 70% average daily parking occupancy, it would result in a ‘higher’ parking capture rate of – one parked car for every 22.41 vehicle trips. Applying that same vehicle capture rate to Main Street equates to 518⁴ daily cars parked (*Row B*).

	2014	Main Street ⁵	Mendenhall	Babcock
A	Average Daily Vehicle Volume	12,680	4,820	
B	Total Daily Cars Parked ⁶	518	244	275
C	Average Daily Parking Occupancy	70.0%	56.40%	58.76%
D	Average Daily Parking Capture Rate	22.41	19.71	26.69

Table B: Parking Capture Rate

The average daily vehicle volume figures provided by the City are collected over a 24-hour period and are an average of multiple counts taken over the course of a year. Parking counts collected by Montana State University were collected over a 12-hour period during three separate months⁷; the three data collection days were averaged for each hour of sample then totaled to determine the Total Daily Cars Parked (*Row B*). Again, only Mendenhall and Babcock parking data was used, and Main’s Total Daily Cars Parked relied on the 70% assumption, explained above.

⁴ Partial count for the Main Street corridor.

⁵ Due to a lack of empirical data, nearly all the data for Main Street (except for Daily Vehicle Volume) was estimated based on similar data from parallel streets – Babcock and Mendenhall.

⁶ Total Daily Cars Parked are partial counts based on the data provided (counts for Main St. were estimated using adjacent street as reference).

⁷ July, August, and September, 2014. The 2014 data set was chosen because it was the most robust and detailed of all the parking count surveys. It should also be noted that the parking sample counts for Mendenhall and Babcock are partial and do not represent all stalls and/or block faces on the street within the study area.

IV. FINDINGS & NEXT STEPS

The assessment while interesting does not yield any strong conclusions about the parking utilization of Main Street (or others) nor does it reveal a predictable future parking deficit for the downtown. Unfortunately the MSU parking data did not include Main Street (occupancy, stall count, etc.) and therefore assumptions based on parallel streets were used which are likely not completely representative of the parking ebbs and flows of Main Street. If there was a direct correlation between average daily vehicle volumes and total daily cars parked using the figures derived in *Table A*, the number of daily cars parked would be slowly declining year over year. However, based on general observations, anecdotal complaints about the difficulty to find parking, and a growing demand for parking permits, all point to growing constraints in the parking system. In short, this correlation analysis does not truly reflect the parking impacts facing a growing downtown Bozeman.

An important next step in understanding how the parking system is being utilized (and by whom) and identifying where surpluses and constraints exist will be to conduct a complete parking turnover analysis of the on-street system and an occupancy analysis of the off-street system. Creating annual or bi-annual data collection efforts/records allows for not only a historical understanding, but also allows for more efficient management of the on and off-street supplies and better predictive tools for anticipating demand growth. Only then will the findings help to resolve the prevailing perceptions of the parking supply and reveal the true dynamics of the parking system. Knowing the reality of the system will allow the City to better manage and maximize the use of the existing supply, while thoughtfully planning for the future.