Final Report

Ketchum Transportation Study
Ketchum, Idaho

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CHAPTER 1 – EXECUTIVE SUMMARY

A comprehensive study of Ketchum's transportation conditions, trends, and future needs was undertaken during 2002-2003. This report documents the investigation process, alternative strategies considered and final recommendations. The results can be used to update the Transportation Element of the Comprehensive Plan to guide transportation investment and management decisions over the next decade and beyond. This chapter gives a summary description of the entire study process, analysis, and main recommendations. The body of the report accounts for the wide-ranging analysis of many options in Chapters 2 through 6. Details of actions that survived a preliminary screening are found in Chapters 7 and 8, including a discussion of "trigger points" that would determine when each action should be taken. Chapter 9 provides a summary table of all recommended actions, with preliminary cost estimates.

1.1 Overall Process

Earth Tech, Inc. conducted the study with the assistance of Galena Engineers, Inc. Previous studies of transit and road system issues were reviewed for applicable information. Interviews were conducted with members of the city council, planning commission, and staff of the city and other public agencies, to gain perspective on the history, issues, and prospects for transportation planning in Ketchum. Public input was received at presentations to the city council, a public open house, and a survey questionnaire. Policy direction given by Resolution #772 of the Ketchum City Council was implemented in the final results.

Existing traffic conditions were evaluated by a combination of field reviews and analysis of traffic counts taken in the summer of 2002. Promising traffic improvements were identified to improve safety and traffic flow at several intersections on Main Street and Warm Springs Road. Future traffic conditions were estimated based on conservative growth projections consistent with the baseline assumptions used in the SH-75 Timmerman to Ketchum Environmental Analysis ("NEPA Study"), but adding a range of high and low traffic growth to allow for the uncertainty of forecasting.

Although a portion of the community opposes growth for its adverse impacts on the quality of life in the community, the demographic and economic factors operating in Blaine County indicate that growth at some level is a certainty. Therefore, solutions were sought to address the traffic consequences of growth. Three alternative strategies were evaluated:

- Expand road capacity through Ketchum to serve traffic growth and reduce congestion
- Divert most forecast traffic growth into other modes by aggressive expansion of transit and non-motorized services and facilities, coupled with parking management and transportation demand management programs
- Implement small-scale traffic improvements to reduce current traffic conditions, initiate expanded transit and demand management programs to begin to change the way people travel, monitor future traffic conditions over time for successes and failures, and use a system of "trigger points" to determine whether the transit and demand management strategy is working, or other traffic improvements should be undertaken

The recommended approach is the third option above, but there are risks and costs associated with this strategy to change the way people are accustomed to traveling, and risk of failure. Monitoring of "trigger points" provides a way to assess future conditions and determine realistic countermeasures. For this strategy to succeed, there must be strong commitment and steady direction on the part of the City of Ketchum, cooperation of other state and local governments, and support within the community.

1.2 Problems Identified

Ketchum has experienced enormous traffic growth over the past two decades, culminating in traffic congestion normally associated with larger urban areas. Main Street in downtown Ketchum is severely congested in peak hours, as is some of Highway 75 between Ketchum and Hailey. Localized traffic problems are also evident on Warm Springs Road and on east-west streets in the downtown area. Parking supply in the downtown core is not efficiently utilized, with some prime retail parking areas being used by employees, which leads to the appearance of a parking shortage. The available supply of free parking also tends to encourage commuting by cars and discourage other modes, especially transit, for work commutes.

Transit service is provided by Ketchum Area Rapid Transit (KART) for local circulation. The new Peak Bus commuter service has public support and provides a useful service to some market segments. However, both transit operations have limited budgets. They are thus unable to provide service as fast, frequent, and convenient as private automobiles. For that reason, the percentage of the total travel market in Ketchum that is served by transit is very low.

Pedestrian circulation within downtown is affected by traffic, especially crossing Main Street. Although a pedestrian atmosphere is strongly desired, portions of downtown lack sidewalks, and existing sidewalks are undersized in the busiest areas of downtown.

Bicycle paths and lanes are important to the community but there are significant gaps in the continuity and quality of designated bicycle routes within Ketchum.

Existing Highway 75 can serve very little additional traffic in its present form during peak hours. The entire Ketchum city street system is affected by congestion on Main Street. The rising cost of land and housing in Ketchum is forcing more of the work force to live in lower-cost areas of South Blaine County or other counties, adding to the commuter traffic flow.

The further impact of continued growth is a major concern. Economic and demographic studies previously completed for the City of Ketchum and for the SH-75 Timmerman to Ketchum Environmental Analysis indicate the most likely future is a continuation of growth in Blaine County, due to the natural attractions of the area. Population and job growth in the past has averaged 2% to 3% annually for Blaine County. The future projections are in the range of 1.5% to 2% annually. The Ketchum-Sun Valley area of North Blaine County will remain the "economic engine" of the region, but population growth will be concentrated in southern part of Blaine County, in Hailey and Bellevue, due to high housing costs in Ketchum. This divergence between housing and job markets leads to commuter travel growth in the SH-75 highway corridor into Ketchum. There will also be increased traffic volumes within Ketchum based on local growth in addition to commuter flows. Resulting traffic growth forecasts for the Ketchum area are in the range of 40% to 80% growth for the period 2000 to 2025, based on current driver behavior patterns, and allowing for uncertainty of actual market behavior in the future.

This range actually represents a slower rate of growth than the two decades just past. Underlying economic trends are unlikely to disappear, and justify significant actions to improve the transportation system, especially in the corridor of SH-75 and in downtown Ketchum. The open question is to what extent the improvements should serve automobile travel and to what extent alternatives should be encouraged and implemented, including efforts to induce changes in the behavior of existing travelers away from automobiles and toward transit, bicycles, walking, and other shifts in activity patterns.

Major expansion of roadways is opposed by some portions of the community, on the basis of adverse consequences for the environment and for Ketchum's character and style as a rural small town

community. Major road construction also entails capital costs. But the operation of a large-scale transit program also entails high costs in the form of ongoing operating expenses for drivers and other workers. It is also very uncertain whether people will actually use transit to the level needed to eliminate or minimize further road system expansion.

1.3 Alternative Solutions

Potential road expansion concepts were initially considered based on physical feasibility. It is feasible to create additional road capacity in Ketchum, if the community would accept it.

North-south options that were considered included:

- Extending Second Avenue northward to connect directly with Warm Springs Road via any of several connecting routes, to provide a fast and direct path to Warm Springs Road as an alternative to Main Street
- Adding lanes on Main Street by removing parking
- Upgrading parallel routes such as Leadville Avenue, Washington Avenue, First Avenue, and Third Avenue
- One-way couplets with various connecting links at the north and south ends of downtown.
- A tunnel under Main Street
- More lane capacity across Trail Creek

East-west improvement options focused on relief of Main Street by various means:

- Diverting traffic from Sun Valley Road (Third Street) to either Second Street or Fourth Street
- One-way couplet using Second and Third Streets
- One-way street grid for all downtown streets

Intersection upgrades with signalization and/or turn channelization were evaluated for Warm Springs Road, Main Street, and Second Avenue /Serenade Lane.

Based on a "fatal flaw" screening process with heavy weight on public response to the suggested actions, most of these road expansion options were discarded.

Attention turned to options based largely on improving intersection operations, rather than major changes to the arterial route system. The chosen actions provide current congestion relief at low cost and have minimal impacts on the community, but provide only a small increment of capacity for future growth.

The key improvement is a pair of signals on Main Street at Second and Fourth Streets. This makes a coordinated signal system feasible for Main Street, improves circulation across Main Street for vehicles, supports pedestrian and bicycle crossings of Main Street at those two streets, and makes the Fourth Street Pedestrian / Bicycle Corridor feasible. Additional intersection improvements are provided on Warm Springs Road at Tenth Street and Lewis Avenue, and on Serenade Lane at Main Street and at Second Avenue.

If traffic growth and congestion continues, some additional traffic will use Second Avenue. To offset that impact, a "traffic calming" approach to the Second Avenue Corridor was also devised, with emphasis on pedestrian, bicycle, and landscaping improvements. These will provide a buffer zone between adjacent land uses and the traffic on that street. This approach does not envision additional lanes on Second Avenue, nor equip Second Avenue to serve as a major "bypass" route, but provides a better fit between existing traffic volumes on Second Avenue and the adjacent land uses, with some capacity to respond to small traffic increases that may be inevitable.

For this level of road investments to be adequate and successful for the long-term future, there must be a major investment in alternative strategies to prevent the traffic growth that normally comes with economic growth. Substantially increased transit investments and a strong parking management program will be necessary as the "carrot" and the "stick" to divert most of the future traffic growth that is otherwise predicted into modes other than cars on roads.

Transit alternatives focused on expansion of the two transit systems now serving Ketchum, to a level that would be consistent with the goals of Resolution #772. This was a hypothetical calculation to demonstrate the level of transit service needed to provide the capacity for forecast growth by means of transit rather than roadway improvements. The KART program was envisioned to expand gradually over the years to a level that is five to ten times the current program. This results in a comprehensive circulation system connecting all Ketchum neighborhoods with the downtown core, and including a downtown shuttle bus service that ties together all activity centers for tourists, and parking areas for workers. Such a local transit system would enable many Ketchum residents to live in Ketchum without using a car for most local trips. Similarly, large-scale expansion of the Peak Bus program was developed to link Ketchum jobs with worker populations in South Blaine County. This system would also be developed gradually, adding buses as demand grows. The goal for 2025 would be a system of 20 buses operating in the peak commuter hours in order to hold future traffic volumes entering Ketchum to the level of traffic volumes, per Resolution #772.

The capital and operating costs to provide such a high level of transit service would be quite high by the 20th year, but the first-year costs to start the program would be within reach. The program will require substantial investments in capital and operating budgets, increasing each year from the present until 2025. Grants from outside sources may be possible, but local funds will always be required for at least half the costs.

More importantly, there is no assurance that people will actually use the transit system to the extent envisioned based merely on a policy goal to avoid traffic growth. The current KART system is available to all for free, but most Ketchum residents still drive their own cars to shop, recreate, and work, based on the convenience of self-directed travel. The current Peak Bus system is making inroads on commuter patterns, but not all buses are full. Commuters choose to drive alone, drive in carpools, or take the bus, based on a complicated calculus of personal needs, and the availability of options. To radically alter the current behavior patterns will require detailed understanding of the marketplace of travel options, and a managed course of intervention that alters the supply and demand relationships so that travelers will make different choices. There is hope for this course of action, but real change will not come easily.

These transit programs will only be successful if supported by policies and management programs to make it feasible and attractive for commuters to divert from cars to buses, and for at least some Ketchum residents to abandon their cars. A prolonged effort to change habits might lead to a new "not in my car" ethic among Ketchum residents, if supported by community leaders. The most likely response of the community, however, would be based on pocketbook economics rather than idealism. From a supply and demand point of view, the transit choice becomes more viable in peoples' minds when parking is either costly or limited, or both. Therefore, a parking management program will be a key instrument for stimulating mode changes among commuters and residents alike. Employer support for alternative modes should also be cultivated, in various forms. Federal tax law now permits a tax deduction for employer-paid bus fares, similar to the previously invisible support given through employer-provided "free parking."

Free parking on public streets is widely regarded as a "right" of the public as taxpayers, but in the current age of diminished federal support for local programs, governments are increasingly forced to view the services they provide from a marketplace perspective, and charge fees for services rendered. In that light,

free parking represents a hidden subsidy. It is also a valuable resource that would be more efficiently and equitably allocated through a system of parking charges. People who value the parking would pay to use it. People who don't value it would choose other options, ranging from just carpooling to split the cost, to transit, bicycling, or walking, or choosing other parking options (off-site parking lots, etc.). Some will even choose "none of the above" and go elsewhere entirely, but these may be replaced by newcomers who accept the new order and cooperate with it.

Improvements to pedestrian safety and mobility, and continuity of bicycle routes, were incorporated into all stages of the plan. Pedestrian mobility and safety would be greatly enhanced by a program to gradually fill in all the missing sidewalks in the downtown core area, and wherever else there is substantial pedestrian activity. While pedestrian improvements are commonly provided with new developments, the City should devise a program to accelerate those actions proactively, to create a continuous safe pedestrian environment including the frontage of properties that may not be developed or re-developed in the near future.

Bicycling is a cherished activity to residents and visitors to Ketchum alike. The recommended actions include completion of missing segments of the Wood River Trail, relocation of the Sun Valley Trail away from Third Street, and completion of other new trail segments to provide for safe bicycling in several major road corridors.

Pedestrian and bicycle circulation in the downtown area would be enhanced by completion of the Fourth Street Pedestrian – Bicycle Corridor. This concept cannot reach its full potential unless the intersection of Fourth and Main is signalized, to provide safe and orderly crossings. Fortunately, the single easiest and most effective traffic improvement for Main Street also involves signalizing of this intersection, along with a signal at Second and Main. The interests of motorized and non-motorized travel are both served by that signal project.

The greatest uncertainty in this evolving plan, and the greatest choice before Ketchum, is what to do for pedestrians on Main Street. An attractive high-activity pedestrian area needs a sidewalk space of from 10 to 15 feet, for circulation space, street furniture and trees, kiosks, bicycle racks, outdoor café tables, transit shelters, and so on. To achieve this in downtown Ketchum may require removing some parking or removing a travel lane, or other compromises. Those services to vehicles would have to be replaced in other ways. If most traffic is to be served on Main Street (with or without growth) and use of parallel streets is to be kept at or near current volumes, then either sidewalks cannot be widened as much as might be desired, and/or existing parking may have to be removed in part or in whole.

There are only two choices for Ketchum to reconcile this major dilemma:

- Widen Main Street sidewalks, and remove some or all parking, If future traffic growth forces additional action, convert Main Street and Second Avenue into a one-way couplet
- Keep existing sidewalks and maximize the use of Main Street to serve most traffic rather than parallel streets. If future traffic growth forces additional action, reduce parking to make room for a fifth lane on Main Street

The recommended program keeps this choice open for a while and provides "trigger point" decision mechanisms to help decide which way to proceed.

A modest traffic increase on Second Avenue could be sustained and made palatable by a systematic upgrade of the non-motorized features in that corridor, and by applying a "traffic calming" approach to lane width and curb parking. Continuous sidewalks, landscaping, and curb parking would all serve to increase the pedestrian – vehicle separation, and make that route capable of absorbing some existing traffic from Main Street. That would permit Main Street to be reconfigured with a three-lane design that

permits wider sidewalks, and serves reduced traffic demand adequately. At the same time, the intersections on Serenade Lane should be viewed as a "gateway" location and designed accordingly to welcome visitors to the City and to allocate traffic to the appropriate corridors.

If the community decides that most traffic in Ketchum should always be served on Main Street, then there is little choice but to retain the existing through lanes, and wait to see how effective the proposed signal improvements and transit and parking strategies will be to deal with future growth. If future traffic growth nevertheless exceeds the capacity of existing Main Street's four lanes, then there will be no option but to remove some parking, forego any widening of sidewalks, and implement a five-lane configuration. There are options for removing half of all parking, or all parking on Main Street. These actions should not be considered until after a parking management program is operational, and provides alternatives to replace the lost parking spaces on Main Street.

If Ketchum chooses instead to upgrade the pedestrian environment on Main Street by widening sidewalks and reducing parking or through travel lanes, there will be no capacity for future growth. If transit strategies are unsuccessful and traffic growth overwhelms Main Street and other streets, then the final recourse would be to convert Main Street and Second Avenue into a one-way couplet. That provides more efficiency with the same number of lanes, two through lanes northbound on Main Street and two lanes southbound on Second Avenue. There could be an additional turn pocket at some intersections on Second Avenue, and Main Street would have a continuous third lane northbound to handle turn volumes. Both streets can be adapted to this configuration with full sidewalks and no expansion of road width beyond three lanes. Some through traffic could also be expected to detour around Ketchum by way of Elkhorn Road to and through Sun Valley.

The future of Highway 75 south of Ketchum is the subject of a separate environmental impact study led by Idaho Transportation Department. Surviving alternatives in that study offer no more than four lanes on SH-75 north of Elkhorn Road. All configurations north of Elkhorn Road are sized to fit within available right-of-way, and for that reason provide a low level of service in peak hours at the forecast level of traffic growth by 2025, and do not meet statewide level of service standards. That compromise has been made to avoid right-of-way taking north of Elkhorn Road. Transit and demand management options are now considered in all SH-75 alternatives. There will be five lanes from Elkhorn Road south to Hailey. HOV priority lanes are an option for the long section between Hailey and Elkhorn Road, but the limited right-of-way in Ketchum makes it impossible to retain HOV priority in the final short section north of Elkhorn Road. Nevertheless, a four-lane roadway would allow transit to operate with much less delay than any smaller configuration, between Elkhorn Road and downtown Ketchum.

The maximum forecast for transit ridership in the SH-75 study supports a future bus service of four peak hour buses, based on a detailed survey of actual travel mode preferences and support for demand management in Blaine County. That is a substantially lower contribution from transit than was assumed for the aggressive transit program described in this study to respond to Resolution #772's no-growth goal. The difference between the two estimates (4 buses vs. 20 buses in the peak hour) illustrates the difference between a transit program with a high probability of success (4 buses) derived from known traveler preferences, and a high-risk transit strategy based on a desired outcome requires a major shift in the decisions made by travelers (20 buses). The high-risk strategy might succeed, but not without strong behavior-changing incentives and intense management efforts, coupled with a much higher investment in capital and operating costs that begins small but ultimately reaches the level of $2-$4 million per year in 2025.

The main point of concern for Ketchum regarding SH-75 alternatives is related to the Main Street dilemma discussed above. These interests meet at the Trail Creek Bridge. A Ketchum decision for Main Street to carry all traffic growth in the future suggests that the SH-75 configuration should be a four-lane

road to and across Trail Creek, plus turn pockets at major intersections. The alternative Ketchum decision (to enhance the pedestrian environment on Main Street and limit the through capacity of Main Street) suggests that the Trail Creek Bridge should not be widened in terms of traffic lanes, and the highway improvements should consist of at most three lanes between Serenade Lane and Trail Creek. Pedestrian and bicycle improvements across Trail Creek could be provided alongside the existing bridge, or by replacing that bridge with a new two-lane bridge plus pedestrian/bike facilities. South of Serenade lane the highway could be any configuration from 2 to 4 lanes, with corresponding differences in capacity and congestion. But the 4-lane design offers the most benefits for transit and for efficient access to both Main Street and to the West Ketchum and River Run areas, via Serenade Lane.

1.4 Recommendations

The recommended long-range strategy emphasizes first emphasizes support for pedestrian and bicycle modes within Ketchum, then expanded transit service to/from and within Ketchum, and finally road improvements where undeniably necessary. The effectiveness of transit strategies requires a supporting strategy of parking controls in the downtown area and other major employment centers, as proposed in a separate parking study. "Trigger points" are identified to justify and prioritize various implementation decisions. A financial implementation outline is included.

Initial elements of this long-range include:

- Fourth Street Pedestrian/Bicycle Corridor
- Pedestrian/Bicycle improvements between Serenade Lane and downtown
- Expansion of KART system for higher frequency and reduced waits
- Expansion of Peak Bus commuter service
- Policy support for employer reimbursement of employee's transit costs on a par with parking otherwise provided to employees
- Parking management program to reduce all-day parking demand by commuters, reduce commuter travel, and increase parking available to downtown business customers
- Additional signals on Main Street at Second and Fourth Streets, and coordination of all signals on Main Street, for pedestrian safety and congestion relief

Over time, the following pedestrian and transit elements of the plan would be gradually expanded on an annual basis to keep up with growth:

- Completion of sidewalks throughout the downtown area. This can be combined with other possible downtown improvements (e.g., lighting and repaving projects) for efficiency.
- Annual expansion of Peak Bus commuter service, triggered by ridership growth in preceding year
- Annual expansion of KART neighborhood circulation program, triggered by ridership growth in preceding year

Additional road improvements could be implemented later if actual traffic growth meets or exceeds defined trigger points:

- Upgrade Warm Springs Road at intersections of Tenth Street and Lewis Street, triggered by signal warrants and completion of Main Street signal improvements
- Possible elimination of left turns on Main Street, triggered by return of severe congestion on Main Street in the future after signal coordination has been installed
- Operational upgrade of Second Avenue (sidewalks, landscaping, and traffic calming revisions), triggered by local growth in West Ketchum or renewed congestion on Main Street in the future

- Choice of one-way couplet (Main and Second) or widening Main Street by removing parking, triggered by return of severe congestion and other decisions regarding Trail Creek bridges and plans for SH-75
- Connection of Lewis Street to Saddle Road, coordinated with development activity on city-owned park-ride lot, or other practical opportunity

Ketchum should also work with Blaine County and Idaho Transportation Department to achieve the following:

- Adopt a plan for SH-75 within the area of Ketchum's planning interest – i.e., from the hospital north, that conforms to Ketchum's choice for Main Street, and enhances transit and carpool operations between the hospital area and downtown Ketchum. This plan becomes more important in that the County is proposing a Community Housing Overlay to increase the density of the immediate area surrounding the hospital. This area will become denser and will provide many more opportunities for transit options in the future.
- Investigate the possibility of creating a bus transit corridor from Hailey to Ketchum, by a combination of SH-75 segments and local roads parallel to SH-75 through new residential developments, as an interim action before federally financed improvements in the corridor can be completed
- Operational improvements at intersections and other "bottleneck" locations to reduce current congestion, as interim actions with state and local funding, before federally financed improvements in the corridor can be completed

CHAPTER 2 – IDENTIFICATION OF NEEDS

This chapter provides a record of conditions and issues identified by the consultant during 2002. Sources include:

- A review of previous studies
- Numerous briefings with city officials and staff
- Staff of other agencies
- Field inspections by the consultant of the identified problem locations

2.1 Previous Studies and Documents

The previous transportation plan for Ketchum was prepared in 1994. Recommendations for changes to that plan have either been completed or rendered obsolete by changed circumstances. In the past decade, there have been several other community-wide planning studies, public opinion surveys, and specific traffic studies. Additional studies are on-going. For historical perspective and continuity, a summary of the key points yielded by the previous work follows.

TRAFFIC CIRCULATION AND PARKING STUDY FOR KETCHUM, JUB ENGINEERS, INC, 1994

The focus of this plan was the 45-block downtown area, including traffic capacity analysis and a parking survey of 600 respondents.

Recommendations that have been completed:

- Install signals at First Street and Fifth Street (completed in the 1990's)
- Remove signal at Sixth Street (accomplished in 2003)
- Construct parking structures (required of new developments)

Recommendations with partial implementation:

- Acquire additional sites for public parking in downtown (some additions to date)
- Shuttle service for downtown area (partial implementation via KART citywide bus routes through downtown)
- Reserve right-of-way at periphery of Ketchum for park-n-ride and shuttle lots (implemented as street parking on East Avenue and First Avenue, and city ownership of large area north of Warm Springs Road and east of Saddle Road)
- Construct pedestrian facilities (some sidewalk improvements and parking-in-lieu fund)
- Provide bicycle storage racks (new developments all comply)

Recommendations not yet implemented:

- Create an alternate bicycle lane to the existing route on Sun Valley Road

KETCHUM/BLAINE COUNTY HOUSING NEEDS ASSESSMENT, ASI ASSOCIATES, INC. AND RRC ASSOCIATES, INC., January 1997

This survey of population, housing, and economic trends identified several housing issues for Blaine County as a whole. Key findings of the 1997 survey include:

- 580 new or replacement housing units were needed
- Some units were needed due to existing overcrowded units
- Some units were needed due to an overpriced market that limited affordable housing

- Some units were needed to provide local housing for workers in Blaine County who lived in other counties
- Approximately 26% of households paid more for housing than they could afford
- Broad-based support was found among residents and employers for the government to play a role in increasing affordable housing

LAND CAPACITY STUDY, J. GAEDDERT AICP AND C. GAEDDERT, June, 1997

This study for the City of Ketchum inventoried the vacant, developed, and redevelopable land within and adjacent to the City of Ketchum, to estimate the amount of potential new development that might occur over time. Key findings of the 1997 survey include:

- 3,300 dwelling units existed in the city and surrounding area
- 1.8+ million square feet of buildings were in use for commercial and industrial purposes

The study evaluated the potential for new development based on existing zoning, but with discounts for land that may not be developed for environmental reasons, market factors, or personal choices of landowners. The study concluded that existing zoning would potentially allow growth up to the following levels:

- 3,900 additional dwelling units
- 3.0 million square feet of new commercial and industrial space

KETCHUM CITIZEN SURVEY RESULTS, DIAGNOSTICS PLUS, July 1998

A total of 477 Ketchum residents were interviewed, including full-time and part-time residents, homeowners, and renters. The survey obtained citizen evaluations of many areas of public services, in terms of importance and in terms of performance. Areas with deficits between these two scales were described as areas needing improvement.

Highest performance ratings:

- Police, fire, and emergency safety functions
- Parks and recreation
- KART public transit

Poor performance ratings:

- Car parking options
- Reasonably priced housing

Greatest deficits between importance and performance:

- Car parking options
- Reasonably priced housing
- Traffic programs to manage congestion

Area needing the most improvement:

- Traffic congestion management

Future policy and planning directions favored by residents:

- Affordable housing
- Growth management to preserve the small town atmosphere
- Preserve the scenic beauty of the area
- Protect the environment

- Public transportation from Bellevue to Ketchum
- Youth programs and activities

SH-75 CORRIDOR LOCATION STUDY, CH2M-HILL, January 1999

This 1999 highway corridor planning study for the Idaho Transportation Department proposed:

- Widen the existing state highway to four through lanes
- Add a two-way left-turn lane to Main Street within Ketchum
- Remove some parking from Main Street to make room for two-way left-turn lane
- Coordinate traffic signals

This corridor study presumed the need for highway improvements and proposed a design for same with limited consideration of alternatives. It has been superceded by a more open-ended study based on federal guidelines for environmental review, which is now ongoing (the "NEPA Study").

ASSESSMENT OF PROPOSED IMPROVEMENTS ON STATE HIGHWAY 75, ALTURAS TO TRAIL CREEK – MP 121-128, BY DARREL G. WILBURN, PE AND ROBERT L. MORRIS, 1999

This special report to the City of Ketchum provided a review and critique of SH-75 improvements recommended to State of Idaho by CH2M-Hill, Inc. Key findings of the 1999 survey include:

- Highway design recommendations were based on the use of rural design standards requiring high speeds and large "clear zones" alongside travel lanes
- Urban design standards would allow lower design speeds and smaller geometric designs more compatible with urban conditions
- Existing peak hour speeds were well below speed limits due to congestion comparable to urban conditions
- Growth forecast indicated a need for four lanes south of Serenade
- Widening of Main Street north of Serenade could be avoided if traffic were split at Serenade, allowing drivers to use Second Avenue as well as Main Street
- If the Main Street bridge across Trail Creek were to be widened, an alternative route would be needed during construction - e.g., Second Avenue
- If a high-capacity transit alternative to highway expansion were to be implemented, the logical location would be via the abandoned 100-ft. railroad right-of-way used for the Wood River Multi-Purpose Trail

ASSESSMENT OF PROPOSED IMPROVEMENTS ON STATE HIGHWAY 75, PHASE 2, by DARREL G. WILBURN, PE, March 2000

This report to the City of Ketchum provided further evaluation of transportation growth issues associated with the state's proposed SH-75 improvements from Elkhorn Road to downtown Ketchum. A downtown parking survey was conducted in December 1999, and compared to the summer 1997 parking survey.

- Wintertime Christmas season parking demand was found to be considerably less than summer peak demand
- Ketchum differs from most cities where Christmas shopping defines the annual peak for traffic and parking
- Parking management controls were recommended rather than building a new public parking supply in downtown
- "Smart Growth" policies were recommended, to reduce vehicular trips on public roadways, by mixing land uses and arranging activities within a development [italics added]
- Mixed use developments may not be allowed by current Comprehensive Plans

- Transit and carpooling programs would be capable of removing 5% to 10% of cars from the peak hour traffic stream
- Congestion in downtown Ketchum caused some traffic to bypass Ketchum via Elkhorn Road to the east
- Congestion in downtown Ketchum caused some traffic to use Second Avenue as a bypass on Ketchum's west side
- Future traffic growth on SH-75 would lead to "gridlock during the peak hours," unless the capacity improvements were made to that highway

Alternative designs for SH-75 between Elkhorn Road and Sixth Street were described, ranging from the existing two lanes to a maximum of five lanes. The recommended alternatives had the following features:

- Eliminate parking on Main Street through downtown Ketchum in the peak direction only, during peak hours.
- Widen the Trail Creek Bridge to match roadway width on both sides.
- The Elkhorn to Serenade section of Highway 75 should have four lanes.

Signalized intersections capacity was evaluated and provided the following results:

- Demand westbound on Sun Valley Road to Main Street was so great that queues sometimes backed up as far as East Avenue.
- The four-phase signal operations plan that this demand requires prevents effective coordination of this intersection with the two-phase signals at First Street and Fifth Street
- There is a capacity loss of 20% to 50% for Main Street due to lack of coordination and inefficient phasing

SH-75 TIMMERMAN TO KETCHUM ENVIRONMENTAL ANALYSES, PARSONS BRINCKERHOFF QUADE & DOUGLAS (PBQD), ongoing

This study is currently underway. It follows federal guidelines for an open-ended scientific inquiry of needs for transportation improvements in the SH-75 corridor, pursuant to the National Environmental Policy Act (NEPA). The study is conducting a lengthy review of existing transportation conditions, documenting realistic prospects for growth throughout Blaine County to the year 2025 based on known demographic and economic trends, and identifying alternative ways to provide needed capacity in the highway corridor including a transit alternative. The study has relied on extensive public input through open houses and a broad-based advisory committee of citizens and public agencies. Task reports described below are available on the study's website (www.sh-75.com).

Transportation Demand Management Survey Results, February 2002

- Survey of businesses from Bellevue to Ketchum and Sun Valley
- Over 75% of summer and winter employment in Blaine County was located in Ketchum and Sun Valley
- Two-thirds of all workers lived in the southern half of the County, not Ketchum or Sun Valley
- The most frequent morning shift start times were between 7:30 and 8:30
- One fourth of the responding employers indicated a willingness to change work schedules to avoid peak traffic congestion
- The mode of travel used by 77% of employees was "drive alone"
- 17% of workers carpooled
- 3% of workers used the free KART bus within Ketchum
- 3% of workers used an employer-provided vanpool or shuttle
- The proportion of workers who did not drive alone was higher than national averages

- Many employers provided free parking to employees and/or customers, except in downtown Ketchum
- Employers who felt a shortage of parking were predominantly located in Ketchum and not other parts of Blaine County

Most employers felt that a parking fee of $5 per day or less would induce employees to change their commuting behavior, but concern was also expressed that parking charges would adversely affect employees who might not be able to change modes.

Future actions that were strongly supported included:

- Improve highway capacity between Bellevue and Ketchum
- Provide more parking within Ketchum
- Improve pedestrian and motorist safety
- Transit if it was convenient

Many employers already supported the Wood River Rideshare program, provided bicycle storage for employees, and allowed flexible work hours and other ways of reducing travel demand.

Land Use Report, March 2002

- Compilation of existing land use inventories and zoning regulations in unincorporated Blaine County and all cities
- Partial basis for population and employment forecasts

Revised SH-75 Corridor Year 2025 Population and Employment Forecasts, March, 2002

- Systematic countywide growth forecasts in fourteen sub-areas
- Growth forecasts were input to the travel demand forecasting model
- Growth forecasts included refinements by a broad-based Work Group advisory committee and Wood River Valley agency planners
- Work Group included a City of Ketchum representative
- Employment trends used source data from Idaho Department of Labor, U.S. Bureau of Economic Analysis, and the 1997 Ketchum / Blaine County Housing Needs Assessment
- The Base Case forecast represented the "most probable" growth forecast from year 2000 to year 2025
- Countywide population growth was 55%
- Ketchum/Sun Valley area forecast to grow about 40%
- South Blaine County area would grow about 60%
- Countywide employment growth forecast was 63%.
- Ketchum/Sun Valley employment growth forecast was 66%

Base forecast of study area population and employment growth was accepted by Wood River Valley planners as the most-likely a "middle scenario", and was used for all system evaluations. Alternative scenarios were developed for purposes of sensitivity testing only.

- Diversified Development Scenario represented an alternative growth pattern with less resort-oriented employment in the Ketchum/Sun Valley area, and more employment in other parts of the County (Used only for sensitivity testing)
- Resort Growth Scenario represented a growth pattern with more resort-oriented development in Ketchum and Sun Valley, compared to the Base Case, and less employment elsewhere in Blaine County (Used only for sensitivity testing)

KETCHUM COMPREHENSIVE PLAN, 2001

As adopted in March 2001, the city's comprehensive plan contained many goals, policies, and actions relating to transportation. The Transportation Plan in Part 6 provided goals and policies, but no specific implementation schedule. Many transportation-related policies and actions were mentioned in the Land Use Plan, which was consistent with the relationship of transportation to land use.

Specific goals and action items from both the Land Use Plan and the Transportation Plan included the following, simplified and paraphrased here for brevity:

Design Issues

- Design transportation systems to maintain Ketchum's small town mountain character
- Seek creative design solutions to preserve historic and cultural features in the south entrance corridor, notably the Reinheimer Ranch
- Reduce access points and provide landscaped buffers on Highway 75, Warm Springs Road, Saddle Road, and Sun Valley Road
- Encourage the construction of heated sidewalks throughout the City

Growth and Development Policies

- Reduce single occupancy vehicle trips and promote alternative modes of travel
- Encourage mixed land uses, to reduce vehicular trip generation, including Planned Unit Developments
- Preserve downtown alleys for private parking and for service delivery
- New development must provide for its own parking needs, such as underground parking for larger projects in the downtown core

Pedestrian and Bicycle Systems

- Place high priority on integrating pedestrian and bicycling systems with other transportation systems
- Widen sidewalks on Main Street to improve the pedestrian environment
- Improve pedestrian walkways by design of intersections and crossings
- Complete the sidewalk system in the core
- Create a pedestrian and bicycle-friendly boulevard on Fourth Street, connecting the Community Library to the new Post Office
- Create a Master Pathway Plan connecting all neighborhoods to the Wood River Trails System and to other neighborhoods
- Provide bike paths on Highway 75 from Serenade Lane to River Street, including the Trail Creek Bridge, and on Highway 75 from Saddle Road to Sixth Street
- Provide a bike path along Warm Springs Road from Sixth Street outward as far as Skiway Drive, adding new sections to connect with an existing portion of the Wood River Trail between Lewis Street and Saddle Road

Parking

- Implement a paid parking program in the Community Core
- Require developments to provide appropriate parking for the demand they create, or pay for parking in another location
- On-street parking within the downtown core should be for short-term use and visitors, and secondarily for employees
- Relocate employee parking to the periphery of the downtown core
- Construct a second floor of parking and/or housing above existing City parking lots

Transit System

- Expand the current Ketchum Area Rapid Transit (KART) system to provide a citywide mass transit service for tourists, residents, and workers
- Develop a transit center in downtown Ketchum
- Develop a mass transit system serving all of Blaine County
- Include a bus lane in any highway improvements between Serenade Lane and River Street, including the Trail Creek Bridge

Road Systems

- Reduce lane widths for traffic calming and allow room for alternative modes of transportation to preserve the small mountain town character of Ketchum
- Add a left-turn lane to Main Street downtown and remove parking as needed

Finance and Implementation

- Develop a Citywide transportation plan that includes a specific Capital Improvements Program
- Develop a Master Plan linking plans for Fourth Street, Sun Valley Road, and Main Street, with a public investment strategy for implementation
- Take a leadership role in decisions for Highway 75 including safety, aesthetic design alternatives, and capacity

BLAINE COUNTY PUBLIC TRANSPORTATION FEASIBILITY STUDY, OTAK, INC. AND OSTRANDER CONSULTING, 2001

This countywide evaluation of transit needs and options provided a series of short-term and long-term recommendations. A key issue raised in the study was whether the role played by transit would be predominantly a social service for people who have no other choice, or whether its use would be more widespread and thus an integral part of the countywide transportation system. Adopting the latter view, the study provided a comprehensive strategy to implement a countywide transit system over time by a series of short-term and long-term actions.

Short-term recommendations that were implemented include:

- Ketchum Area Rapid Transit (KART) service within Ketchum and Sun Valley was enhanced
- Wood River Rideshare program was enhanced
- Other communities in the region about public transportation (implemented via Wood River Rideshare Program) were educated
- Fixed route peak-hour bus service in the Bellevue to Ketchum/Sun Valley corridor (Peak Bus commuter service now operating) was provided

Short-term recommendations that are not yet completed include:

- Provision of a special event bus service between Bellevue and Ketchum/Sun Valley
- Development of peak-hour HOV queue bypass lanes on SH-75 near East Fork and near Elkhorn
- Obtainment of legislative authority for local option transit tax, and creation of a Regional Public Transportation Authority by public vote after tax authority is obtained
- Initiation of a transportation management program
- Construction of transit stations and park-and-ride stations on the Bellevue to Ketchum corridor
- Development of peak-hour HOV lanes on SH-75 from Bellevue to Ketchum-Sun Valley
- Promotion of high occupancy vehicle use on SH-75
- Identification and preservation of right-of-way for a future fixed guideway corridor alignment

Proposed long-term strategies for continued expansion of transit service include:

- Set annual ridership goals of 425,000 in 2010 and 482,000 by 2020
- Expand Regional Transit Authority to encompass other counties
- Initiate 24-hour bus service
- Initiate peak-hour bus service to other cities
- Initiate local circulator bus services
- Construct park-and-ride stations
- Develop fixed guideway transit in the SH-75 corridor

CITY COUNCIL RESOLUTION #772, March 19, 2001

The Ketchum City Council declared by this resolution its desire to avoid excessive traffic growth in the future, and to initiate countermeasures against a continuation of past trends of traffic growth. The key goal established in the resolution was to assure that traffic volumes entering the City from the south did not rise above the daily volume level counted in the year 2001(17,600) on Highway 75. To achieve that goal in spite of past trends and future forecasts of increasing population and employment in the Ketchum Sun Valley area, the resolution endorsed a series of actions and policies:

- Add policies to the Comprehensive Plan in support of the traffic limitation, so that traffic volumes in the year 2021 would not exceed those counted in 2001.
- Expand existing KART transit service within Ketchum and Sun Valley
- Increase city funding of the Wood River Rideshare Program
- Participate in funding of a Special Events bus between Ketchum and Hailey/Bellevue for the youth of the Wood River Valley
- Support the development of High Occupancy Vehicle Lanes on Highway 75, but oppose additional general-purpose lanes.
- Short-term conversion of existing directional multi-lane sections was encouraged for peak hour relief. Long Term expansion to continuous lanes was supported for HOV peak hour use, if supported by the NEPA study.
- Do not support expansion of lanes on Highway 75 within city limits, except for turn lanes where needed and justified.
- Develop a Citywide Transportation Management Plan centered on a paid parking strategy for downtown Ketchum.
- Seek enabling legislation to allow a countywide local option sales tax for public transit.
- Participate in formation of a Regional Public Transit Authority.
- Fund a regularly scheduled peak hour bus service between Ketchum/Sun Valley and Hailey/Bellevue.
- Annually monitor the number of vehicles entering and leaving Ketchum, and adjust the City's work plan as needed to achieve the goal of no net traffic growth.

Newsletter #3, November 2002

Describes the range of alternatives for Highway 75, as they have been refined in response to two years of conceptual analysis, field studies, and community surveys. Alternatives for segments from Timmerman to Saddle Road are described. Two segments actively pertain to Ketchum, north and south of Elkhorn Road. For the final segment from the north side of Trail Creek through downtown Ketchum to Saddle Road, the study assumes no change from existing conditions for all alternatives.

Newsletter #4, January 2003

Provides schematic cross-section illustrations of the alternatives above.

Transit Considerations, March 2003

Transit mode splits are forecast to rise from zero in 2000 to 3.2% of work trips (1.1% of all trips) in 2025 with the baseline forecast that continues existing programs such as Peak Bus and KART, with no priority treatments in the highway corridor. The transit mode split could rise to as high as 5.7% of work trips and 2.0% of all trips in 2025 with the maximum emphasis on Transportation Demand Management (TDM) strategies. These would include expanded transit service, park-and- ride lots in the highway corridor, transit-oriented designs in the corridor such as HOV priority lanes and queue bypass lanes, and related policies and programs to encourage drivers to switch out of single-occupant cars.

All alternatives as finally developed include 3 or 4 buses per hour in peak hours, various levels of HOV priority in the highway corridor, and other TDM strategies to account for 20% to 25% of all work trips.

Describes federal funding sources available for transit and representative cost factors for bus and light rail systems to estimate a 2025 transit program for the maximum level of projected ridership above.

A fixed guideway analysis reviews light rail technology, describes the physical features of typical light rail lines, and describes the Federal Transportation Administration's New Starts project with details of 17 active New Starts. The capital cost of a 20-mile light rail line in Blaine County was estimated at $700,000,000, with annual operating costs of $10 to $15 million, to serve 3,000,000 annual riders. The FTA programs require a 50% local match to federal grants.

In contrast, a bus only program was also analyzed with sufficient size (29 buses) to absorb all forecast travel growth in the corridor, assuming a substantially higher mode share for transit than the demand analysis supports. The corresponding 2025 transit program was estimated to cost $12,000,000 in capital costs for buses and buildings, with operating costs of about $3,500,000 per year.

Community Core Parking Management Plan, Kittleson & Associates, 2004

Evaluates parking supply and demand in downtown Ketchum community core. Presents a draft program of short-term and long-term actions for Ketchum to gradually introduce paid parking in downtown Ketchum. Immediate actions would increase the enforcement of existing 2-hour parking limits in downtown areas, and then introduce parking charges for surface lots. Over time the program would be expanded in scope and size, and develop additional parking lots, and add a circulating shuttle bus.

2.2 Briefings with Public Officials and other Leaders

At the beginning of the study in June 2002, consultants met individually with city planning staff and other department heads, Mayor Ed Simon, each member of the City Council, and each member of the Planning Commission. Each was asked for their views about transportation issues and conditions in Ketchum, and their sense of priorities for the outcome of this transportation study. A summary of issues and themes from those interviews follows:

Congestion

- The past decade of high growth has produced severe congestion in Ketchum
- Downtown area is severely affected by congestion in afternoon peak hours

- Morning and afternoon congestion on Highway 75 seriously lengthens commute trips between Ketchum /Sun Valley and Hailey/Bellevue
- Two-lane bridge across Trail Creek is a serious bottleneck

SH-75

- Configuration of Highway 75 from Elkhorn Road through Reinheimer Ranch is a critical concern
- Determine how the city can cope with a more efficiently-designed Highway 75, and provide for intra-city traffic flows
- Mortgage Row area needs separate access not from highway

Downtown Streets

- Pedestrians need more sidewalk width
- Parking on Main Street may be viewed as a protective barrier between pedestrians and moving traffic
- Improve the operation of traffic signals on Main Street

Parking

- Develop the feasibility and implementation schedule for paid parking program
- Siting of a commuter parking lot seems a necessary precursor for paid parking and for expanding transit shuttle system
- Evaluate necessary changes to codes and regulations to achieve the desired goals
- Provide methods to fully utilize existing parking resources
- Where to locate peripheral parking and park-and-ride lots
- High-turnover of parking activity at post office disrupts traffic on Second Avenue
- Are public/private partnerships needed for greater efficiency?
- Inadequate parking for handicapped persons in many areas, available parking doesn't comply with Americans with Disabilities Act

Transit

- Increase frequency and coverage of KART
- Peak Bus just starting up
- Consider vacant Simplot property opposite Post Office for transit center, anchor of new town development

Pedestrian Circulation

- Provide for safe and efficient circulation by all modes of travel, especially bicycles and pedestrians
- Pedestrian crossings of Main Street are aided by flag system at unsignalized intersections

Bicycle Circulation

- Provide alternatives to the existing seasonal bike path on Sun Valley Road
- Add bike lanes along highway to North Fork area
- Add bike lanes to Warm Springs
- Update bicycle design standards to comply with latest AASHTO guidelines

Road Systems

- Consider one-way systems for possible benefits and disadvantages
- Consider a system of four-way stops at all community core intersections, including Main Street

- Replacement or expansion of Trail Creek bridge requires its temporary replacement via Second Avenue
- Consider Tunnel option for Main Street
- Seek alternatives for parents driving kids to/from school
- Warm Springs congested at 10th Street and at Lewis Street

Safety

- Concerns for mobility of emergency response vehicles due to congestion
- One-way street systems may pose a liability issue for emergency vehicles
- Tourists confused by four-phase signals at Main / Sun Valley Road

Implementation Strategies

- Assist the city to meet the goal of limit incoming traffic expressed in Resolution #772, of March 2001
- Provide an overall reality and feasibility check on existing Comp Plan strategies
- Need an overall "blueprint" of how to proceed
- Develop a timetable of actions to deal with traffic growth
- Develop funding strategy for parking and transit operations
- Coordinate with regional entities for comprehensive solutions to traffic growth
- Work with state and county for solutions in SH-75 corridor that are outside Ketchum, such as the Hospital Drive intersection
- Utilize a combination of all tactics together: road capacity, transit service, parking management, and travel demand management
- Funding methods: bonds, impact fees, local option tax, property tax, parking charges

2.3 Field Reconnaissance of Study Area and Problem Locations

Consultants reviewed all areas of the street system during the summer of 2002 and investigated issues and problem areas identified by interviews and previous studies. Field reviews generally confirmed the existence of problems and issues at locations identified by interviews. Problems, issues, and opportunities are discussed in detail in several technical appendices and in later chapters of this report.

The solutions in some cases involve straightforward adherence to design standards, or standard engineering practice to determine warrants and optimum design of intersection controls. Other issues are more complex and involve tradeoffs between alternative strategies. These are addressed in greater detail in following chapters.

CHAPTER 3 – EXISTING TRAVEL

Travel is the result of human activity on parcels of land, leading to travel between land parcels. An understanding of land use past, present, and future provides a basis for understanding travel demand and how to serve travel and/or manage travel.

3.1 Existing Population Characteristics

The 2000 Census provides much information about population and housing in Ketchum, and for Blaine County as a whole. Some aspects relevant to transportation issues are summarized below.

3.1.1 Age Profile

9% of Ketchum residents are over age 65, compared to 5% countywide. 13% of Ketchum's population is under 18, compared to 21% countywide. The working adult population is 78% of Ketchum's population, slightly above the countywide figure of 74%. These statistics suggest that a high proportion of Ketchum residents have travel demands centered on jobs and other business within the city. Comparatively fewer Ketchum homes have children than the countywide norm, leading to less mid-day and evening travel demand (the so-called "soccer mom" travel patterns) and more emphasis on peak hour work-related travel.

3.1.2 Housing Stock

55% of Ketchum's housing stock is recreational/seasonal, reflecting the recreational resort activity base of the local economy. Only 28% of all housing is owner occupied, compared to 60% countywide. These statistics reflect the highly seasonal nature of travel demand to/from Ketchum.

3.1.3 Population/Employment Ratio

Total employment in the Ketchum-Sun Valley area in 2000 was 5,377, and the population total was 4,313. The ratio is 1.25 jobs per capita. With reference to the 78% of the population in the working age range of 18-65, the ratio rises to 1.6, meaning that many of the employees working in Ketchum come from outside the city. Countywide, the ratios are more balanced. The countywide employment was 15,419 and the total population was 18,650, for a ratio of 0.83. Considering only the working-age population countywide, that ratio rises to 1.12. Thus there are still more jobs in Blaine County than there are resident workers. The Ketchum-Sun Valley area alone accounts for most of this surplus. These results are consistent with the known patterns of commuting into Blaine County from other areas, such as from Twin Falls.

3.1.4 Population and Employment Growth Trends

Population growth in Ketchum and all of Blaine County has been continuous for several decades. **Table 3.1** depicts historical growth from census records. Since 1970, Blaine County's population has increased more than three-fold. Ketchum-Sun Valley, as the economic "engine" of the county, has similarly increased in population and especially in employment.

Table 3.1 – Historical Population Growth

	Ketchum		Blaine County	
Year	Population	% Change	Population	% Change
1970	1,454		5,749	
1980	2,200	51%	9,841	71%
1990	2,523	15%	13,552	38%
2000	3,003	19%	18,991	40%

Source: U.S. Bureau of the Census

Based on the vigor of past trends, the future for Ketchum and all of Blaine County will certainly include additional growth. The true amount of future growth is of course unknown, but past trends should be given considerable weight until new trends emerge and hard facts run counter to past trends. Although some Ketchum residents would prefer that no additional growth occur, there are no factual reasons to assume that the powerful economic forces that have driven the growth pattern of the past 30 years will suddenly cease. Rather, the availability of land and the attractiveness of the Ketchum-Sun Valley area as a recreational area and as a residential community are reasons to expect continued growth. The only uncertainty is how much.

The ongoing SH-75 Timmerman to Ketchum Environmental Analyses Study ("NEPA Study") has analyzed in depth the economic factors for future growth, with the active participation of a broad-based citizen advisory committee. A representative of the City of Ketchum sat on that committee among 22 represented stakeholder groups. The report of that analysis is available on the study's web site (www.SH-75.org) and is briefly summarized below. The study developed one baseline forecast for Blaine County on which it bases all travel forecasts for corridor planning. **Table 3.2** gives the countywide totals.

Table 3.2 – Growth Forecasts to 2025 for Blaine County Totals

Year	Population	Employment
2000	18,650	15,419
2025	28,914	25,355
Growth	10,264	9,936
% Growth	55%	64%
% Growth per Decade	19%	22%

Source: SH-75 Timmerman to Ketchum Environmental Analyses: Revised SH-75 Corridor Year 2025 Population and Employment Forecasts, March 2002 (from Tables 1-13, 2-1, 2-3)

Future growth is projected to continue at a slower rate than in the past. Each of the past two decades grew at about 39% per decade. The rate of increase for the next 25 years is only half that rate, at 19% per decade.

In terms of absolute growth, however, the future trend is about the same as the past. The absolute growth of 10,264 over 25 years represents a simple average of about 4,000 people per decade. This is about the same as the average of the three previous decades. This implies a steady rate of expansion of the housing market, and similar steady increases in demand for all types of public services, including utilities, schools, roads, health services, and so forth. The long-term forecast is for 10 to 25 years of time. In the near-term, individual years will produce higher or lower rates compared to the average.

The growth forecasts developed for the SH-75 Environmental Analyses also allocated the county's total growth to 14 sub-areas, consisting of census block groups. Growth for the Ketchum-Sun Valley area is summarized in **Table 3.3**. Because the census block groups used in that report do not match with city limits, the sum of census block groups 1 through 4 is reported here, to account for the cities of Ketchum and Sun Valley together with some adjacent unincorporated areas. This area accounts for 23% of the county population at present. That share will shrink to 21% by 2025 for the Base Scenario. That is consistent with current experience that more worker housing is being built in the Hailey-Bellevue area than in Ketchum-Sun Valley.

The Base Scenario is the projection on which the SH-75 Environmental Analyses are based. Two alternative growth distributions were also developed as unofficial sensitivity tests of different allocations of growth within Blaine County, but the countywide totals were not changed. These alternatives are not used in that study for any formal analysis. The Diversified Growth Scenario assumes a more balanced economy to emerge in Ketchum with less dependence on resort activity. The Resort Growth Scenario assumes in contrast that the economy of Ketchum and Sun Valley is increasingly focused on resort activity. For additional details, see the source document.

The alternative scenarios are useful as indicators of how transportation needs within the City may be affected by economic growth and land development decisions. All scenarios imply an increase in travel within Ketchum, and all scenarios imply some amount of increased commuter travel from outside Ketchum; however, the type of growth and the related travel demand implications are somewhat different between the scenarios. The Diversified Growth Scenario implies less commuter travel to Ketchum from outside than for the Base Case, and the Resort Growth Scenario implies more commuter travel to Ketchum than for the Base Case.

Table 3.3 – Growth Forecasts to 2025 for Ketchum-Sun Valley Area

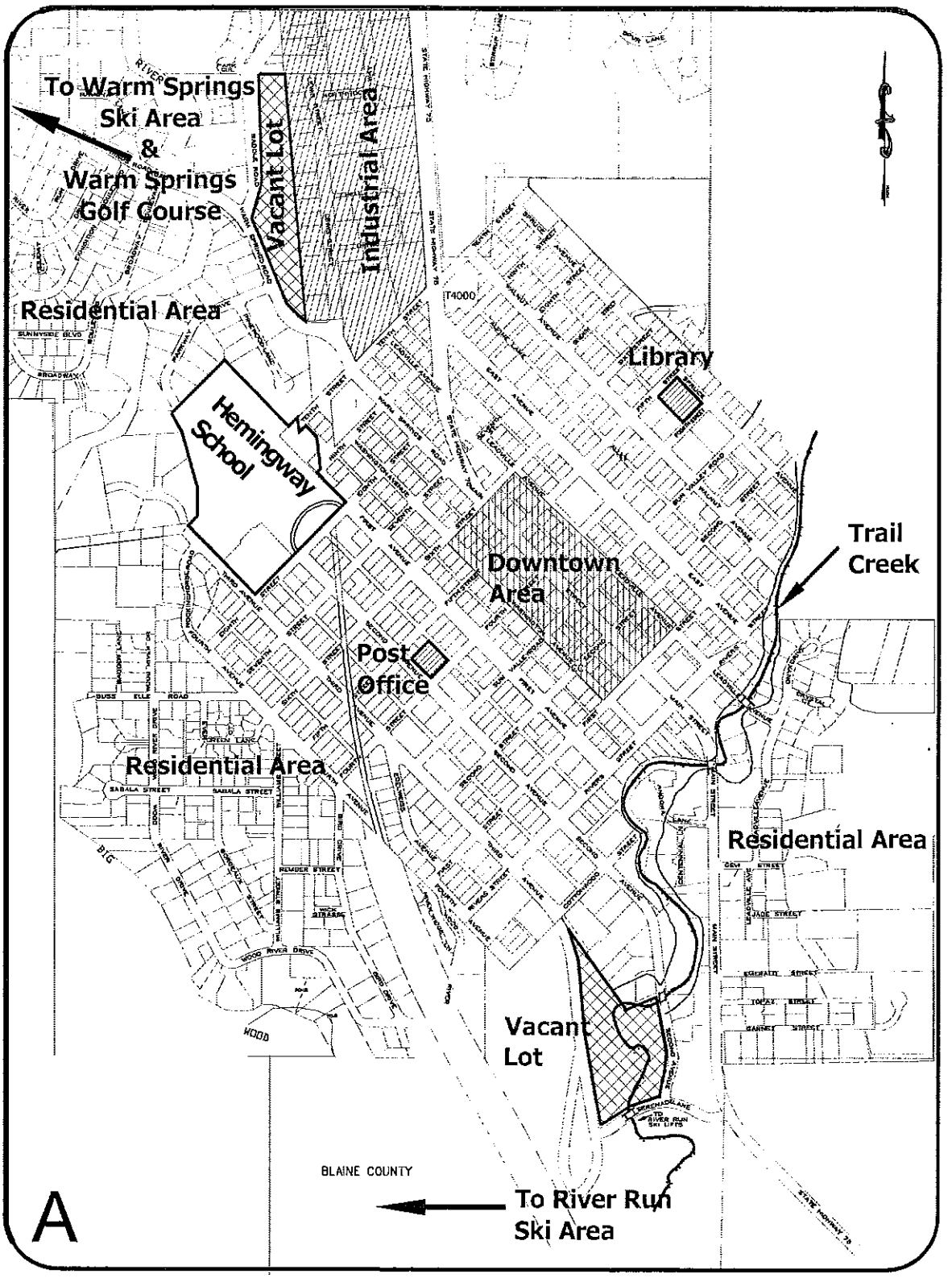
	Population			Employment		
Year	Base	Diverse	Resort	Base	Diverse	Resort
2000		4,313			5,377	
2025	5,967	5,614	6,860	8,939	7,346	10,395
Growth	1,654	1,301	2,547	3,562	1,969	5,018
% Growth	38%	30%	59%	66%	37%	93%
% Growth per Decade	14%	11%	20%	23%	13%	30%

Source: SH-75 Timmerman to Ketchum Environmental Analyses: Revised SH-75 Corridor Year 2025 Population and Employment Forecasts, March 2002 (sum of Census Block Groups 1-4 in Tables 1-13, 2-1, 2-3)

3.1.5 Current Land Use and Mobility Patterns

The Ketchum - Sun Valley area is a predominantly residential area with a significant portion devoted to recreational and/or seasonal dwelling units. Economic activity is concentrated in several areas: ski-runs, downtown Ketchum, and the Northwood light industrial area. **Figure 3.1** depicts the neighborhoods and sub-areas of Ketchum.

Figure 3.1 – Neighborhoods and Sub-areas in Ketchum



Roughly half of Ketchum's housing stock is located in the older traditional city area, generally south of Tenth Street. This area includes most of the conventional housing from Ketchum's historic past and traditional tract developments. In the downtown area, some high-cost condominium sites have also been developed. Pedestrian mobility is more feasible within this area than other parts of the city, due to the mix of origins and destinations within a small area. Vehicular trips originating within this area tend to be short unless leaving the city.

Most of the more recent housing developments of a recreational nature or in the high-cost luxury home category have occurred north and west of the downtown area in Warm Springs and Bigwood, as well as in Sun Valley. The Warm Springs area in particular generates substantial commuter, shopper, and other travel to/from the downtown area and elsewhere. The distance between downtown Ketchum and the Warm Springs valley tends to inhibit commuter and shopper walking trips, but not bicycle commuting. Residential areas to the north along SH-75 and/or Saddle Road include Northwood and Bigwood, with relatively new and low-density housing stock of large size and high quality. Like Warm Springs, these areas are reachable from downtown by car and by bicycle, but distance limits the feasibility of walking for trip purposes where time is important.

A relatively small share of Ketchum's housing is located south of downtown, in the Gem Streets neighborhood, the River run tourist zone, and along Mortgage Row near Elkhorn Road. These areas include a mix of newer and older housing types. Walkability to/from downtown Ketchum is good for the Gem Streets neighborhood, and less so for other areas as distance increases from the downtown.

Commercial activity is concentrated in two areas. Downtown Ketchum is a relatively compact area of about 6 blocks by 6 blocks containing most retail activity and public service buildings. The Northwood light industrial area centered on Lewis Street north of Warm Springs Road contains most businesses of a non-retail nature.

The economy of Ketchum revolves around two recreational seasons, summer and winter. The area is busiest in summer, as Ketchum is the gateway to the Sawtooth Mountains recreational area. In winter, Ketchum and Sun Valley offer three ski lift bases and related retail services. The Warm Springs ski base is inside the City of Ketchum. The River Run ski base is outside the city limits, but is otherwise functionally integrated with Ketchum streets and activity patterns. River Run will be annexed in the near future. The Sun Valley area is more distant from downtown Ketchum, and includes a variety of ski lifts, ice skating, and resort-retail services.

3.1.6 Current Zoning and Future Growth Potential

The Comprehensive Plan incorporates by reference the City of Ketchum Land Capacity Study, prepared in 1997. That report contains an inventory of existing (1997) occupied land in Ketchum and in adjacent "zone of impact" growth areas, with a systematic forecast of potential build-out development as if all land were developed according to the zoning code. The build-out forecast reported herein is the higher of two versions offered in that report, the version that assumed a 15% "market factor" allowance for land that would not be developed to its maximum potential, for reasons such as environmental constraints. The key information and trends for travel demand forecasting are summarized in **Tables 3.4** (residential) and **Table 3.5** (commercial).

Subsequent events and accumulated knowledge since 1997 would justify a lower outlook for build-out growth than was projected in that report, but the general conclusions are still useful. They provide important information as to the general location and relative size of growth opportunities in the various neighborhoods of Ketchum and vicinity.

Residential growth potential could nearly double the housing stock in Ketchum, and there is potential for higher growth outside the current city limits. The potential growth in the central neighborhoods is about 500 units, but the potential in each of the neighborhood groups north, northwest, and south is over 1,000 units. In each area, different market factors may limit actual development potential, whether it be environmental issues, land values, or desirability of the areas to prospective buyers. The market-based population growth forecast discussed in **Table 3.3** indicated a population growth range of 30% to 59% for approximately the same geographic area, for the period 2000 to 2025. Since the housing stock build-out estimate was over 100% in **Table 3.4**, for the area including the zones of impact beyond city limits, the conclusion reached is that the 25-year future forecast would consume roughly half of the available potential of the total land area. Based on the available supply of vacant lots, most of that growth is likely to develop outside the current central area of Ketchum, to the north, the northwest, and to the south. Access to most of those areas will be served by the road system into and through the central part of Ketchum - i.e., SH-75.

Table 3.4 – Dwelling Unit Growth Potential at Full Build-out

Subarea	Location	Acres	1997	Build-out	Increase	Percent
Z1 (Hulen Meadows...)	North	596	207	329	122	59%
Bigwood	North	477	252	655	403	160%
Northwood	North-west	105	57	227	170	298%
Warm Springs	North-west	426	1,134	2,071	937	83%
Z2 Lower Board Ranch	North-west	151	68	87	19	28%
Z3 (Warm Springs Golf Course)	North-west	72	0	330	330	Na
Community Core	Central	93	321	632	311	97%
Gem Streets	Central	75	100	266	166	166%
West Ketchum	Central	184	719	1,186	467	65%
River Run Tourist Zone	Central	29	352	485	133	38%
Mortgage Row & Reinheimer Ranch	South	141	26	36	10	38%
Z4 (River Run to McHanville)	South	686	40	1,437	1,397	Na
Total, City of Ketchum		1,530	2,961	5,557	2,596	88%
Total, Zone of Impact Areas		1,505	315	2,182	1,867	593%
Total, Entire Study Area		3,035	3,276	7,739	4,463	136%

Source: City of Ketchum Land Capacity Study, 1997, Tables 5-2 and 7-2.

Commercial development potential based on available vacant land is higher than the residential potential, with up to 175% increase possible for the entire study area. **Table 3.5** documents a market-based employment growth potential of from 38% to 93% depending on the type of economic growth that actually occurs.

Table 3.5 – Commercial Square Feet of Growth Potential at Full Build-out

Subarea	Location	Acres	1997	Build-out	Increase	Percent
Z1 (Hulen Meadows...)	North	596	0	0	0	Na
Bigwood	North	477	186,800	90,500	-96,300	-52%
Northwood	North-west	105	481,500	972,900	491,400	103%
Warm Springs	North-west	426	60,100	218,500	158,400	264%
Z2 Lower Board Ranch	North-west	151	0	0	0	Na
Z3 (Warm Springs Golf Course)	North-west	72	0	0	0	Na
Community Core	Central	93	961,900	2,516,600	1,554,700	162%
Gem Streets	Central	75	37,400	46,900	9,500	25%
River Run Tourist Zone	Central	29	132,700	138,100	5,400	4%
West Ketchum	Central	184	8,600	83,700	75,100	873%
Mortgage Row & Reinheimer Ranch	South	141	8,500	0	-8,500	0%
Z4 (River Run to McHanville)	South	686	56,900	1,246,700	1,189,800	1,996%
Total, City of Ketchum		1,530	1,877,500	4,067,200	2,189,700	117%
Total, Zone of Impact Areas		1,505	56,900	1,246,700	1,189,800	1,996%
Total, Entire Study Area		3,035	1,934,400	5,313,900	3,379,500	175%

Source: City of Ketchum Land Capacity Study, 1997, Table 7-5.

Comparing those factors to the build-out potential again suggests that no more than half the build-out potential would be built upon in the next 25 years. Unlike the residential growth situation, about half of the commercial growth potential is found in the central area of Ketchum, and more of the remainder is located south of Ketchum than to the north and northwest. That said, the actual allocation of new commercial growth will depend significantly on the type of economic patterns that develop. In particular, a strongly resort-oriented economy is more likely to emphasize commercial development in the central area and less to the south of Ketchum, whereas a diversified economy would quite likely include more light industrial and other non-resort business activities in the zone of impact from River Run to McHannville.

3.1.7 Conclusions about Growth for Transportation Planning Purposes

The preceding discussion compared the maximum build-out potential found in the 1997 Land Capacity Study to the market-based activity forecast prepared in 2002 for the SH-75 Timmerman to Ketchum Environmental Analysis. The latter was found to bear roughly a 50% ratio to the former, in an overall sense. This means that the activity level forecast is supportable by the current zoning codes, with roughly twice as much potential land available for development as the activity forecast would require. Even if substantial discounts are made to the build-out potential of the Land Capacity Study (to provide more environmental protection and to discount for relative attractiveness of some areas versus others), that conclusion would not change.

It was also noted previously that the activity growth forecast is consistent with a general continuation of past trends, albeit at a slightly reduced rate of growth per decade. If future growth turns out to be slower than that forecast, then plans based on the 2025 analysis will suffice for a longer time period beyond that date. If future growth were to exceed previous decades (unlikely) then plans associated with a 2025 horizon would need to be updated sooner than that date.

3.2 Traffic Volumes

Existing and historical traffic data were collected throughout the Ketchum areas for a better understanding of the travel demand in the areas. Traffic data were obtained from peak hour counts, 24-hour count, and ITD's automatic traffic recording stations (ATR). Traffic counts were conducted during AM peak hour, noon peak hour, and PM peak hour at various locations throughout the City of Ketchum in summer of 2002. 24-hour traffic counts were conducted at Warm Springs Road and Lewis Street intersection and SH-75 and Serenade Lane intersection. ATR #28 and #68 provided historical traffic trends on SH-75 for the past decade. These traffic data provided information on the travel patterns and travel demand characteristics in the Ketchum areas summarized below.

Figure 3.2 represents the 24-hr annual average daily traffic (AADT) trends on SH-75 at ATR #28, which is located approximately 7.5 miles north of Ketchum. **Figure 3.3** represents the AADT trends on SH-75 at ATR #68, which is located approximately 3.5 miles north of Hailey. Most of the traffic at this location also enters Ketchum. These graphs show the traffic trends on SH-75 over the previous decade. Traffic volume on SH-75 grows at a faster rate south of Ketchum than north of Ketchum. The annual growth rate is approximately 3.00% south of Ketchum and 1.00% north of Ketchum. These traffic trends reflected the land use activities and concentration in the Ketchum areas as discussed in the previous sections. Future traffic trends are expected to generally follow this past trend as there is more land capacity for growth potential south of Ketchum than north of Ketchum. **Figure 3.4** represents the traffic forecasts on SH-75 south of Ketchum at different annual growth rates. Traffic volume south of Ketchum is projected to increase by 45% to 85% by 2025.

Figure 3.2 – AADT Trends on SH-75 North of Ketchum (ATR #28)

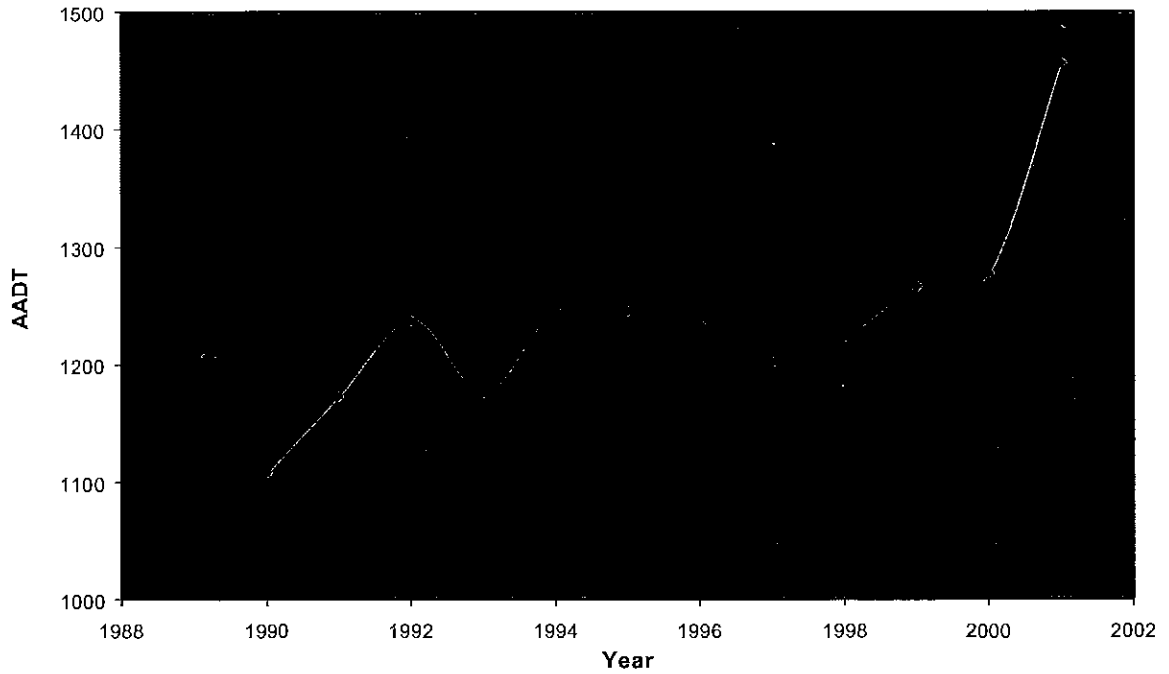


Figure 3.3 – AADT Trends on SH-75 North of Hailey (ATR #68)

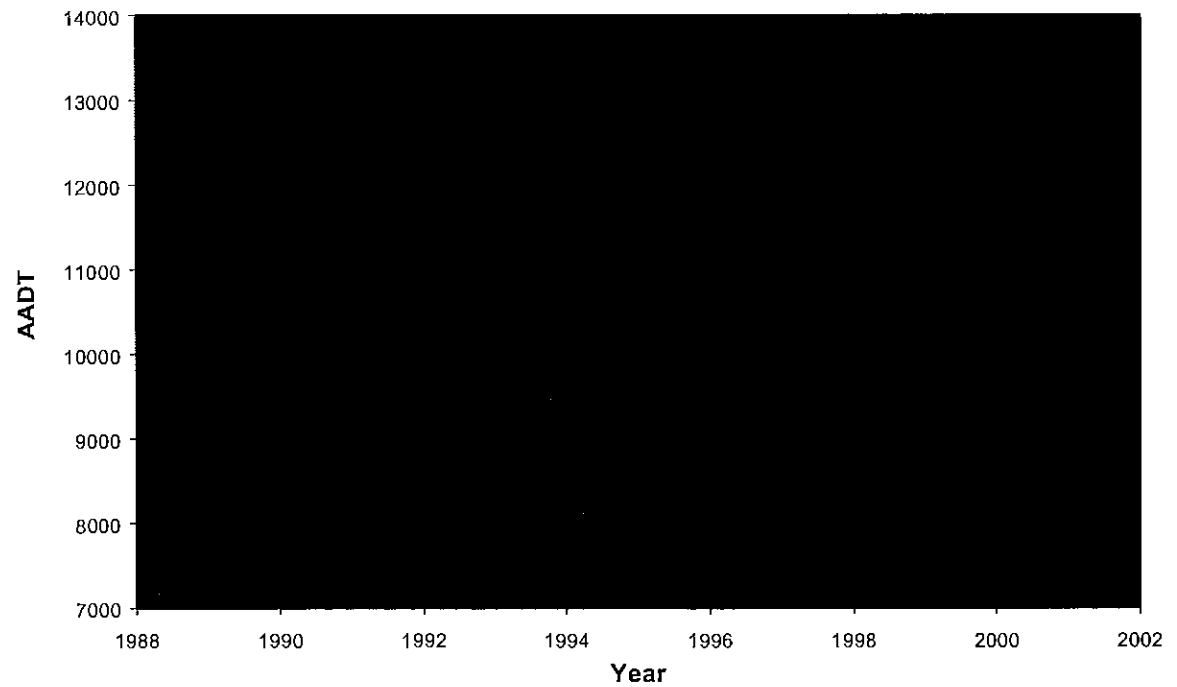


Figure 3.4 – AADT Forecasts on SH-75 North of Hailey (ATR #68)

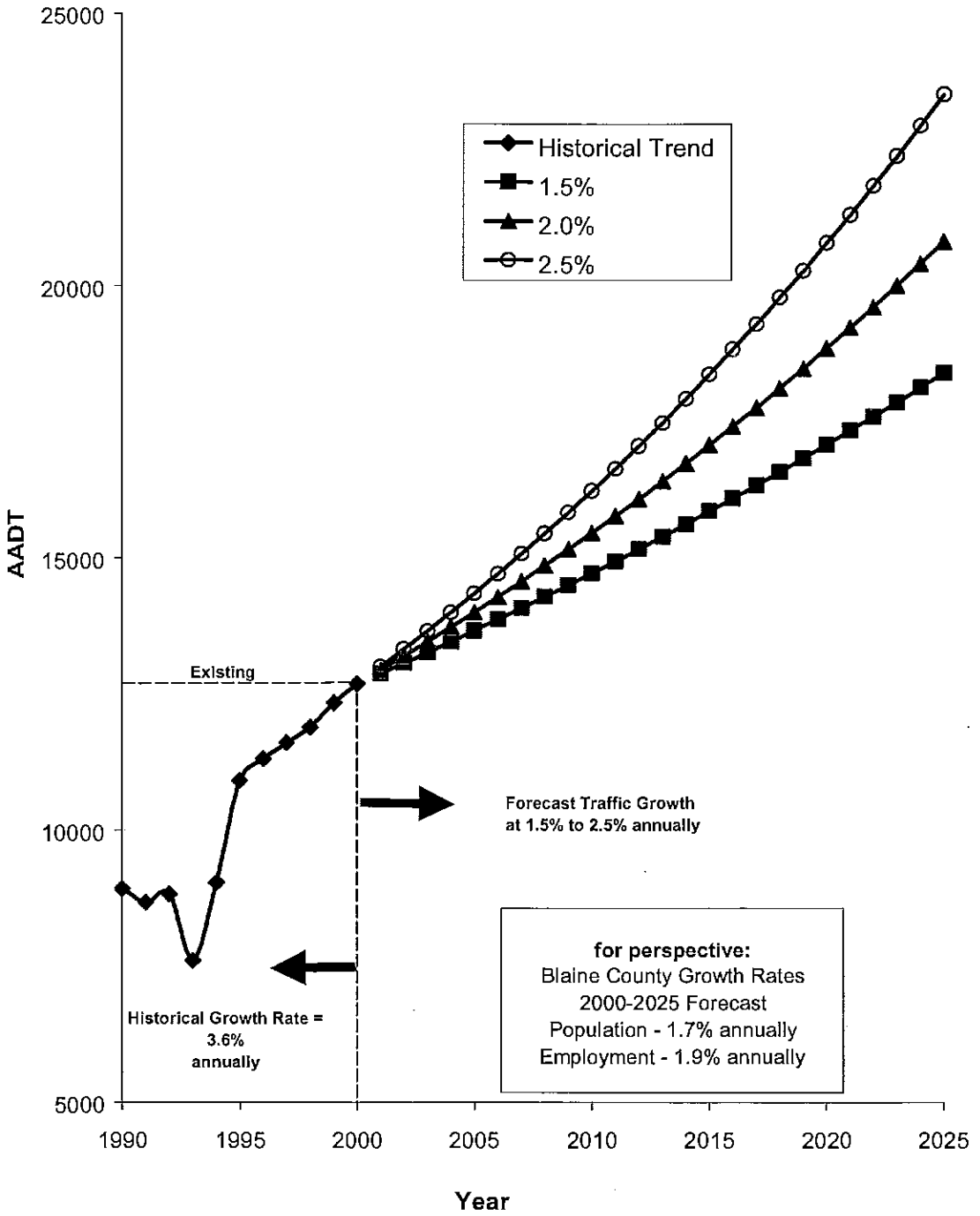


Figure 3.5 represents the hourly traffic volume patterns on SH-75 south of Ketchum at Serenade Lane, on Warm Springs Road at Lewis Street, and on Lewis Street at Warm Springs Road. The graph shows the travel demand for a typical weekday in the summer. On SH-75 at Serenade Lane, traffic on SH-75 increases between 6:00 AM and 9:00 AM, reflecting the work-related travel activities from outside the city. The AM travel demand peaks at approximately 9:00 AM and decreases afterward. The travel demand peaks again at approximately 12:30 PM for the mid-day period. During the PM peak period, the travel demand on SH-75 is at its highest and peak at around 4:00 PM, reflecting the off-work-related travel activities. The directional split on SH-75 is approximately 70/30 in the major direction, which is northbound during the AM peak hour and reverse during the PM peak hour.

Warm Springs Road serves the existing residential area, the Northwood Industrial area, and recreational sites such as Warm Springs Ski Base and Warm Springs golf course. Traffic on Warm Springs Road therefore serves several purposes. The travel pattern is not distinct as the work related trips. The AM travel demand peaks at approximately 11:00 AM, which is consistent with the recreational sites opening time and recreational activities. The PM peak travel demand peaks at approximately 3:00 PM.

Lewis Street serves the existing commercial land uses north of Warm Springs Road. A major portion of the traffic on Warm Springs Road is work or business related. The AM travel demand peaks at approximately 8:00 AM, which reflects the to-work trips. The PM travel demand peaks at approximately12:00 PM, which reflects the trips during lunch hour.

The three different traffic patterns show the travel demand as related to different land uses. Understanding this correlation between land use and travel demand could lead to better decision on travel demand management.

Figure 3.5 – Time-of-day Traffic Patterns

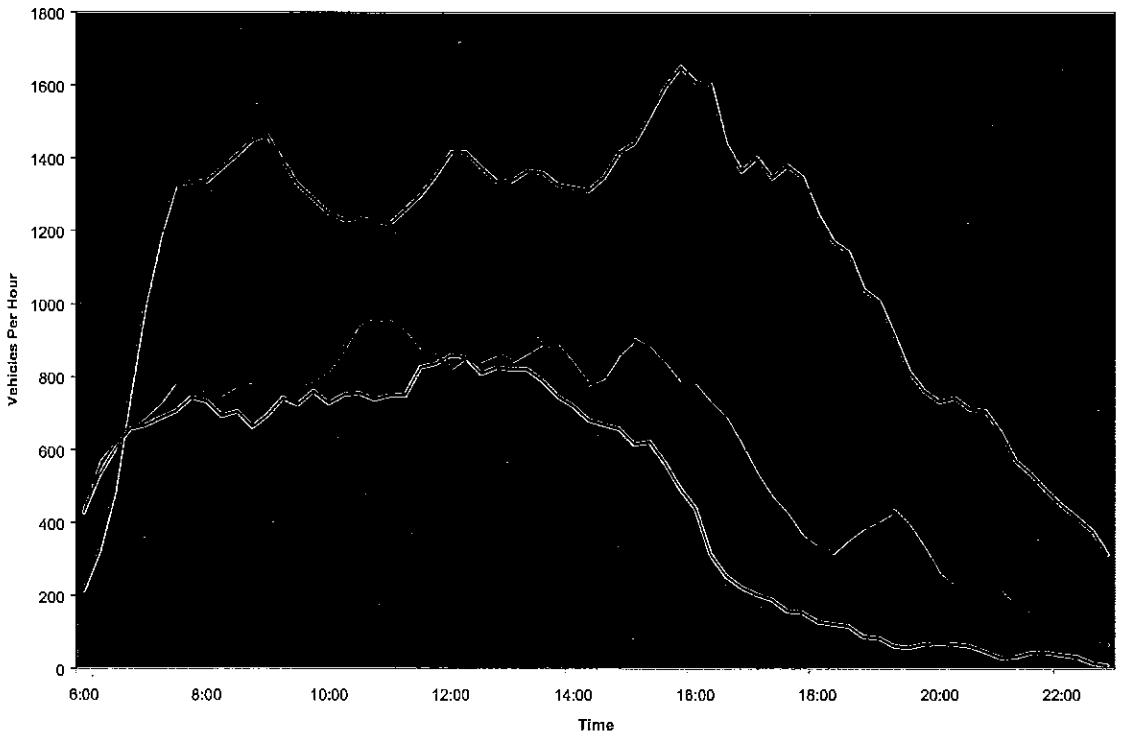


Figure 3.6 represents a base map showing the average daily traffic at various locations in the Ketchum area. These average daily traffic volumes were estimated from the PM peak traffic assuming the peak hour traffic is 10% of the daily traffic. SH-75 is the major north-south roadway through downtown Ketchum. The 2002 average daily traffic on SH-75 is approximately 19,190 vpd south of Serenade Lane and 8,830 vpd at Saddle Road. Major east-west roadways are Warm Springs Road and Sun Valley Road. Warm Springs Road carried approximately 7,580 vpd west of Lewis Street. Sun Valley Road carries approximately 6,920 vpd east of SH-75 and 5,110 vpd west of SH-75.

Through traffic on SH-75 across Trail Creek south of downtown Ketchum represents approximately 15% of the traffic. Most of the traffic on SH-75 is not "through" traffic but has an origin or destination within the Ketchum area, and constitutes part of the local economy. **Figure 3.7** represents a comparison of through traffic versus local travel at intersections on SH-75. **Figure 3.8** represents the major traffic movements on SH-75.

Figure 3.7 - Local Travel versus Through Travel On SH-75

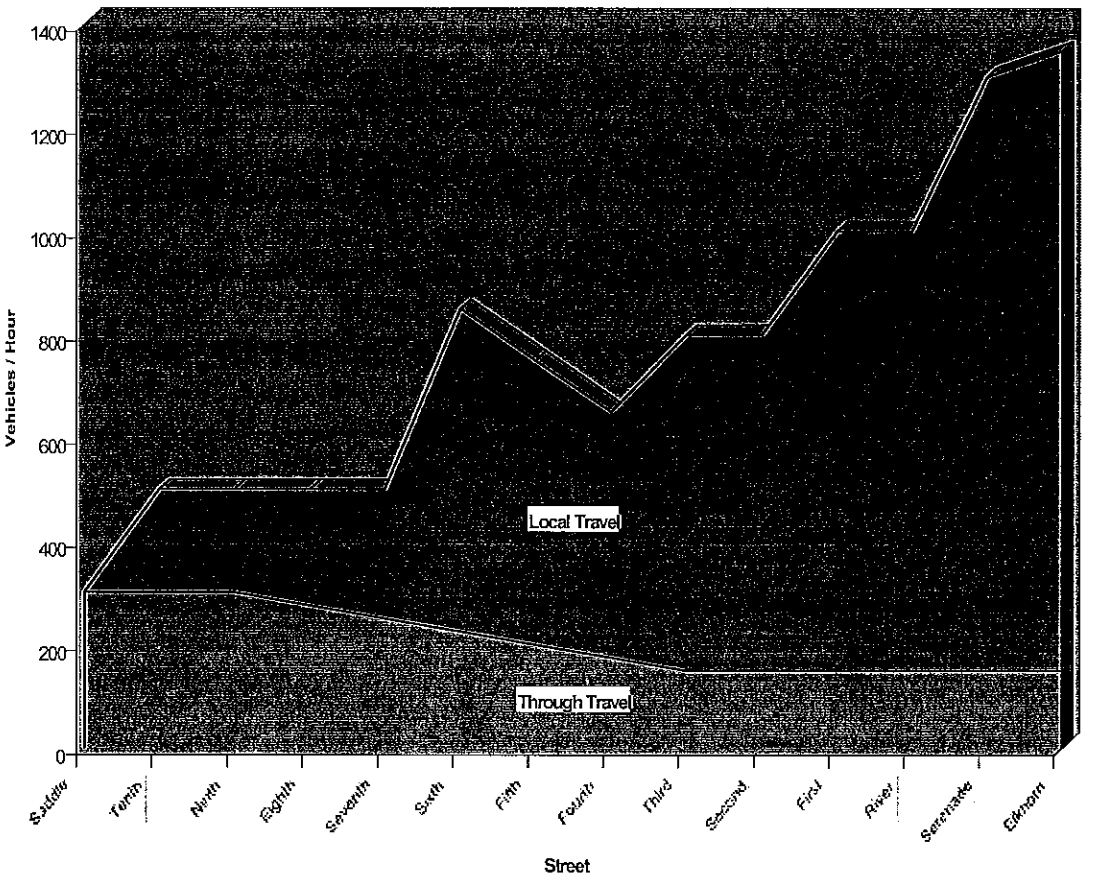


Figure 3.6 – Average Daily Traffic (2002)

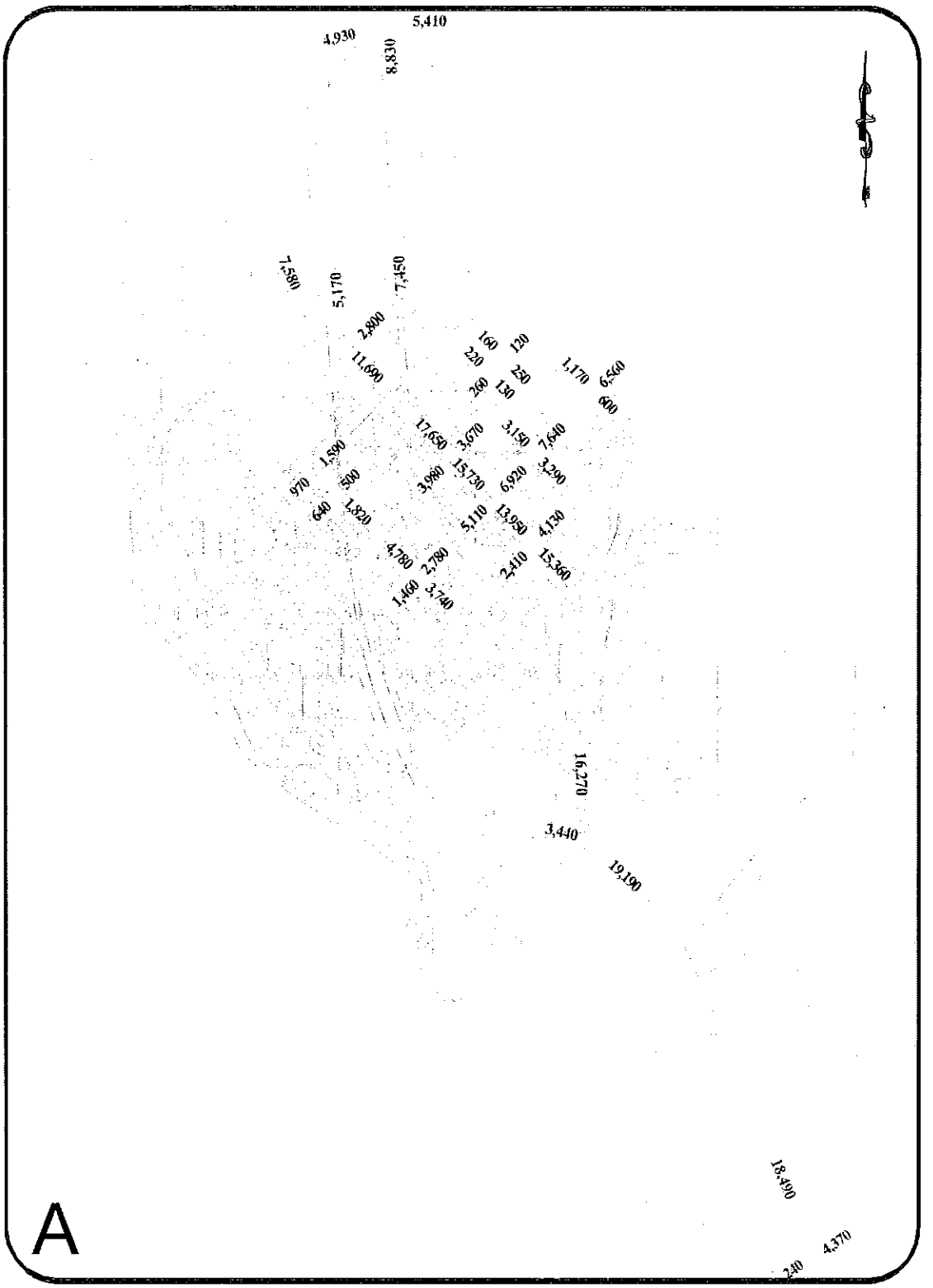
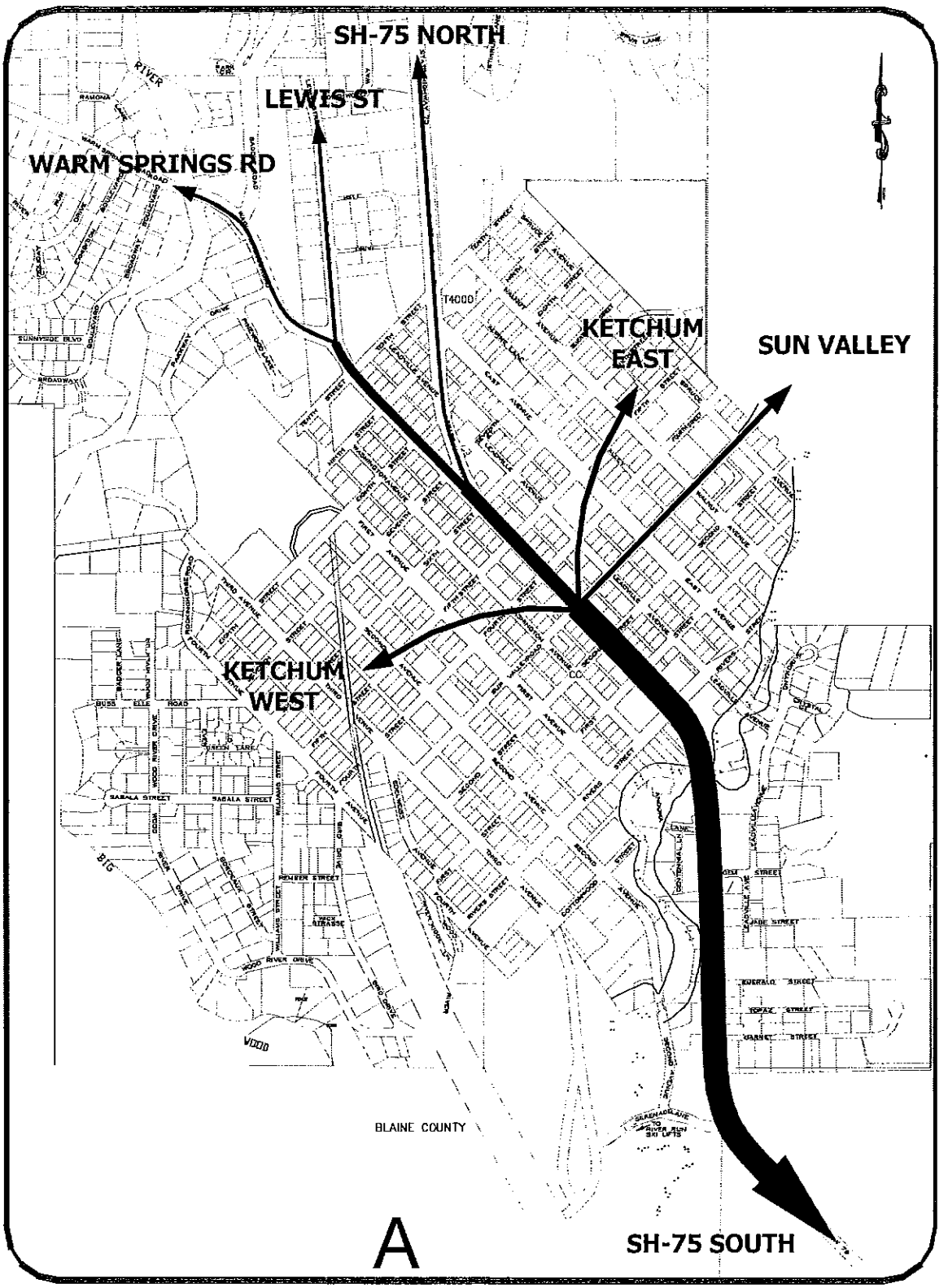


Figure 3.8 – Traffic Flow Map



3.3 Road System

The roadway system in downtown Ketchum is a closely spaced grid system. The distance between adjacent streets varies from 220 to less than 300 feet. **Figure 3.9** represents the existing circulation streets in Ketchum. SH-75 runs through downtown Ketchum and is the major north-south circulation street. Second Avenue is an alternative north-south circulation street running parallel to SH-75. Warm Springs Road connects the northwestern areas of Ketchum and intersects SH-75 at Sixth Street. Major east-west circulation streets are First Street, Sun Valley Road, and Fifth Street, which are signalized at SH-75 intersections.

All intersections are two-way or four-way stop-controlled intersections, except for the three signalized intersections on Main Street. **Figure 3.10** represents a map of the existing intersection control. There are too many stop-controlled intersections in Ketchum to allow for efficient traffic circulation. The stop-controlled intersections are not uniform or consistent, creating disruption in the traffic circulation. For example, the intersections along a roadway are alternating between two-way and four-way stop-control instead of all two-way stop-controlled or all four-way stop-controlled.

Figure 3.11 represents other key features affecting the traffic circulation in Ketchum. There are discontinuities in the roadway system. Roadways such as Third Avenue, Leadville Avenue, East Avenue, etc. are closed off and disrupt the traffic circulation. Center median parking is allowed on First Avenue and East Avenue, which could be turned into travel lanes to increase the roadway capacity. The three signals on Main Street are not coordinated and are operating at capacity during peak hour. Coordinating the signals would increase capacity on Main Street and improve traffic circulation. The key feature having the most impact on traffic circulation is land use as discussed in previous sections. Most of the major trip attraction sites are located within a relatively compact area 6 blocks by 6 blocks in size. The post office and library are located outside this commercial zone and attract trips, which tend to be shorter in length.

Poor traffic circulation creates traffic problems. **Figure 3.12** represents the traffic problem locations, which will be discussed in detail in the following sections.

Figure 3.9 – Existing Circulation Streets

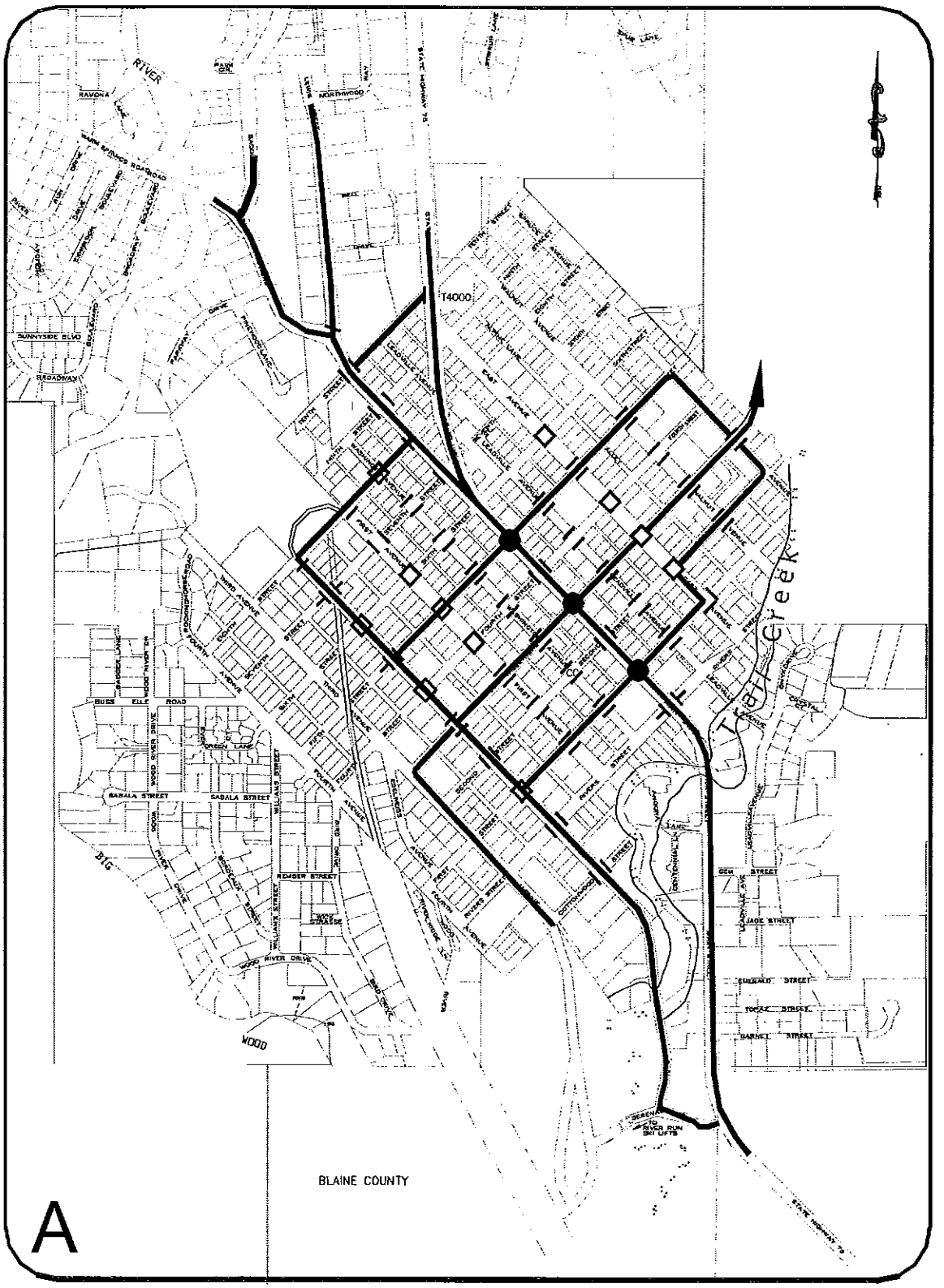


Figure 3.10 – Existing Intersection Control

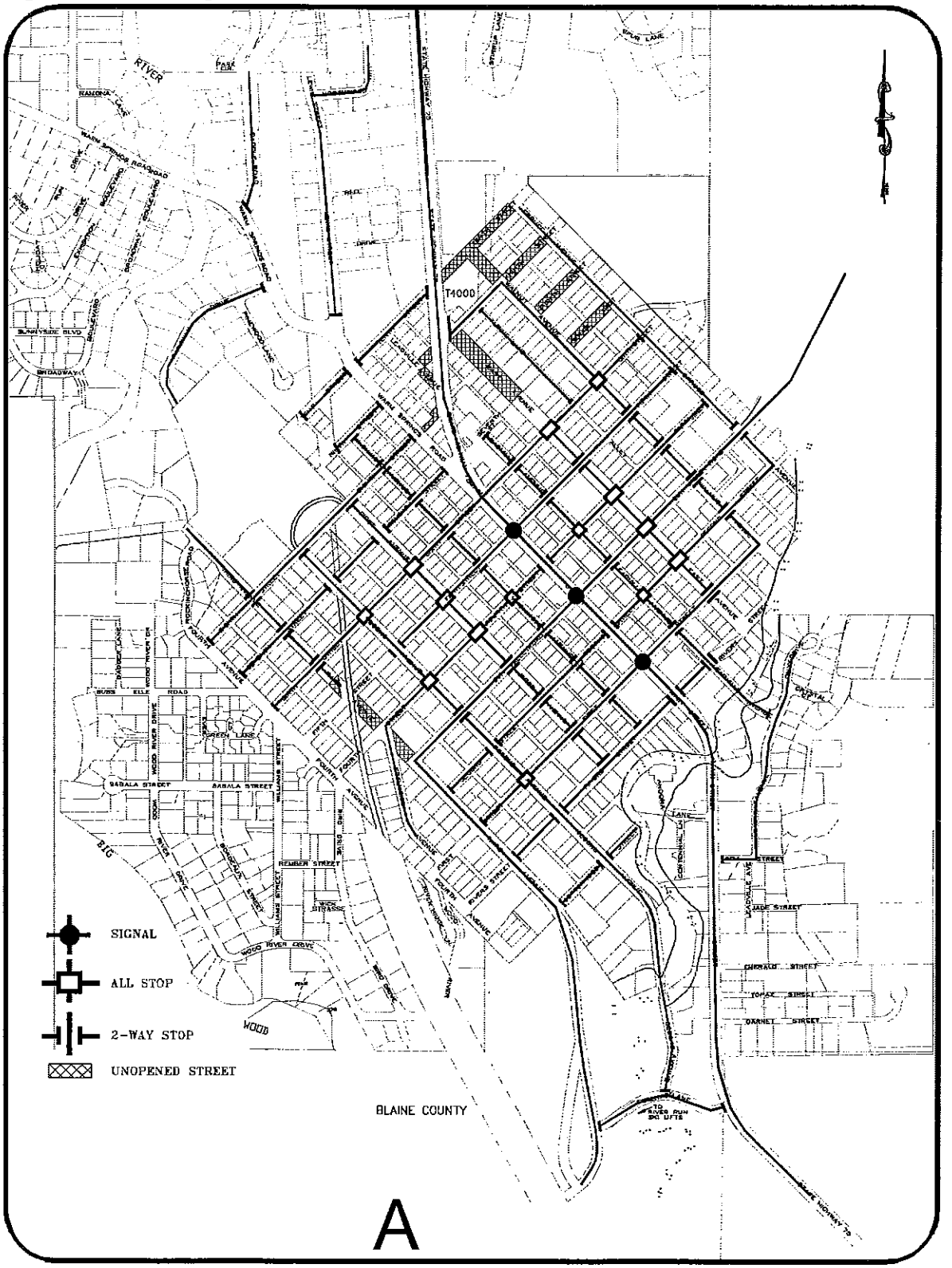


Figure 3.11 – Key Features Affecting Traffic Circulation

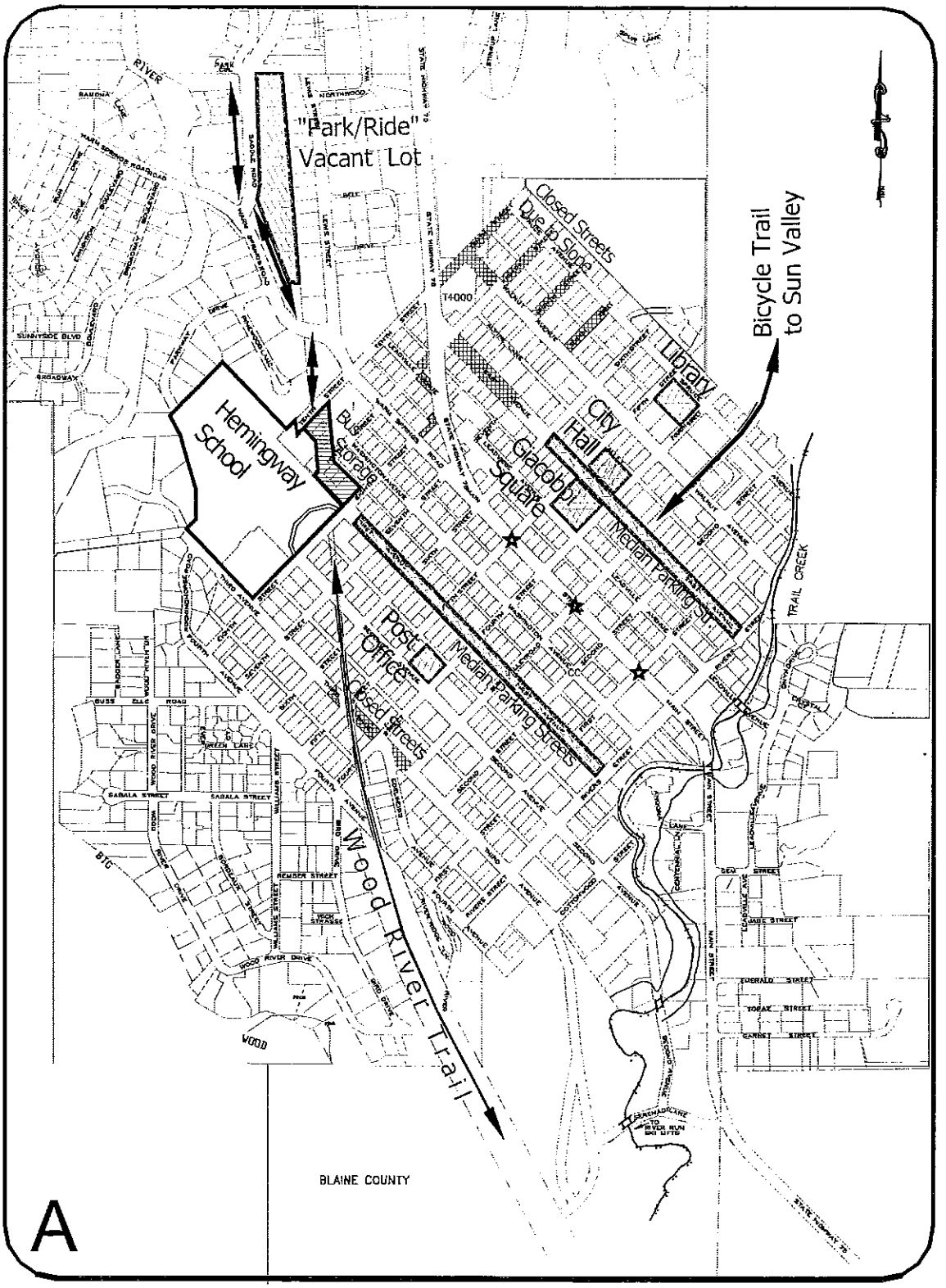
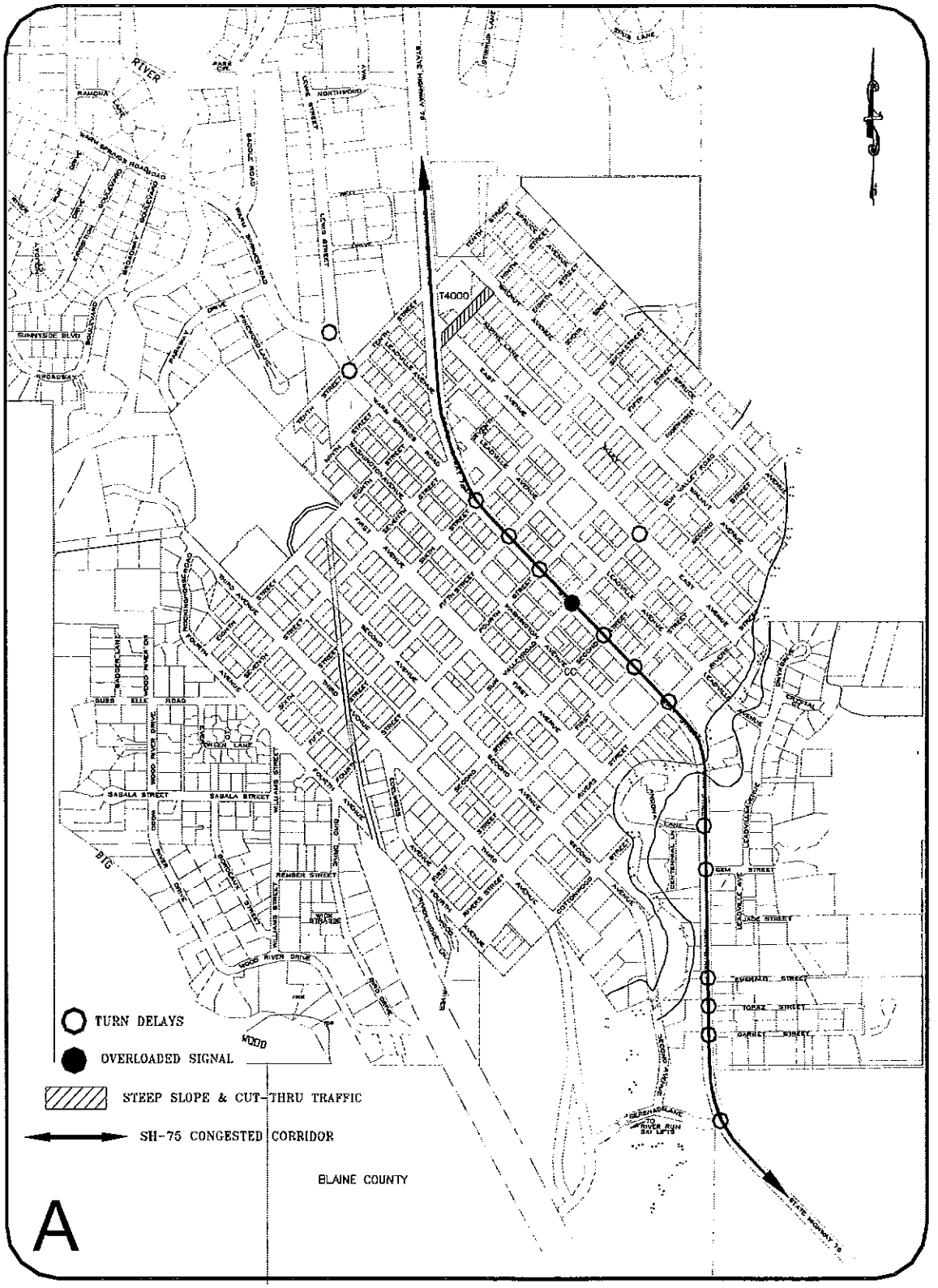


Figure 3.12 – Existing Traffic Problem Locations



3.4 Level of Service

This section presents a general discussion on concepts and applications of level of service (LOS) and capacity. Major roadways and intersections in the Ketchum area were analyzed to assess the existing LOS and identify traffic problem locations. The following sections will also present these LOS and capacity analyses.

3.4.1 Definition of Level of Service

A community's tolerance for congestion is expressed by the adopted Level of Service (LOS) standard. The scale of LOS values used by engineers ranges from "A" to "F." LOS "A" represents free-flowing conditions with little traffic, and "F" describes unstable stop-and-go traffic that is found in situations where the demand exceeds capacity. LOS "E" corresponds to volumes at or near capacity in combination with a high level of congestion, but with relatively steady traffic flow at slow speeds. The boundary between "E" and "F" corresponds to ultimate capacity.

Most urban communities use an arterial LOS standard of "D" or sometimes "C". This reflects a goal to manage congestion at a moderate level matched with volumes considerably lower than ultimate capacity. Large cities often adopt a standard of LOS "E", and tolerate "F" in locations where it is not feasible to build additional capacity.

3.4.2 Definition of Urban Street Capacity

For a wide range of traffic operations, a two-lane urban street under signalized control usually has an ultimate daily capacity of from 10,000 to 15,000 daily vehicles. In specialized circumstances capacity may reach 20,000. Here, ultimate capacity means the true physical maximum service volume. It depends not only on the lanes available, but also on the amount of crossing traffic, truck and bus volumes, left turn conflicts, steep slopes, and geometric design features. But the usable portion of ultimate capacity is lower in practice, depending on the community's tolerance for congestion. To precisely understand capacity, detailed technical analysis is needed.

Rural standards tend to be higher than urban standards (usually "A" or "B"), since traffic congestion is generally regarded as inconsistent with the rural environment. Local streets in residential neighborhoods should also have a high level of service in order to preserve tranquility and pedestrian safety.

3.4.3 Simple Rule of Thumb

The simple rule-of-thumb for approximate use is that a two-lane roadway can reasonably serve up to 10,000 daily vehicles with acceptable congestion. The Level of Service will probably be "D" or better, but to confirm this will require technical analysis when daily volumes are close to 10,000. For a four-lane roadway, double the volumes. Below this level, congestion is usually within reasonable limits. Near or above this level, congestion will be significant and warrants improvements, if confirmed by technical analysis.

Daily volumes above 10,000 per two lanes often result in LOS "E" or "F" conditions. Turn lanes or pockets do not count as through lanes for this rule, but would be considered in more detailed technical analysis. To achieve a higher level of service may require additional through lanes, or may be achieved by less extreme measures such as adding turn lanes, coordinated signal timing, etc. Some applications of this simple rule follow.

3.4.4 Relationship of Traffic Volumes, Lanes Available, and Congestion

Traffic congestion results from a combination of several factors that require detailed analysis for an accurate assessment of congestion in any specific situation. But a simpler approach is useful to gain an approximate understanding of the main relationship between supply (lanes) and demand (traffic volumes), as outlined below. This rule is best used to identify where traffic demand is well below capacity (no action needed) or well above it (action clearly needed) or near capacity (technical analysis required to evaluate possible actions).

3.4.5 Roadway Capacity

3.4.5.1 Warm Springs Road

The existing two-lane Warm Springs Road serves about 7,500 daily vehicles with light-to-moderate congestion. It has the potential to serve more traffic. As traffic volumes rise from 7,500 toward 10,000 daily vehicles, congestion will steadily increase. At some point capacity improvements will become a high priority.

3.4.5.2 Main Street

The existing Main Street serves 17,000 daily vehicles with four lanes, for an average of about 8,500 per pair of lanes. Although this volume is lower than the suggested rule of 10,000, peak hour congestion is very high. Main Street is unable to match the rule of 10,000 per pair of lanes because of the cross-traffic at three signalized intersections, left turn movements, and also because pedestrian crossings at uncontrolled intersections such as Second Street and Fourth Street work to disrupt through movements on Main Street.

3.4.5.3 SH-75

The existing SH-75 south of Ketchum serves up to 19,000 daily vehicles with only two through lanes. This example exceeds the rule-of-thumb limit, but the corridor is highly congested and the subject of intense study to find solutions. More capacity is clearly needed if the goal is to reduce congestion. The actual performance of this highway corridor exceeds the rule-of-thumb because of the minimal amount of cross traffic, few signalized intersections, and additional lanes at major intersections from Ketchum to Hailey.

These comparisons demonstrate that the rule-of-thumb offered is best used as a rough guide for understanding the relationship between traffic volumes and approximate lane requirements. In close cases, further technical analysis of traffic operations and level of service is always required to identify the most appropriate design decisions.

3.4.6 Unsignalized Intersections LOS

3.4.6.1 Warm Springs Road & Lewis Street Intersection

Warm Springs Road and Lewis Street is a T-intersection controlled by a stop sign on Lewis Street. The intersection is currently operating at acceptable LOS during the PM peak hour. Left-turn from Lewis Street is the critical movement and is operating at LOS C during the PM peak hour. However, the LOS at the intersection is expected to deteriorate as traffic is projected to increase.

3.4.6.2 Warm Springs Road & 10th Street Intersection

Warm Springs Road and 10th Street is an unsignalized intersection located approximately 200 feet south of Lewis Street intersection. The approaches on 10th Street have one shared lane for all movements and are controlled by stop signs. Left-turn from westbound approach on 10th Street is the critical movement and is operating at LOS E during the PM peak hour. Left-turn from westbound approach also experiences sight distance problems. The existing gas station limits the sight distance.

3.4.6.3 SH-75 & Serenade Lane

The SH-75 and Serenade Lane intersection is a stop controlled T-intersection located approximately ½ mile south of downtown Ketchum. During the PM peak hour, the right-turn from Serenade Lane is operating at LOS F because of the congestion on SH-75. Left-turn traffic from Serenade Lane is low during the PM peak hour and is operating at LOS D. Turning movements from Serenade Lane are experiencing high delays because traffic flow is continuous on SH-75 coming out of downtown during the PM peak hour.

3.4.7 Signalized Intersections LOS

3.4.7.1 Main Street & Fifth Street

The signal at the Main Street and Fifth Street intersection is operating under a two-phase timing plan – one phase for all movements on Main Street and one phase for all movements on Fifth Street. The signal is not interconnected or coordinated with the other signals. During the PM peak hour, the intersection is operating at LOS E. Coordinating the three signals would improve the LOS at Fifth Street intersection.

3.4.7.2 Main Street & Sun Valley Road

The signal at the Main Street and Sun Valley Road intersection is not interconnected or coordinated with the other signals. The signal is operating under a four-phase timing plan – split phase on Main Street and protected left-turn on Sun Valley Road. Left-turn traffic on Sun Valley Road warrants a protected left-turn phase. Left-turn traffic on Main Street is relatively high during peak hour but not significant to warrant a protected left-turn phase. A split phase signal operation is inefficient. The intersection is operating at LOS F during the PM peak hour.

3.4.7.3 Main Street & First Street

The signal at the Main Street and First Street intersection is operating under a two-phase timing plan – one phase for all movements on Main Street and one phase for all movements on First Street. The signal is not interconnected or coordinated with the other signals. During the PM peak hour, the intersection is operating at LOS E. Coordinating the three signals would improve the LOS at First Street intersection.

3.4.7.4 SH-75 & Elkhorn Road

The Elkhorn Road intersection is a signalized intersection located approximately one mile south of Ketchum. During the PM peak hour, the Elkhorn Road intersection operates at LOS F and is a bottleneck point on SH-75. The problem here is lane utilization. The northbound and southbound approaches on SH-75 have two through lanes but taper into one lane after the intersection. The right-hand through lane is not being utilized for through movement because of lack of reliable merging opportunities after the intersection. The right-hand lane is utilized more as a right-turn lane. Through traffic tends to position in

the left-hand through lane to avoid the merging, thus reducing the potential capacity and creating a long queue.

3.5 Transit

Two forms of public transportation service currently operate in Ketchum and Sun Valley. These separate systems use different vehicles and operate over entirely different routes, to serve two distinct kinds of transit patronage: short local trips for various personal trip purposes, and long trips from outside Ketchum for the purpose of commuting to work.

3.5.1 KART

The Ketchum Area Rapid Transit (KART) provides a free bus service circulating once an hour within the community on two routes. The focus is on linking ski base areas and the downtown Ketchum area. This service operates from morning to night, with some seasonal variations. It is funded by the City of Ketchum and the City of Sun Valley, plus federal grants. The Warm Springs route serves the northerly half of the Ketchum-Sun Valley area, from Warm Springs Lifts to Elkhorn Bell Tower via Warm Springs Road and Sun Valley Road to Elkhorn Road. The River Run route serves the south half of the area, linking River Run Lifts to Elkhorn Bell Tower via a loop through downtown Ketchum, then south on SH-75, and east on Elkhorn Road. Ridership varies significantly by season, with a clear majority of ridership occurring during the winter ski season. Summertime use averages about 600 per day, while winter use is about 1,500 per day with a strong emphasis on serving the needs of skiers. Buses are operated more frequently in winter than in summer to satisfy this demand.

The hourly frequency operated by KART in summer is adequate to provide an alternative mobility option for persons willing to wait, but the frequency is too low to capture all possible "choice" trips that might be diverted from private automobiles. This is because many personal trips cannot be scheduled to match the hourly schedule. Tripling the summer frequency for a service frequency of 20 minutes would probably achieve the maximum ridership. The cost to provide that service would be correspondingly increased. If the City implements a parking cost program for the downtown area, some increase in KART ridership would also be expected.

3.5.2 Peak Bus

The Peak Bus commuter service enables commuters from south Blaine County to reach jobs in Ketchum and Sun Valley without adding automobiles to the congested SH-75 highway corridor between Ketchum and Hailey. This service operates three round trips per peak period, with a one-way fare of $1.50. It uses a highway coach bus. Peak Bus is a public-private program managed by Wood River Ride Share on behalf of several public and private sector sponsors including ITD, Blaine County, its cities, and major businesses. The Peak Bus route begins in Bellevue with stops in Hailey, then proceeds north on SH-75 to Ketchum and Sun Valley, making stops at various employment areas in both cities. Several small loops are employed to extend coverage beyond SH-75. Peak Bus ridership in summer 2002 averaged 2,000 per month, or about 70 per day. One morning bus runs nearly full, while the earlier and later runs are not yet full. A guaranteed ride home via taxi is offered to commuters who miss their scheduled bus.

The current service frequency is matched to known work shift times, and constrained by the 45-minute frequency that is achievable with a single bus. In order to develop additional ridership at the peak shift time (e.g., 8 am each morning), a second bus would need to be operated approximately 20 minutes offset from the first bus. Cost of operation would correspondingly increase. Running an additional bus might permit broader area coverage in the Bellevue-Hailey area as well. If Ketchum implements a parking

management program, additional ridership would be expected to materialize on the Peak Bus system. If congestion increases on SH-75, additional diversions to Peak Bus can be expected as well, especially if transit priority diversions around congested intersections can be added to the current operating plan for SH-75.

3.6 Pedestrian and Bicycle Activity

Ketchum residents enjoy walking and bicycling, both for recreation and for practical purposes such as commuting to work. Improving the pedestrian orientation of downtown Ketchum is a high policy priority in the Comprehensive Plan. The actual volume of activity by pedestrians and bicyclists varies by season and weather. In most parts of Ketchum, actual volumes are quite low and no count data exists to record activity levels. The requirements for non-motorized facilities are based largely on safety concerns and the desire of the community for a high quality of recreational facilities. In downtown Ketchum, retail and recreational activities combine to increase the amount of pedestrian activity, so that sidewalks are well used. In the most central locations, sidewalks could be sized at greater than minimum standards in order to create the attractive social environment of a pedestrian-friendly activity center.

3.6.1 Existing Sidewalks

In most areas of the city, sidewalks are available for safe pedestrian mobility alongside vehicular travel. There is, however, a lack of continuity of sidewalks in some areas, depending on the state of development of the land parcels. Newer developed areas have good continuity of sidewalks, but roads in older areas sometimes lack sidewalks. Sidewalk deficiencies are more prevalent in the older downtown area because of the lower design standards that applied when the existing single-family homes were built. Today, however, there may be high volumes of conflicting traffic and a mixture of land uses on the same block.

3.6.2 Missing Sidewalks

Comprehensive Plan Map 4 documents a previous survey of missing sidewalks in the Ketchum Community Core, framed by Eighth Street, River Street, Second Avenue, and Spruce Avenue. In that area, approximately 60 block-faces lack sidewalks. Over half these deficiencies are found in the northwest quadrant bounded by SH-75 (Main Street) and Fourth Street. The other half is rather sporadically distributed in the other three quadrants.

Pedestrians are able to walk on shoulders as well as sidewalks, and that can be an adequate provision for pedestrians. The qualification is that conflicting traffic volumes and speeds must be relatively low, and shoulders must indeed be in walkable condition. Shoulders are also often used for parking, so conversion of a shoulder to a sidewalk may result in the elimination of parking spaces. Therefore, the priority for upgrading to sidewalks should be determined in consideration of all other activity factors in each location.

3.6.3 Multi-Purpose Trails

Several lengthy and popular trails exist in Ketchum today. Each of these routes has some problems of continuity and conflict with vehicular travel. While designated as multi-purpose trails and used by both bicycles and pedestrians, these routes are used in practice over long distances primarily by bicyclists for commuting to work as well as for recreation.

The Wood River Trail was created largely on the right-of-way of the former Union Pacific Railroad, over much of the length of the Big Wood River corridor in Blaine County. It enters Ketchum from the south at Elkhorn Road. The trail proceeds on former railroad alignment northward near the Big Wood River up to

the area of West Ketchum, where it parallels city streets until resuming as a separate path at Warm Springs Road. The trail proceeds north along Saddle Road to SH-75, then continues northward.

The Sun Valley Trail proceeds out of the City of Sun Valley along Sun Valley Road, entering the downtown area as Third Street. The separate path changes to a striped shoulder on one side of Third Street, and vanishes entirely where Third Street approaches Main Street. There is no marked trail west of Main Street to connect this trail formally to the Wood River Trail.

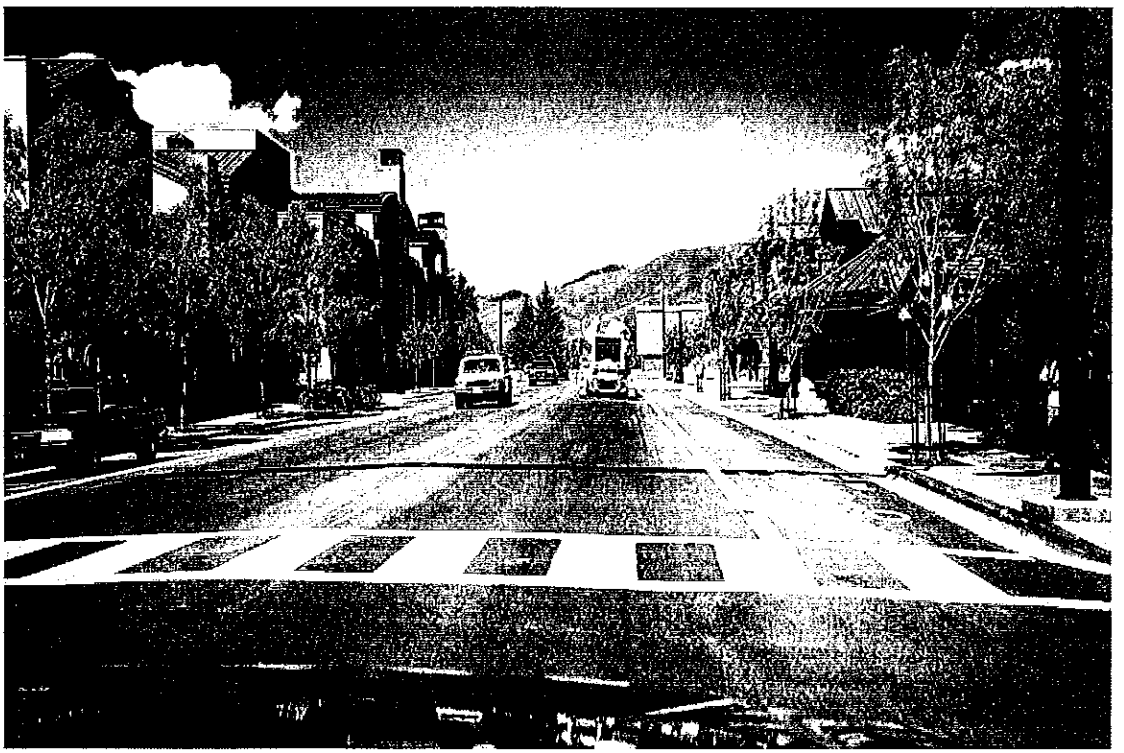
Additional multi-purpose trails are located on Saddle Road and on Elkhorn Road, connecting to their counterparts in Sun Valley. A trail extension has recently been completed along Warm Springs Road proceeding westerly from the Wood River Trail at Saddle Road.

3.6.4 Downtown Ketchum Conflicts

Bicycles compete with moving vehicles, parking vehicles, and pedestrians for use of the downtown streets. The Sun Valley Trail on Third Streets drops from a separate path to a shoulder, then vanishes as shown in **Figures 3.13** and **3.14**. In this area the physical space does not exist to provide the high quality separate trail facilities found on other trails. That said, the current challenge is to find least congested street routes that may serve as designated bicycle corridors. The Comprehensive Plan identifies Fourth Street as a future pedestrian/bicycle corridor. Second Avenue and First Avenue may also serve as possible routes to connect east Ketchum and Sun Valley to the Wood River Trail in West Ketchum.

Figure 3.13 - Looking West on Sun Valley Road to Main Street, no Bike Lanes

Figure 3.14 – Looking East on Sun Valley Road, with Bike Lanes Used for Parking



3.6.5 Hemingway School Area

The Wood River Trail is routed along the east boundary of the school property. The paved path skirts the property edges until it crosses the school parking lot via a striped route in conflict with school buses and other traffic entering and leaving that lot at Tenth Street. The striped crossing is much longer than a typical street crossing. A project is underway in 2004 to realign this crossing easterly to provide a shorter perpendicular crossing.

3.6.6 West Ketchum Area

The Wood River Trail's separate path is interrupted at Third Street. From there to the Hemingway School area the path follows city streets, as a parallel path much like a paved shoulder. Several city blocks in this area are nearly vacant and subject to future redevelopment that will affect the trail and may provide opportunities to improve the trail as well.

3.6.7 Demand Volumes

No actual count data exists for pedestrian and bicycle activity patterns. Field observations during 2002 and 2003 suggest that in most areas, the demand for pedestrian facilities is adequately served by the provision of sidewalks at minimum design standards. In the core of the downtown area, walking between stores and businesses and parking areas increases with density and can be expected to further increase as the city grows. There may be justification for wider sidewalks based on crowd volumes at peak event times, and also based on attainment of the high quality pedestrian environment that is appropriate to a recreation/resort community.

CHAPTER 4 – TRAFFIC CONTROL DEVICE IMPROVEMENTS

This chapter provides an analysis of existing traffic controls and a plan to optimize their effectiveness.

4.1 Location of Interests

Meetings were held with the city's and ITD's staff to discuss and identify the locations of interests for traffic control improvements. Fields reviews were also conducted to confirm the locations. The following locations were identified for traffic control improvements:

- Main Street and Sun Valley Road intersection
- Main Street Corridor
- Warm Springs Avenue and Lewis Street
- Warm Springs Avenue and 10th Street
- Serenade Lane and SH-75 intersection

The following sections will discuss each location in detail.

4.1.1 Main Street & Sun Valley Road Intersection

The signal at the Main Street and Sun Valley Road intersection is not interconnected or coordinated with the other signals. The signal is operating under a four-phase timing plan with a split phase on Main Street. A split phase signal operation is inefficient. The intersection is currently operating at LOS F during the PM peak hour under the existing geometric, traffic, and signal operation conditions.

The PM peak traffic conditions at the intersection warrant a protected left-turn phase on Sun Valley Road but not on Main Street. At the intersection, left-turn traffic on Main Street is low compared to the through traffic. The left-turn traffic volume on Main Street is approximately 8% of the through traffic. However, the approached on main Street does not have left-turn lane and the split phase operation is necessary to accommodate the left-turn traffic.

The operation at Main Street and Sun Valley Road intersection could be improved with the following changes:

- Prohibit parking on Main Street at the intersection and re-stripe the approaches on Main Street to have left-turn pocket
- Utilize one phase for all movements on Main Street (permitted left-turn)
- Same signal phasing on Sun Valley Road

With these improvements, the intersection would operate at LOS E. The intersection was also analyzed under a permitted left-turn phase on Main Street but without the left-turn pockets. This scenario does not improve the LOS for the intersection.

4.1.2 Main Street Corridor

The Main Street corridor in downtown Ketchum currently has three signalized intersections – at First Street, at Sun Valley, and at Fifth Street. The signal at the Sixth Street intersection has been recently removed. The Fourth Street and Second Street intersections are unsignalized intersections. The signals are not coordinated and are operating under different signal timing plans. The signals at First Street and Fifth Streets are operating under a two-phase timing plan – one phase for all movements on Main Street and one phase for all movements on cross streets. The signal at Sun Valley Road is operating with split phase on Main Street and protected left-turn on Third Street as discussed above. Main Street through downtown Ketchum has two lanes in each direction and the lanes are shared for left-turn, right-turn, and through movements. The Main Street corridor is congested during the PM peak hour. First Street and Fifth Street intersections are operating at LOS E under 2002 PM peak traffic conditions. Sun Valley Road intersection is operating at LOS F. The number of rear-end accidents at the intersections on Main Street is also high compared to other types of accidents.

Different improvement alternatives were considered and analyzed. A report of the technical analysis is included in the appendix. The alternatives incorporated the following improvements:

- Signal coordination
- Signal phasing
- Adding signals at Second Street and Fourth Street
- Turning Sun Valley Road and Second Street into one-way couplet
- Prohibit left-turn on Main Street
- Add left-turn pockets at intersections on Main Street
- Add a continuous two-way left-turn lane and right-turn pockets on Main Street
- Convert Main Street to three lanes
- Combination of the improvements

These alternatives were analyzed under 2002 PM peak traffic conditions. **Table 4.1** represents a summary of the average network delay (sec/veh) for all alternatives tested. Most alternatives were found to improve the LOS at each intersection and lower the overall average delay on the Main Street corridor. The cells not shaded in T**able 4.1** indicate alternatives that improve the LOS at all intersections to LOS C or better (average network delay less than 20 sec/veh). Since the intersections on Main Street are currently operating at capacity during the PM peak hour, any of these alternatives could be considered for improving the operation on Main Street. Please refer to the technical report in the appendix for detail description and evaluation of the alternatives. The following chapters will further describe and evaluate the surviving alternatives, leading to the final recommendations.

Table 4.1 – Average Network Delay (sec/veh)

Main Street Configuration & Operation	Main Street Intersection Controls			
	Existing East-West Streets		E-W One-Way Pair, 2nd & 3rd	
	3 Signals (at 1st, 3rd, 5th)	5 Signals (add 2nd, 4th)	4 Signals (add 2nd)	5 Signals (add 2nd, 4th)
Existing = 4-Lanes, No Coordination, Existing signal operations	97	--	--	--
Optimize Existing = 4-Lanes + Optimized/Coordinated Signals	57	14	20	14
Optimize Existing **+ Prohibit Left Turns**	57	14	--	--
Optimize Existing **+ Alternating Left-Turn Pockets + 50% Parking Removed**	29	10	13	10
Optimize Existing **+ Continuous Two-Way Left-Turn Lane + Alternating Right-Turn Pockets + 100% Parking Removed**	18	9	12	10

4.1.3 Warm Springs Road & Lewis Street Intersection

The Warm Springs Road and Lewis Street intersection is a T-intersection controlled by a stop sign on Lewis Street. Lewis Street serves the commercial sites, which attract or discharge a large number of vehicles during peak hour over a short period. During the PM peak hour, a large number of vehicles turn left from Lewis Street onto Warm Springs Road and experience a high delay, approximately 24 seconds per vehicles. Different intersection controls were considered and analyzed. A detailed report of the analysis is included in the appendix.

Existing traffic conditions at the Warm Springs Road and Lewis Street intersection does meet some of the criteria for a multi-way stopped-control. However, under this intersection control, all traffic is required to stop resulting in higher total delay and average delay per vehicle. A multi-way stop-control would reduce the delay on Lewis Street but would significantly increase the delay on Warm Springs Avenue.
A multi-way stop-control could be used as an interim traffic control for the intersection before a signal could be funded.

The 2002 traffic conditions at Warm Springs Road and Lewis Street intersection warrant a traffic control signal. Traffic signal control should be considered for the intersection. However, other criteria related to the roadway, pedestrian, bicyclist, and other conditions should be considered before installing the signal. Under a signal control, the intersection would operate at LOS B with an average delay of approximately 12 s/veh.

4.1.4 Warm Springs Road & Tenth Street Intersection

The Warm Springs Road and Tenth Street intersection is located approximately 200 feet southeast of the Lewis Street intersection. The intersection is a two-way stop-controlled intersection with four approaches. However, the eastbound approach on Tenth Street ends at the Hemingway Elementary lot and carries low traffic volume. The approaches on Tenth Street have one shared lane for all movements and experiences high delay. The critical westbound approach on Tenth Street is operating at LOS E with an average delay approximately 44 seconds per vehicles. The westbound approach is also experiencing sight distance problems. The existing gas station in the southeast quadrant of the intersection limits the sight distance. Different intersection improvements were considered and analyzed. A detailed report of the analysis is included in the appendix.

Existing traffic conditions at the Warm Springs Road and Tenth Street intersection do meet some of the criteria for a multi-way stopped-control. However, under this intersection control, all traffic is required to stop resulting in higher total delay and average delay per vehicle. The intersection would operate with excessive delay at LOS F.

The 2002 traffic conditions at the Warm Springs Road and Tenth Street intersection warrant a traffic control signal. Traffic signal control should be considered for the intersection. However, other criteria related to the roadway, pedestrian, bicyclist, and other conditions should be considered before installing the signal. Under a signal control, the intersection would operate at LOS B with an average delay of approximately 11s/veh.

4.1.5 SH-75 & Serenade Lane Intersection

The SH-75 and Serenade Lane intersection is a stop controlled T-intersection located approximately ½ mile south of downtown Ketchum. During the PM peak hour, the southbound traffic flow on SH-75 is continuous coming out of downtown Ketchum, which is creating high delay for traffic on Serenade Lane. During PM peak hour, right-turn from Serenade Lane is high approximately 217 vehicles per hour compare to 5 left-turns. Turn from Serenade Lane is operating at LOS D for left-turns and LOS F for right turns under 2002 PM peak traffic conditions. Different intersection improvements were considered and analyzed. A detailed report of the analysis is included in the appendix.

Existing traffic conditions at the SH-75 and Serenade Lane intersection does not warrant a multi-way stopped-control. The 2002 traffic conditions do warrant a traffic control signal. A Traffic signal control should be considered for the intersection. However, other criteria related to the roadway, pedestrians, bicyclists, and other conditions should be considered before installing the signal. Under a signal control, the intersection would operate at LOS D.

Intersection geometric improvements could be an alternative to a traffic control signal. These improvements include a channelized right-turn on Serenade Lane and an acceleration lane on SH-75. These improvements should be designed according to the AASHTO design guidelines. The channelized right-turn lane would accommodate the high right-turn traffic on Serenade Lane. The acceleration lane on SH-75 would facilitate the right-turn traffic to merge into the main traffic stream on SH-75. These improvements would also function as a storage lane if acceptable gaps on SH-75 are not available. With these improvements, the delay for right-turn traffic from Serenade Lane would be minimal since right-turn traffic does not stop and would be able to merge into the southbound traffic stream. This condition was observed during traffic analysis and simulation.

CHAPTER 5 – POSSIBLE SOLUTIONS

This chapter describes, but does not analyze, the full range of options that may be possible solutions to traffic problems identified in Chapter 2. Many of these options may be technically feasible to construct, but difficult in practice to accomplish for various reasons. The next chapter applies a "fatal flaw" analysis to eliminate the less-viable choices and produce a short list of options for further study. Later chapters provide the analysis of the surviving concepts, leading to the final recommendations.

5.1 Pedestrian Circulation

An important aspect of the distinctly small-town rural atmosphere of Ketchum is the ability to walk almost anywhere within a reasonable time. Three factors combine to make walking pleasurable and practical: the compact size of the city, the reasonably flat terrain in most areas, and the relatively short distance to the downtown core from most residential areas.

Walking as a mode of travel requires a safe route to travel, first in terms of smooth and steady footing for the individual walker and next in terms of protection from motor vehicles. Sidewalks and separated trails each satisfy both requirements. In their absence, wide shoulders are adequate, if not ideal, provided that traffic volumes are low. Narrow shoulders or no shoulders are generally not satisfactory except within small neighborhoods where traffic volumes and speeds are both very low.

The conflict with automobiles comes about from the fact that American streets are typically designed to allow speeds that are too high for pedestrians to co-exist with - even 20 to 30 mph on residential streets. Some European countries have successfully designed residential neighborhoods so that walking in the street is the norm, using traffic calming design features to keep automobile speeds close to walking speeds (well, jogging speed anyway) within the pedestrian zones. Pedestrian-priority local streets could be implemented in new subdivisions within Ketchum through land development codes.

The existing street system cannot be rebuilt to such a standard. The existing public streets in downtown Ketchum and other high density areas should instead be equipped with sidewalks on both sides as an expected design. Paths away from the street are equivalents for function, and may be preferable in park-like settings. Paths may be paved asphalt or concrete or brick surfaces, or use compacted crushed rock, to suit different design goals.

5.1.1 Improve Continuity of Downtown Core Sidewalks

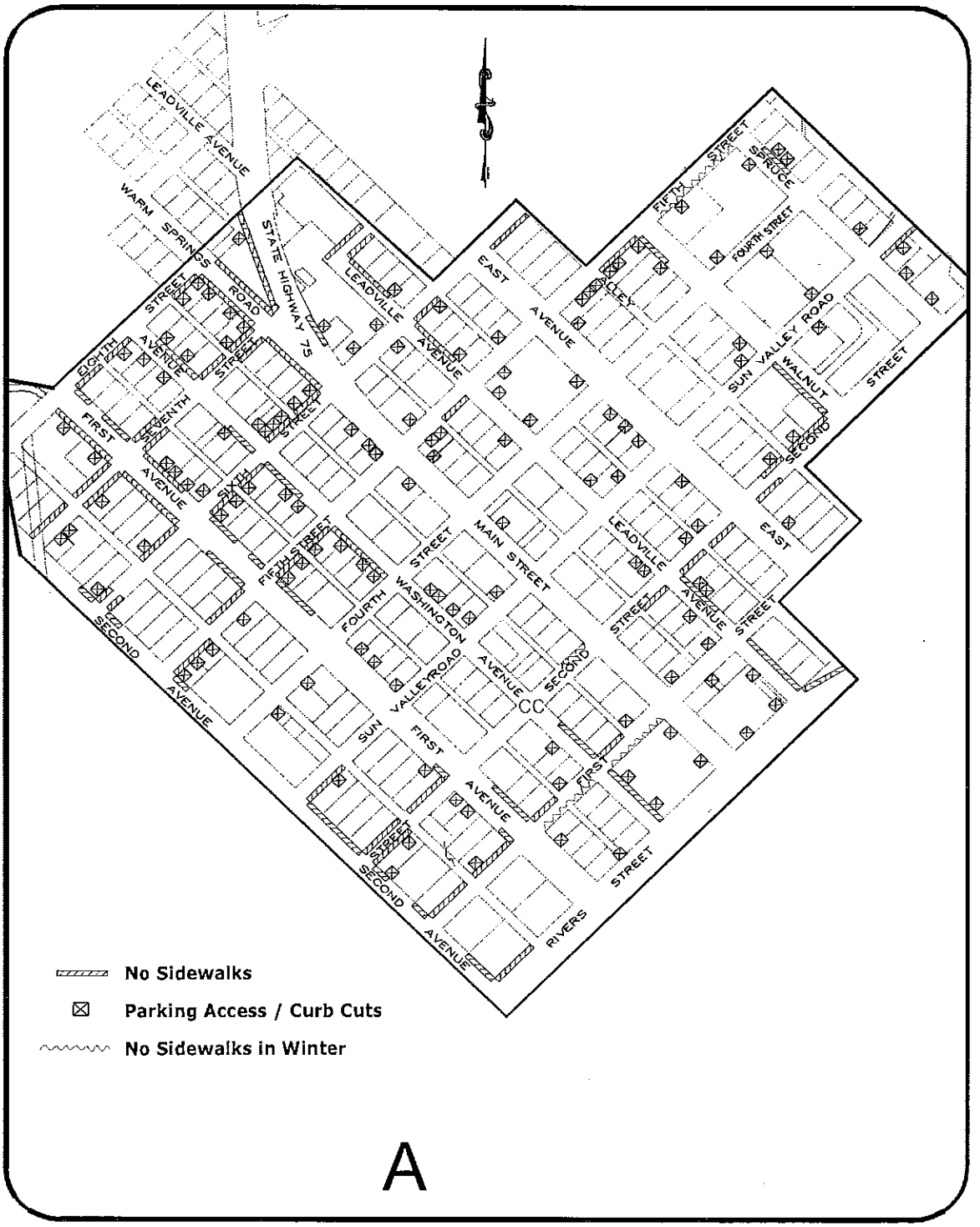
The Comprehensive Plan contains a map of sidewalks in the downtown core area of about 45 blocks as shown in **Figure 5.1**. Most of the downtown area east of Main Street has sidewalks on most of the block-faces. Some sidewalks in that area have been provided by recent development activity. Over half the blocks with missing sidewalks are found in the northwest quadrant of the downtown - west of Main Street and north of Third Street. Most of this area probably was developed when street standards did not require sidewalks. This area has had relatively little recent development activity, so deficiencies are common. A program to install sidewalks where currently missing would focus first of all on this part of the downtown.

In a systematic program to install sidewalks on existing streets over a period of time, priority for public funding of sidewalks should be based on these factors:

- High pedestrian volumes
- High vehicular speeds
- High vehicular traffic

- Presence of children
- Proximity to schools and other public destinations
- Plans to reconstruct the street for utilities, parking, or repaving.

Figure 5.1 – Sidewalks in Ketchum Community Core (Ketchum Comprehensive Plan)



5.1.2 Pedestrian-Friendly Downtown

Much attention is given to increasing the pedestrian qualities of downtown Ketchum in planning documents. The focus is on Main Street and on Fourth Avenue, in particular. Pedestrian mobility in the downtown depends on adequate sidewalk width, and also on ability to cross busy streets with safety. **Figure 5.2** illustrates the range of "good" and "bad" pedestrian provisions in downtown Ketchum today.

In high activity areas, sidewalks should be wider than the common standard width of about 5 feet. This supports both higher volumes of pedestrian activity and enhances the design of such areas. City sidewalks may be from 8 to 12 feet wide depending on available right-of-way and actual needs.

Crossings of busy streets are best when shortest, but this is difficult to provide on Main Street. Main Street has a 66-foot curb-to-curb width in most places, filled by two parking lanes and four moving lanes serving very high volumes of travel. The crossing width would be shortened by placing curb "bulbs" at the ends of blocks, so the width to walk across is reduced to the four moving lanes. From the point of view of serving vehicular traffic, however, there are competing demands on the parking lanes (for future turn pockets) that cannot be served if curb bulbs are installed. Such conflicts can only be resolved by a multi-purpose design plan for Main Street, developed with substantial involvement by stakeholders representing the entire community.

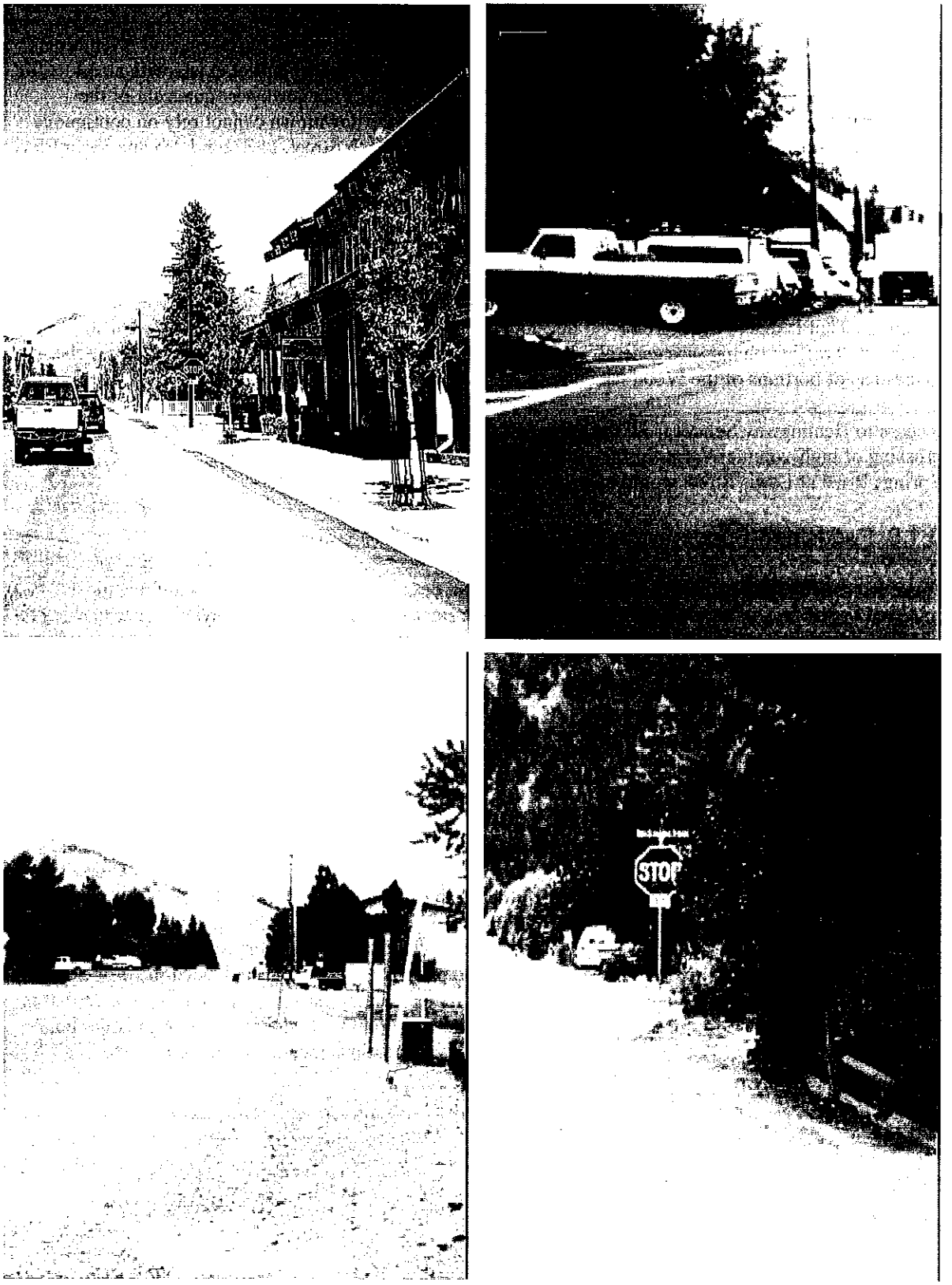
Signalized intersection crosswalks are safer for pedestrians than crossings at mid-block, or at unsignalized locations. On Main Street today, signals exist at First, Third, and Fifth Streets. At Second and Fourth Streets, pedestrian crossings are frequent, and flags have been installed at these locations to help pedestrians cross with heightened visibility to drivers. This is a popular benefit to pedestrians, and good for safety, but the high frequency of pedestrian crossings at these locations also has the effect of disrupting the continuity of traffic flow on Main Street, and increases congestion by reducing the effectiveness of the adjacent signalized intersection controls. A better solution may be to provide signals at Second Street and at Fourth Street, in order to provide for more orderly pedestrian crossings with comparable or better safety, and less disruption to traffic. Similar signalization at River Street does not appear justified because there is very little pedestrian crossing activity there. Signalization at Sixth Street was removed during the course of this study, because no vehicular movements were actually controlled by that signal due to the raised curb median, and pedestrian crossing volume was negligible.

5.1.3 Fourth Street Pedestrian Corridor

Fourth Street has been designated for redevelopment as a pedestrian and bicycle corridor in the Comprehensive Plan. This street forms an east-west axis connecting many activity centers. Beginning at the east end on Spruce Street, a tourist might read the home-town paper at the Library, then walk two blocks to City Hall on East Avenue to check on zoning regulations for that interesting vacant lot for sale, and get a copy of the Ketchum street map. Next, cross over to Giacobbi Square to buy film and a deli trail lunch, then continue to Main Street and ask the Visitor Center for directions to the Wood River Trail. Proceeding two blocks further west, our visitor stops to mail postcards at the Post Office at Second Avenue, then finds the Wood River Trail for a day of hiking.

Fourth Street today has a mixture of sidewalk conditions, and some missing sidewalks. Curb parking conflicts with pedestrian navigation in some places. Crossing Main Street with no traffic signal is a challenge. An integrated design and reconstruction of this entire street from Spruce to Second would greatly improve the pedestrian experience, especially with a traffic signal added at Main Street.

Figure 5.2 – Pedestrian Conditions in Downtown Area



5.1.4 School Walk Routes

Pedestrian access to the Hemingway Elementary School at Eighth Street and First/Second Avenues is generally served by sidewalks and paths, but there are exceptions where conflict exists with street traffic. The previously mentioned lack of continuous sidewalks in much of the northwest quadrant of the downtown core means that access to the school from most of the downtown cannot rely on continuous sidewalks. Secondly, such pedestrian routes must also cross Eighth Street, at Second Avenue, or at First Avenue, or at Washington Avenue. At one of these intersections, a four-way stop is installed, but at two others the traffic at Eighth Street does not stop. Changes to those locations would be desirable to protect school children, including the posting of school crossing guards during the before-school and after-school hours.

Compared to downtown, access to Hemingway School is more protected for neighborhoods of West Ketchum. That is due to the more recent development of that area, with sidewalks inclnded in street standards. Traffic volumes are generally low west of Second Avenue as well, and access to the school makes use of portions of the Wood River Trail and Atkinson Park adjacent to the school.

Access to Hemingway School from the north involves the Wood River Trail as well, with an unprotected crossing of high-volume Warm Springs Road and of Saddle Road. Traffic controls added to Warm Springs Road at Lewis Street would be helpful to protect that crossing.

5.1.5 Pedestrian-Supportive Land Development in Downtown

Apart from difficulties crossing Main Street, pedestrian circulation in downtown Ketchum is most hindered by the lack of sidewalks and in some places rather narrow sidewalks. Sidewalks are missing to some degree in all parts of the downtown, but most frequently in the northwest quadrant. Historically, sidewalk improvements were a private obligation, to be constructed when properties were developed or re-developed. That method of sidewalk in-fill is simple to administer, but has resulted in the existing gaps in the sidewalk system. If a continuous sidewalk environment for pedestrians is an important goal, as several policies of the Comprehensive Plan indicate, then a more decisive approach is needed, actively managed to achieve certain goals.

The City's Capital Improvement Program could include a line item for annual outlays to complete missing sidewalks over a period of several years. The order for improving locations should be based on needs and benefits, such as pedestrian activity, traffic conflicts, contribution to systematic continuity, and coordination with other street construction activities in the area (e.g., utilities). The project costs should be charged to abutting property-owners, for consistency with past practices, but the City could allow generous terms. One option is to accept deferred payments over time, as is sometimes done with Local Improvement Districts. A lien could be imposed on the property, to be recovered when the property sells or develops, if no sooner payment is made. Finally, if major development is proposed for an area that is not well-connected to Main Street (or other pedestrian destinations), the sidewalk program could be accelerated in that area to ensure continuity of sidewalks in locations most affected by the new development.

5.1.6 Street Design For Pedestrians

To create a more pedestrian-oriented environment in downtown Ketchum, conventional street standards should be modified to require additional pedestrian considerations. There is no single design to adopt as such. The adopted requirement should only be to give all possible consideration to enhancing the pedestrian environment, within designated high pedestrian activity areas such as downtown Ketchum. This establishes the concept; it is then up to the design team to do their innovative best with the resources available.

Figure 5.3 illustrates examples of pedestrian-oriented improvements that could be beneficial in Ketchum. These examples are by no means exhaustive.

Wider Sidewalks provide space for people to walk side-by-side, or in groups. While 5-foot or 6-foot sidewalks are the usual minimum width, good design practice for a pedestrian-friendly street requires from 10 to 15 feet to give room for street furniture, street trees and landscaping, bicycle stands, transit shelters, sidewalk café tables, etc. To establish such wide sidewalks involves an obvious tradeoff with parking space, within the limited right-of-way of most downtown streets.

Corner curb bulbs can reduce the width of streets for pedestrian crossings, by as much as the width of two parking lanes. The curvature of the return edge should be designed with streetsweeping and snowplowing operations in mind. Special pylon markers or other street furniture can also be placed near the edge to help guide snowplows. Curb bulbs cannot be used if the parking lane is needed for a right-turn pocket.

Crosswalks can be highlighted using colored paver slabs or bricks. The use of bright orange flags at crosswalks is increasingly popular, but does interfere with the progression of traffic through nearby signalized intersections. On Main Street in downtown Ketchum, adding signals to the intersections at Second and Fourth Streets would provide stronger support to pedestrians, as well as enhance the coordination of through traffic flows on Main Street from First Street to Fifth Street.

A pedestrian refuge island in the middle of a wide street breaks up the crossing into two more management parts. This works chiefly where there is no left-turn lane using the median space, or where there is no signalization. There may be applications on Main Street between Trail Creek and Serenade Lane, or along Warm Springs Road.

Pavement width and striping has an impact on vehicle speeds as well. One way to reduce vehicle speeds and improve pedestrian safety and comfort is to paint edge strips that reduce the apparent lane width. The shoulder space so created becomes a buffer between vehicles and pedestrians on the sidewalk, and may also be appreciated by bicyclists without any formal designation as a bicycle route.

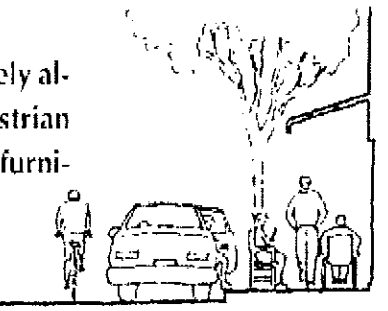
Careful attention to the small details of all facilities will enhance pedestrian safety and comfort in subtle ways. This is an area that benefits from specialized design experience. The source footnoted in Figure 5.3 contains additional illustrations and technical guidance, and referrals to other resources.

5.1.7 Pedestrian Considerations for New Developments

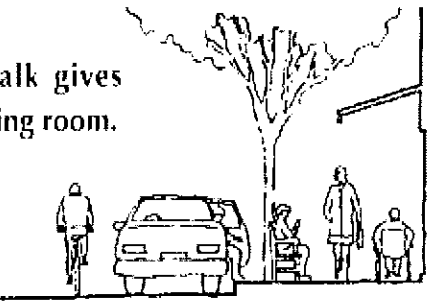
The City has options to influence the development of some vacant land parcels, such as the city-owned "park and ride" area north of Warm Springs Road and east of Saddle Road, and the large vacant area west of the Post Office. Future uses of such areas should consider walking access to and from the area, and the City should favor land uses that enconrage walking and are less dependent on motor vehicle access. Multi-use development within such large parcels may also be helpful to reduce external travel.

Figure 5.3 – An Example of a Pedestrian-Friendly Street Designs

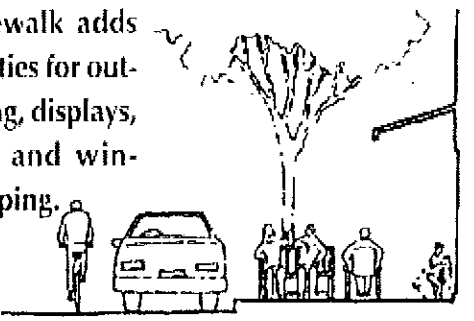
8-ft sidewalk barely allows 2-way pedestrian and a 3-ft street furniture area.

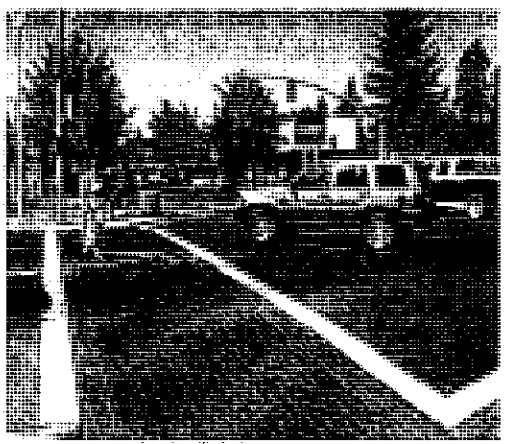


10-ft sidewalk gives more breathing room.

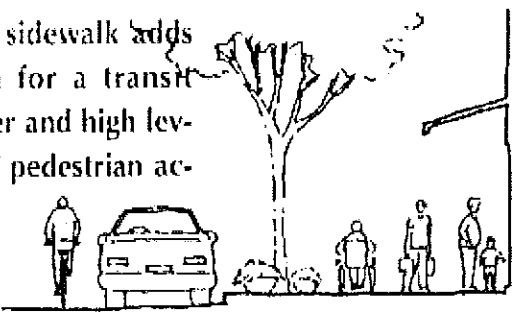


12-ft sidewalk adds opportunities for outdoor dining, displays, planters, and window shopping.





15-ft sidewalk adds room for a transit shelter and high levels of pedestrian activity.



Source: Oregon Department of Transportation, Main Street…when a highway runs through it: A Handbook for Oregon Communities, 1999

5.2 Bicycle Circulation

Bicycling is a popular mode of travel in Ketchum, for residents and for visitors. The Wood River Trail is an extraordinary recreational bicycle facility, but cannot be duplicated on all roads where bicyclists travel. Existing streets are suitable for bicycle travel in mixed traffic where car traffic is low and/or speeds are moderate, but several routes in Ketchum present the bicyclist with safety conflicts that are well known and identified as needs in city plans.

Actions to improve bicycling on Ketchum's major streets should emphasize the addition of striped bicycle lanes if not separate bicycle paths. **Figure 5.4** represents the potential bicycle routes on the following roads:

- ?? Main Street/SH-75, from Serenade Lane to Saddle Road
- ?? Serenade Lane, from SH-75 to Wood River Trail
- ?? Fourth Street, from Spruce Avenue to Second Avenue
- ?? Spruce Avenue, from Sun Valley Road to Fourth Street
- ?? Leadville Avenue/Gem Street, from Fourth Street to SH-75

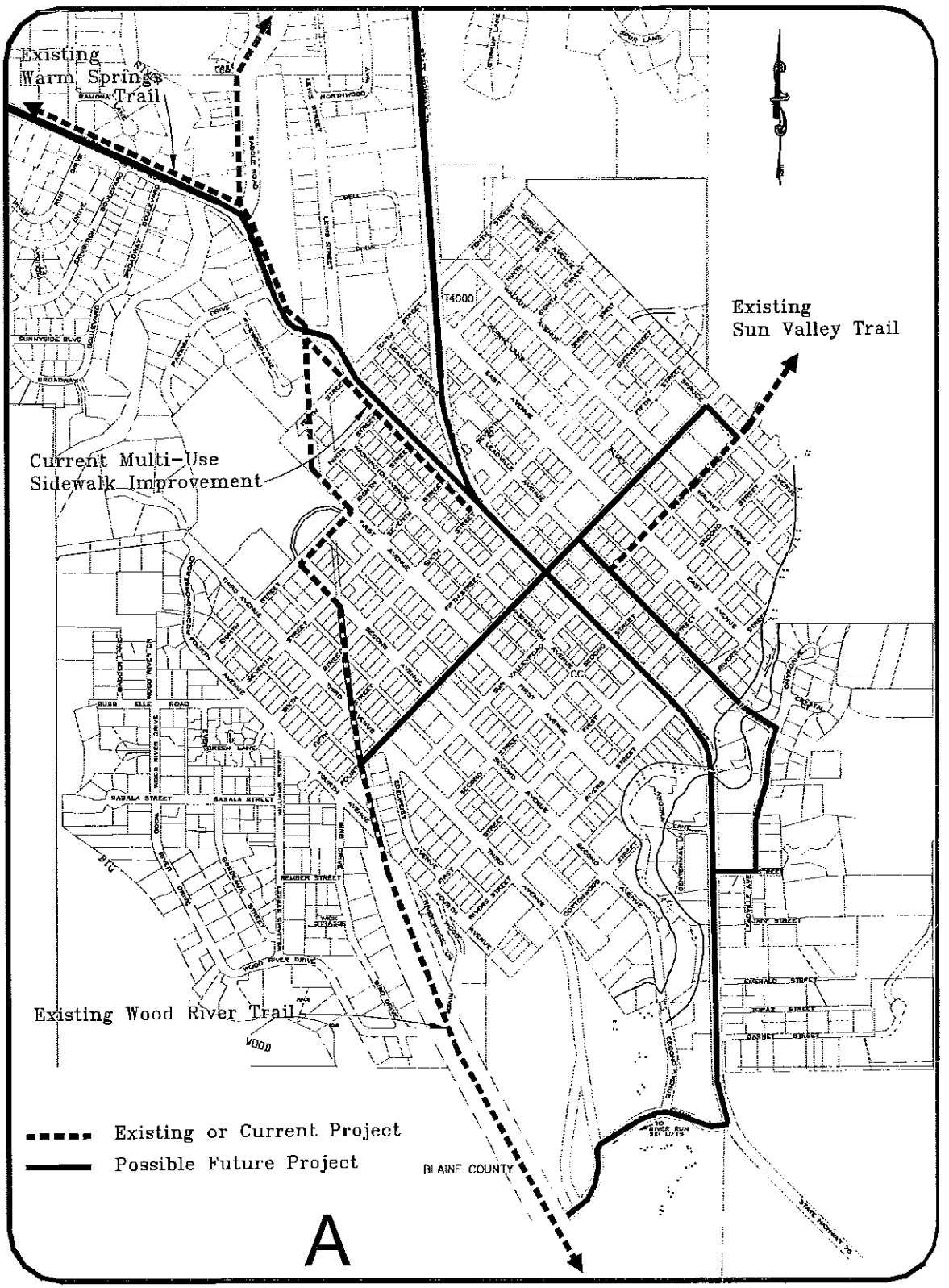
Striped bicycle lanes have been added to a portion of Sun Valley Road, as a continuation of the bicycle path in Sun Valley, but those lanes are not continuous all the way to Main Street, nor do they extend west of Main Street to the Wood River Trail. With completion of the Fourth Street bicycle corridor, the incomplete bicycle lanes on Sun Valley Road could be eliminated.

The connection at Serenade would be most effective if that location were signalized, to protect left-turns as well as protect pedestrian/bicycle crossings. With the completion of a bicycle route on Serenade Lane to SH-75, the possibility is created of a loop route between the Wood River Trail and Sun Valley Road, primarily on lower-volume streets. The section of SH-75 from Serenade to downtown is the exception. While adding bicycle lanes to that corridor has been mentioned in other planning documents, consideration should also be given to Leadville Avenue via Gem Street to/from SH-75. This route is not intended for high traffic volumes, but would provide bicyclists with a pleasant alternative to SH-75 for connection to the east downtown area and Sun Valley Road. Other combinations of streets in the east downtown area might also work for this purpose.

The existing Wood River Trail route is mostly separated from car traffic. But from Third Street to Hemingway School and from the school to Saddle Road, there are several street crossings. These crossings represent safety issues as well as degrade the generally more park-like experience of this trail. At a minimum, the crossing of Warm Springs Road would benefit from an all-way stop or signal control at the intersection with Lewis Street.

If property and right-of-way issues can be worked out, there would seem to be better alignments for this section of the Trail, starting at Third Street/Third Avenue. Proceed north along Third Avenue via the undeveloped right-of-way to Atkinson Park, then via the river shore or via Parkway Drive to Warm Springs Road at Saddle Road. This routing would reduce the required crossings from three to one, and the Warm Springs crossing would be west of Saddle Road, involve much lower traffic volumes than at Lewis Street, and would be directly aligned with the trail going northward along Big Wood River.

Figure 5.4 – Potential Bicycle Routes



5.3 Bus Transit Systems

Existing transit service consists of the KART local circulation bus routes, and the newly established Peak Bus service for commuters to/from Hailey and Bellevue. Expansion of both operations is desirable based on previous planning documents and public opinions.

5.3.1 Peak Bus

Peak Bus commuter operations just began in June 2002, and provide three runs each way during the morning and afternoon hours. As ridership increases to fill these buses, more buses should be placed in service. This program should be continually expanded over the years in order to reach the goal of a high level of ridership in the year 2021 that will offset a large part of the expected travel increases in the Highway 75 corridor.

Peak Bus fares are set at $1.50 each way, and the remainder of the actual cost of service is subsidized with funds from Ketchum, Sun Valley, Blaine County, and the state. If the City implements a paid parking program in downtown Ketchum, some all-day parkers may shift to the Peak Bus. City revenues from paid parking might justifiably be prioritized to subsidize Peak Bus expansion as well. Alternatively, with higher parking costs in Ketchum, it might even be possible to raise the fare of the Peak Bus service to reach a break-even point.

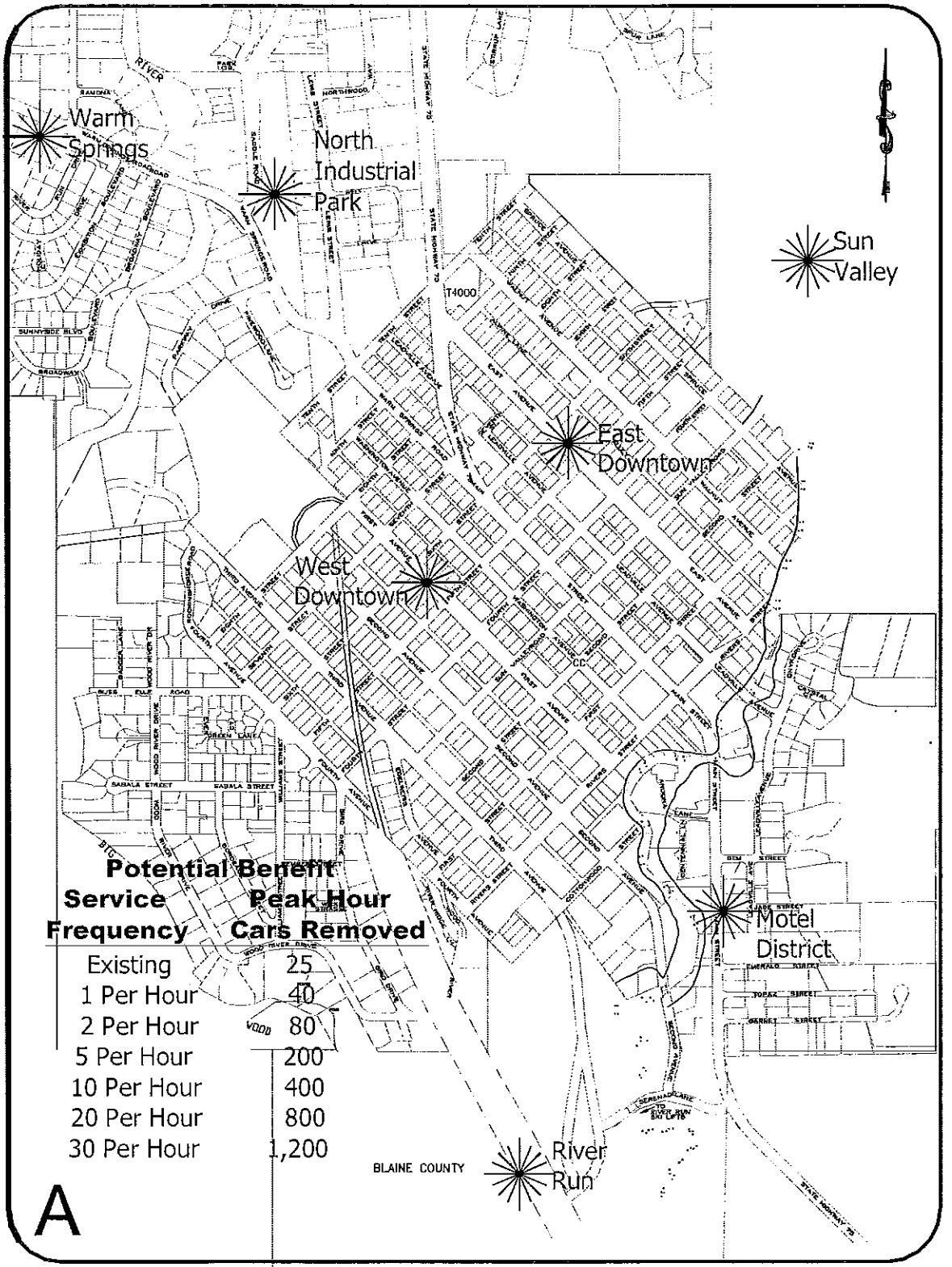
Peak Bus ridership will also increase if employer-support for transit is increased. While employers usually are expected to provide free on-site parking for their employees, and some Ketchum employers are providing bicycle storage racks, it is less common for employers to support transit ridership by employees who do not want to drive. The reason for this may be partially financial, since transit support involves direct payment of money to a transit operator, while parking and bicycle racks are one-time costs taken care of on-site. But federal tax law is changing to give credit for transit subsidies as a tax-free benefit to the employee. The City of Ketchum should encourage employers to support transit on par with vehicular commuting in several ways:

- Adopt policies exhorting employers to provide employees with transit passes
- Support Wood River Rideshare activities to promote transit commuting
- Modify parking codes to allow reduced on-site parking at businesses where employees do not drive to work, or provide businesses with other incentives through city codes
- Provide City employees who drive to work from the south with a free Peak Bus pass in lieu of parking
- Investigate possible ways to impose fees or other charges on parking, in order to give employers tangible incentives to support transit commuting in lieu of parking charges

The City Council, through resolution #772, emphasizes travel demand management programs as part of its strategy to avoid future gridlock. Such strategies are partly a matter of communications with employers and the public to change attitudes and habits, and partly a matter of providing demonstrations by example. The City should review all City employment practices to be certain that it implements all recommendations being promoted to employers by Wood River Rideshare.

Figure 5.5 illustrates the employment areas in Ketchum and Sun Valley that are the core destinations for an expanded commuter bus program. The City can work with the employers in these areas to develop an appropriately customized bus program to gain the maximum benefit in terms of vehicular traffic removed. As the table in that figure illustrates, the potential exists for each new peak-hour bus to remove as many as 40 cars from the peak hour traffic stream on Highway 75, at a daily cost of $3-$6 per round-trip. Those figures are not guarantees, and only suggest the potential benefit if the program is successful.

Figure 5.5 – Commuter Bus Destinations



5.3.2 Employer Subsidies for Transit

Employers should be encouraged through Wood River Rideshare to shift their employee subsidy practices from the common practice of an undocumented free parking space that not all employees receive, to a tax-exempt cash subsidy that is provided equally to all employees. After converting to this plan, the employer would either provide no parking to any employees (a boon to downtown employers), or would charge for parking, at the same rate as the cash subsidy. For employees who drive and park, this is a "wash" transaction, for no net change in cost or pay. For employees who do not drive and park, it represents a new tax-free benefit. This strategy has been employed by major employers elsewhere with great success. Many employees find they can shift to other commute modes if the incentive amounts to cash in the pocket. Employees who carpool are able to save half the benefit. Employees who bicycle or walk save all the benefit. Employees who choose the bus get free rides and save the former cost of driving. For this program to work for employers, there needs to be a way to save on the annual cost of parking, either by charging for parking, or by receiving a city license or tax incentive.

5.4 Light Rail Transit

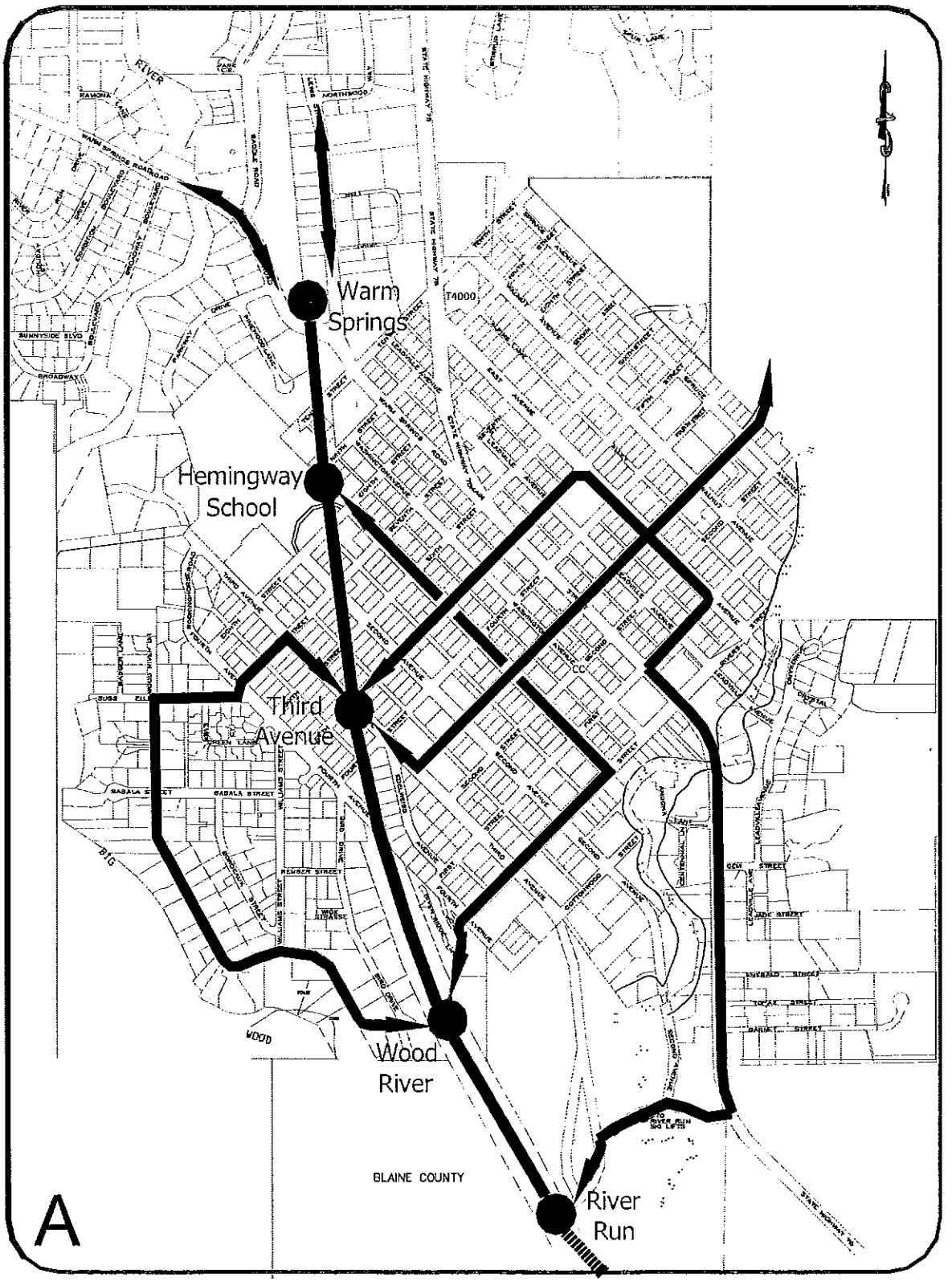
Much interest has been expressed for a light rail transit service, to serve commuters between Ketchum/Sun Valley and Hailey/Bellevue, and potentially as far as Twin Falls where a growing number of employees commute from due to lower housing costs. Several previous reports have accounted for this possibility.

The most obvious right-of-way for a light rail line would be the former railroad corridor, which was the original access route by train to the Sun Valley Resort in the 1930's. That corridor has been converted to the very popular Wood River Trail for bicycle and pedestrian use, but the original 100-ft right-of-way should be capable of accommodating a multi-purpose trail and a rail track. Reportedly, some portions of the right-of-way have been lost, so the feasibility of developing the corridor for light rail appears to depend on how those missing sections could be recovered or replaced.

An alternative location for the rail light might be the existing Highway 75 route. The ongoing NEPA Study is considering options to expand that corridor for additional highway lanes, and considers transit alternatives. Dedicating a portion of the right-of-way to a rail line is technically possible, such as by a median rail line physically separated from the highway lanes by curbs or larger barriers. Controls at intersections could give the rail service priority access to cross each intersection. There are known right-of-way restrictions in that highway corridor, especially approaching and entering Ketchum through the Reinheimer Ranch. In those areas at least, the option should be considered of using a single-track design to minimize right-of-way needs. Single-track systems are feasible if the frequency of service is low enough to allow use of the section to alternate between northbound and southbound trains with safety. That is likely to be the case here. For example, if the entire existing volume of traffic on Highway 75 today (1200 vehicles one-way in the peak hour) were converted to rail ridership, that demand could be served by about 20 rail cars per hour. Operating in trains as few as four cars, the interval between trains would be 12 minutes. This allows a single-track section to alternate between directions every six minutes, which is quite feasible.

An alternative route might also be developed between the highway and Wood River, through areas that are now developing as subdivisions between Hailey and Ketchum. Locating a rail or bus transit corridor in that area would be helpful to directly serve potential riders in their neighborhoods, but the feasibility of obtaining right-of-way through land owned by many different parties has not been investigated. The light rail corridor into Ketchum would almost certainly have to follow the old railroad corridor, since Main Street is so heavily used by traffic. **Figure 5.6** illustrates some possible locations of stops or stations along that route, and a possible scheme of connection local bus services.

Figure 5.6 – Light Rail Station Options



5.5 KART Circulation Transit

Most of the existing KART ridership consists of recreational riders - chiefly skiers in winter. Internal circulation by Ketchum residents accounts for a small amount of total KART operations at present, but a survey showed that 3% of Ketchum workers used KART to commute. KART is a free service.

To obtain a higher level of ridership from Ketchum residents, the KART service would need to be expanded in several ways:

- Integration of local routes with Peak Bus
- More frequent service
- Better coverage of all neighborhoods
- Service to future peripheral parking lots
- Integration of local routes with downtown shuttle

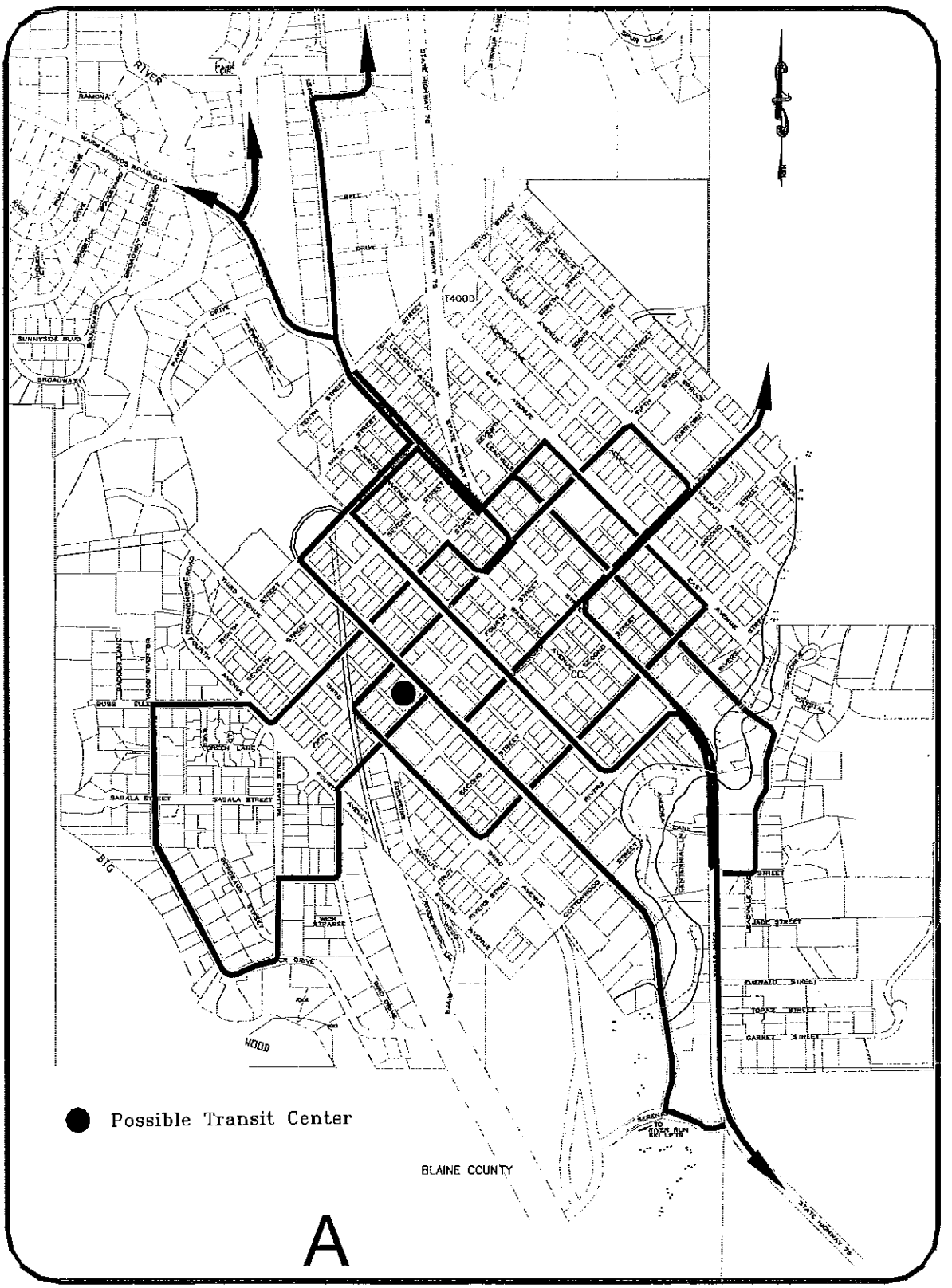
The frequency of service and area coverage provided by KART is not enough to develop a high local patronage, and should be increased. Urban area bus systems work most effectively with a frequency of 15 minutes or shorter on major routes. This frequency allows most riders to rely on the bus without knowing the schedule. They simply go to the bus stop and expect a bus within a few minutes. They do not have to plan ahead as when the bus arrives on a 30-minute or 60-minute frequency. The goal for a future KART system that significantly reduces car travel would be a service with 15-minute frequency, more or less.

Area coverage is important as well. Current KART routes are designed to service ski base areas and the main tourist/retail destinations in downtown Ketchum. A comprehensive service that enables many Ketchum residents to use transit for daily activities needs to operate on more streets, and generally run within one or two blocks of most homes and businesses. The routes would probably connect all neighborhoods with downtown, as at present, but there would be more routes. The function of downtown shuttle might be served implicitly by neighborhood routes looping through downtown.

Figure 5.7 illustrates a hypothetical system of expanded bus circulation within Ketchum that would link all areas to downtown and to other employment and recreational centers. The expanded KART system should be designed to serve any peripheral parking lots the City operates to relieve downtown parking as well. The large open property at Second Avenue and Fourth Street opposite the Post Office would seem to be an ideal location for a transit center where passengers could transfer between routes (such as Peak Bus to KART).

An expanded KART system would require higher financial support than the system, in proportion to the increase in buses operated. There may be revenues available in the future from the paid parking program. The City might also consider a general tax on residences and businesses, perhaps a property tax increment or a general fund budget allowance. The system would continue to serve a special purpose for skiers in winter time, in addition to the year-round local circulation function. There would be substantially more service operated in winter month, as is now the case.

Figure 5.7 – Transit Circulation Strategy



5.6 Other Forms of Transportation

It is possible that fixed-route bus service may never be cost-effective, nor attractive to many Ketchum residents. There are other forms of transportation that are effective in special situations, and these might be considered in Ketchum.

5.6.1 Demand-Responsive Transit or Dial-a-Ride

Demand-Responsive Transit, or Dial-a-Ride, works in low-density communities, rural areas, recreational locations, and for special populations such as the elderly and handicapped. A Dial-a-Ride service amounts to a taxi service but with several passengers sharing the ride. In some places that is how taxicabs operate, in contrast to the normal practice of a dedicated hire to one customer at a time. Bethel, Alaska, has over 30 shared-ride taxicabs in private operations, plus a small city-run bus system using two buses on main routes.

Dial-a-Ride services are usually operated with small vehicles such as vans or shuttle buses, and provide curb-to-curb service in response to customer calls. The cost of a dispatcher, scheduling computers, and radio communications equipment, is added to the cost of drivers and vehicles, but the service can be sized to match the actual demand without the cost of empty buses running all day over a standard route.

Shared-ride taxicab operations are possible private-sector equivalent to dial-a-ride transit. Taxicab operators in Ketchum could be approached about participating in such a program in parallel to standard KART routes, if there were financial incentives from the City to encourage them.

The Wood River Rideshare Program would be a useful conduit to educate Ketchum residents on the amount of travel and congestion they create with their own vehicles, and ways they might change their lifestyles to reduce those effects. The financial benefit a typical family might experience from selling one family vehicle ranges from $2000 to $5000 per year depending on the choice of vehicle and miles driven. That savings could easily be used to directly support KART and Peak Bus by special taxes or fares, buy a bicycle, and rent a car, truck, or van on special occasions. If Ketchum area residents are intentional and purposeful about saving the environment and preserving the small-town rural environment, perhaps there is a basis to develop a lifestyle ethic that includes a decidedly lower level of car ownership within Ketchum itself.

5.6.2 Hourly Car Rental Club

A business known as Flex-Car now operates in several western USA urban areas. Members join for a monthly fee and have access to rental cars on an hourly basis, by advance reservation over telephone or internet. Flex Cars are stationed at known locations in popular areas, and members gain access to the car by digital locking systems. There is a high expectation that each member returns the car on schedule to the designated location, and leaves it clean and ready for the next member. Such services are growing in popularity among urban dwellers who prefer not to own a car full-time, for occasional needs.

5.6.3 Package Delivery Services

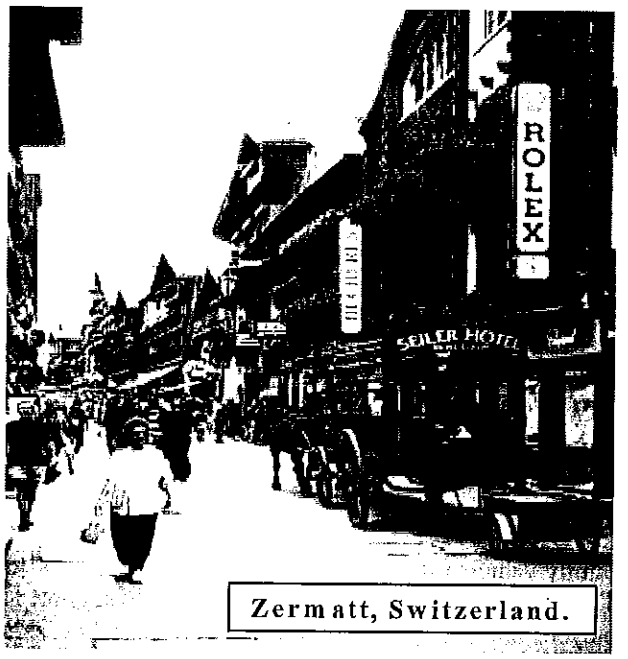
One reason to drive a car is to carry goods home from shopping. Without goods to carry, there is less need to drive. If a community ethic that discourages unnecessary driving were to develop, there could arise a market for private package deliveries. Such services are provided by grocers in some communities, particularly for elderly and handicapped customers, but also for affluent customers willing to order goods by phone or internet, or leave purchases at the store for later delivery to the home. In recent times,

HomeGrocer.com was a nationwide attempt to organize such a service on a metro-area scale. Although that business model failed, the idea could have feasibility in a specialized environment like Ketchum.

5.6.4 Car-Free Community

There are examples around the world of modern communities operating with little or no private ownership of automobiles, because of special conditions of isolation or cost or both. Ketchum does not posses the same attributes completely, but reference to such places is worthwhile to stimulate interest in alternative lifestyles that may work in Ketchum.

Zermatt, Switzerland. This famous summer and winter resort city in the Alps is much larger than Ketchum. There are no motor cars in Zermatt. The city has an ancient European layout with streets far too narrow to accommodate motor vehicles, and a very high density of several hotel rooms per year-round resident. Situated at the head of a mountain valley, at the foot of the Matterhorn, Zermatt is reached by one highway and one train route, from the valley below. About two miles below Zermatt, the highway ends in an enormous park/ride lot by a train station. There are several shuttle train tracks between the city and this lower train/highway terminal. Within Zermatt, most travel is by walking. Hotels operate electric carts to carry customers and luggage about. Goods and supplies are delivered by small electric trucks. There are also horse-drawn carriages, which are popular with tourists.



Zermatt, Switzerland.

Kwajalein Atoll, Marshall Islands. This Pacific island coral atoll is controlled entirely by the U.S. Army, as the western end of the Pacific Missile Range where anti-ballistic missiles are tested. The base is populated by several thousand civilian technicians and their families, plus a handful of military personnel. Probably for reasons of military convenience, there are no private cars on the base. The base operates much like a small town with no outside connections. Travel between residential areas, work areas, and recreational, medical, and shopping facilities is by foot, bicycle, and shuttle buses. Dedicated telephones are located at the entrance to every major building, so a person can call for a bus from any location. The shuttle buses carry people and packages, much like airport parking and hotel shuttle services perform.

Bethel, Alaska. This isolated small city in southwestern Alaska has no outside connections except by barge and by airplane. It serves as the regional center for government and trade to a hundred Native American villages throughout southwest Alaska. Half the population is indigenous natives, many in poverty or visiting from a village. This population cannot afford cars. The other half are the educated, professional "expatriates" from the outside who provide education, health care, social services, government administration and utilities, or work in the commercial businesses that supply the native population. This population can afford to import a car, but the harsh environment makes the cost of car ownership extremely high, and undesirable for all but the bravest. The town is compact and most travel can be accomplished on foot, but walking very far in the Alaska winter is dangerous. In these circumstances, taxicab businesses have flourished. Without any governmental incentives, taxicab operators organized into two competing dispatch systems to provide a 24-hour on-demand service of

shared-ride taxicabs. Riders share the cab with other passengers, and pay a flat fare anywhere in town. Due to an accumulation of complaints about the taxicab services provided by some of the unregulated drivers, the City of Bethel undertook to operate a separate fixed-route bus service, to cover the two main corridors of the town. Fares are about half the cost of the shared-ride taxi for this fixed-route, fixed-schedule service. After a period of confrontations and controversy, the private taxicab operators learned to co-exist with the public bus service, each specialized to its own best customers.

5.6.5 Aerial Tramways

Mass transit systems are most effective when they operate on separate alignments from vehicular traffic. In special circumstances like ski resorts, there is a niche market for aerial tramways to link ski base facilities with hotel areas and other destinations. This can be beneficial in wintertime, especially to overcome dangerous road conditions, and also helps to move tourists about in summer without concern for congestion on the streets. In the event that ski base operators in Ketchum/Sun Valley were to propose such facilities, the City could support the concept provided that the actual design would fit the actual built environment and support public goals. A route from River Run to a downtown Ketchum station, for example, would help reduce local traffic volumes.

5.7 Peripheral Parking Lots

The City has in recent years developed small parking areas within the downtown, to provide some off-street public parking capacity in addition to the on-street supply. Locations include the south end of East Avenue, and the wide medians of East Avenue and First Avenue. Other small public lots exist west of Main Street. To alleviate apparent shortages of parking in downtown, previous studies have proposed a peripheral parking system with shuttle buses to relocate employee parking away from downtown and manage the available parking primarily to serve visitors with short-term parking needs.

The Community Core Parking Management Plan (2004) proposes a phased program to implement paid parking. The plan proposes initially converting an existing off-street parking lot of 50 spaces to paid parking, and encouraging downtown workers to park there by stricter enforcement of short-term on-street parking. Over time, the program would be expanded to a larger area with more parking lots located on the periphery of the downtown core. A jitney bus operation would be added after some paid parking lots are established. To implement this program requires hiring a parking manager, and follow-through on the proposed actions. Funding could be obtained from several suggested existing sources, or new fees or taxes could be imposed.

Promising locations to develop parking lots in Ketchum are hard to find and the competition for other uses of available land may be high. Large land parcels within Ketchum include:

- City-owned park/ride lot at Warm Springs Road/Saddle Road
- Large vacant parcel(s) west of Second Avenue between Fourth and Sixth Streets
- Parking areas associated with River Run Ski Base
- Reinheimer Ranch

There are considerable difficulties associated with each of these locations. The "Park/Ride Lot" in the north end of the City would draw commuter traffic through the crowded downtown core, making traffic problems worse. The large parcel(s) west of Second Avenue would work well as a parking lot, transit center, and multi-modal hub, but the land in that setting could also be used for other forms of residential and/or commercial development. A multi-purpose parking facility serving all needs might be feasible, however costly. The parking areas of the River Run Ski Base are well situated, but probably not available

in winter months of high demand for skiers. The Reinheimer Ranch property is perfectly situated, but is intended for perpetual preservation as a historic property and cultural asset.

The most attractive locations for any kind of peripheral parking would be to the south of Trail Creek if l possible. Any location from Trail Creek to the Hospital would be suitable, combined with shuttle bus service. Possible areas to develop peripheral parking include relatively low-density districts in the south part of town (Gem Streets area), and various parcels between Serenade Lane and the hospital. This includes areas outside the city limits.

Assembling such small parcels into a usable site for parking of 100 to 200 vehicles would be very difficult, but should be considered if political will exists to execute such a strategy. It may be just as feasible to develop parking lots in Hailey and Bellevue, and use commuter buses to transport workers, as it is to locate peripheral parking in Ketchum and use KART shuttle buses to link those sites to jobs. An employer survey indicated that actual downtown employees using on-street parking in that area may total less than 200. This suggests that a peripheral parking lot of as few as 100 spaces would provide a major benefit. Public parking areas can be developed at from $5,000 to $20,000 per space, depending on land costs and terrain issues, and more importantly whether an open lot or a multi-story structure is required. Based on those rates, a 100-unit parking facility could be developed for a cost in the range of $500,000 to $2,000,000.

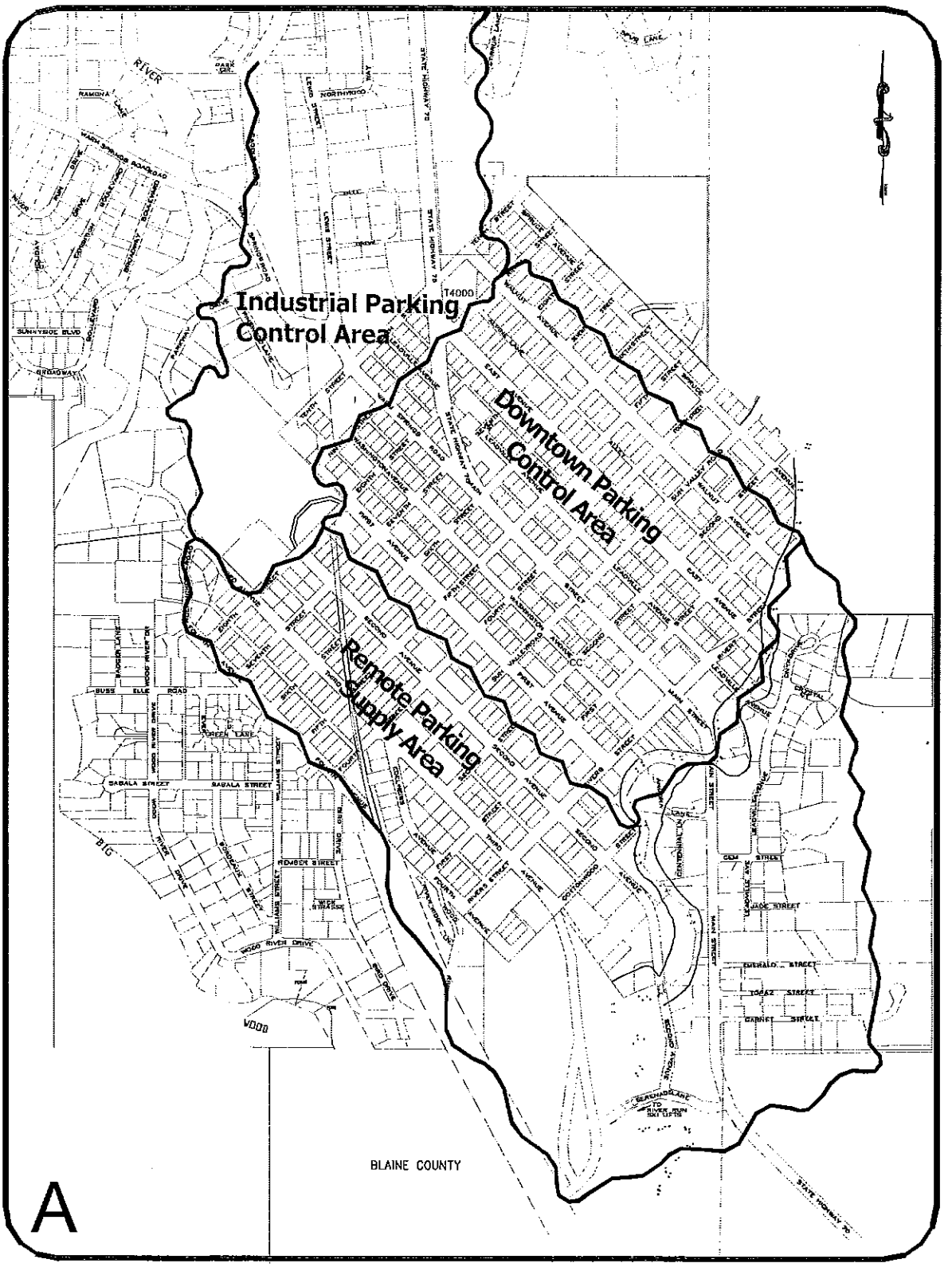
5.8 Travel Demand Management Strategies

Travel demand management strategies may involve either or both of two approaches: serving travel demand by diverting car travel to other modes, or eliminating travel entirely by changing human activities. There are various possible actions of both kinds. Some actions are feasible for cities to manage directly, but many are societal changes that cities can only influence by policy statements public information, and persuasion. The "smart growth" movement advocates innovative land use planning to incorporate travel demand management effects. Many of the tools of "smart growth" are accounted for in the following discussion.

Parking_management is an option that has some demonstrated success in other cities to reduce the demand for vehicular access to downtown areas. This may affect price of parking, supply of parking, or both. If successful, it would encourage commuters from outside Ketchum to shift to transit and/or carpooling, and it could also encourage some Ketchum residents to avoid driving their car on some local errands, if walking, bicycling, transit, or carpooling are available alternatives. The Community Core Parking Management Plan is recommending paid parking in downtown Ketchum combined with enforcement of curb parking time limits. Those actions will encourage commuters to use other modes and reduce overall travel demand, as well as increase parking efficiency. Parking management would need to tailor to the realities of employment and parking supply in each part of the city. **Figure 5.8** indicates three separate areas within Ketchum that would each require different management strategies.

Employer support of alternative modes is a critical pre-requisite for changes in commuting patterns. Employer support for parking by employees is a preferential benefit that is not equally shared with employees who commute by other modes. Federal tax law is changing in the direction of encouraging employers to provide a corresponding benefit to transit riders in the form of a paid monthly bus pass, and encouraging employers to support bicycle commuting with secure bike storage, lockers, and shower facilities. One way to apply the benefit more uniformly is to eliminate employer-provided parking entirely, and in exchange provide every employee with a monthly "transportation allowance" that equals the current cost of paid parking for employees who drive. This enables all employees to choose whether to continue to drive, or to carpool and so save half the parking cost, or to choose transit, bicycle, or

Figure 5.8 – Parking Management Strategy



walking modes and save nearly all of the benefit allowance. This works well for employers who pay for employee parking elsewhere. Employers who provide parking on-site need to consider the economic value of the land now devoted to parking, and recognize they have the option of charging employees to use that land for parking.

The City can use its policy authority to encourage innovation by local employers, and to point out the benefits to employers of possibly higher use of their land if parking demand can be served in other ways. City zoning codes could be revised to permit reduced parking when appropriate conditions are met.

Multi-use developments patterns tend to reduce off-site travel requirements, as promoted in the "smart growth" literature. This could apply to the downtown Ketchum area in particular. But the market conditions must also exist to support the actual developments envisioned by such policies.

Flexible Work Schedules help to reduce peak hour congestion effects by shifting some commuter traffic away from the prime-time slot of 8am to 5pm. In Ketchum today, traffic counts show the peak "hour" of traffic congestion is only 30 minutes long. The 15-minute periods before and after the highest 30 minutes of traffic carry 10% less traffic per minute, and the adjacent second hour involves 20% less traffic. Those margins represent potentially usable new capacity, if some travelers will adjust their schedules to use those times. To some extent this comes about naturally, as drivers react to actual congestion. But the shift can be much more significant if employers agree to adjust their work schedules accordingly. This can take several possible forms.

(a) Major employers can ***stagger work shifts*** to start either earlier or later than 8 am. In the Seattle area, Boeing plants for decades have started their main work shift about an hour earlier than other employers. This makes better use of the available road capacity and still assures the employer of cohesive teams at the worksite.

(b) ***Flexible working hours*** may be feasible for employers of any size, allowing office employees and some other workers to choose their working hours flexibly, within a reasonable range. *Flex-time* permits a worker to start a nominal 8 to 5 shift anytime from 6 am to 10 am, and leave work anytime from 3 pm to 7 pm correspondingly. This strategy allows workers to commute at their most convenient time, as long as the work can be completed within those parameters.

(c) ***Compressed work weeks*** can be achieved in various formats to allow the employee to work four ten-hour days per week, or nine days every two weeks. This eliminates commuting completely one day a week or one day per two weeks, and tends to push the remaining trips outside the peak commuter hour.

(d) ***Telecommuting*** is an option for some office workers if it is feasible to work at home one day a week and telephone connections and internet access are suitable substitutes for being present at the office. This concept is popular with some government agencies and other large institutions.

The key to all these options is for the employer and the employee to negotiate suitable terms in full confidence. The City of Ketchum can provide a useful role as catalyst by providing such options to its own employees before promoting them to local businesses.

Growth management policies can increase the linkage of land use to transportation consequences. City policies and regulations can be changed to require more direct consideration of traffic impacts in development decisions. Growth management rules can elevate traffic impact considerations in the field of land development, although this potential is constrained by historic property rights in constitutional law.

The location of major traffic generators has much influence over local traffic conditions, but the city government has little control of most locational decisions. Seldom is traffic impact the dominant consideration in site location decisions by property owners, compared to market factors of price and location. Public policy in a free market society has historically been to support private property decisions by providing the transportation system needed by development, based on the expectation of adequate revenues from future taxes and adequate availability of land and other resources. Until recent times that public/private cooperation worked well enough. Nowadays, there is little land remaining to build more transportation facilities, environmental concerns are increasing, and public funds are under extreme pressure. Local governments therefore need to develop greater skill at directing development where transportation impacts can be minimized, even if the regulatory tools to do so are weak.

Historical development patterns in Ketchum includes examples of land uses that adversely affect local traffic flows, *in contrast to their otherwise positive and desirable attributes to the community.* These include:

- The complete lack of local mail delivery in Ketchum, which maximizes daily traffic to/from the post office and associated parking and local congestion
- The location of the post office west of Main Street, which causes some downtown workers and residents to cross Main Street twice a day to get their mail
- The zoning of industrial land on the northwest side of Ketchum (Lewis Street area), maximizing the flow of traffic on Main Street between that area and south Blaine County
- The expansion of Hemingway Elementary School parking across a former railroad corridor, eliminating the best available option to develop an alternative transportation corridor in parallel to Main Street
- The proposed location of a regional ice arena facility serving all of Blaine County in the northwest part of Ketchum (Warm Springs/Saddle Road area) maximizing the travel impacts on Main Street of access to that site from all of South Blaine County

While the past decisions cannot be changed, these examples show how difficult it is for a city to manage traffic when the causes of traffic are not directly subject to city management. If the City wishes to achieve most of the goals of Resolution #772, it will need to apply that resolution not only to commuter travel markets from outside Ketchum, but also to the land development market within Ketchum.

5.9 Traffic Calming

Traffic calming strategies usually involve the re-design of local streets to reduce the speed of traffic and to discourage through traffic. Traffic calming is most effective when applied to the original design of a major development or subdivision, but traffic calming in practice is usually an effort to modify an existing street for greater compatibility with local land uses and with non-motorized travel. Traffic calming is not appropriate on arterial routes where the purpose of the facility is to serve through travel.

Traffic calming is applicable to local streets within neighborhoods, if there is a problem of excessive speed or cut-through traffic. Engineering skills can be applied in those circumstances to reduce inappropriate behavior by motorists by modifying the street configuration.

Traffic calming may include some or all of the following:

- Reducing lane widths by striping or paving
- Expanding sidewalks, paths, trails, and shoulders
- Installing speed humps or bumps
- Installing chicanes and other forms of traffic diverters
- Adding small traffic circles to local street intersections

- Staggering on-street parking to opposite sides of the street, forcing traffic to follow a curvy route through a block
- Adding all-way stop controls to intersections
- Speed limit enforcement programs

The success of traffic calming is sensitive to local conditions, and requires the skillful analysis of a traffic engineer trained in the subject area. It also requires teaming with local citizens to assist the engineer in problem assessment and design of solutions.

5.10 No Action Alternative

For purposes of analysis, the baseline alternative to consider is the No-Action choice. This alternative is illustrated in **Figure 5.9**. Existing roads would continue to carry all traffic volumes, with Main Street being the main corridor. As is now the case, but more so, additional traffic growth would take place on Second Avenue and on First Avenue in parallel to Main Street. East-west circulation would continue to make use of all available streets crossing Main Street. Tenth Street linking Warm Springs Road and SH-75 would increasingly be used to avoid Main Street congestion.

5.11 Road Expansion Alternatives

A large number of theoretical concepts have been identified for consideration. **Figures 5.10** to **5.24** illustrate these concepts.

Most of the options are intended to provide additional north-south capacity within Ketchum to alleviate existing congestion on Main Street. North-south capacity alternatives may address Main Street directly or use alternatives to Main Street.

Working with Main Street directly, the options include adding lanes by removing parking, or tunneling underneath Main Street to provide an express connection for through traffic between Trail Creek and Warm Springs Road or SH-75 north. Other Main Street options would combine improvements there with another street on either the west or east side. Some Main Street options involve one-way couplets. Others retain all two-way street operations.

Other North-South options would use one or two streets not including Main Street, to provide different corridor options around the downtown area.

Some alternatives to relieve north-south congestion on Main Street involve modifications to the east-west circulation plan. The most basic option is to convert Second and Third Streets to a one-way couplet. This simplifies signal control operations at Third Street (Sun Valley Road) and makes coordination of signals along Main Street feasible and efficient. Extending that basic strategy, there is also the possibility of making all east-west streets in the downtown area operate as one-way streets in an alternating pattern, from River Street to Sixth Street.

Figure 5.9 – No Action Alternative

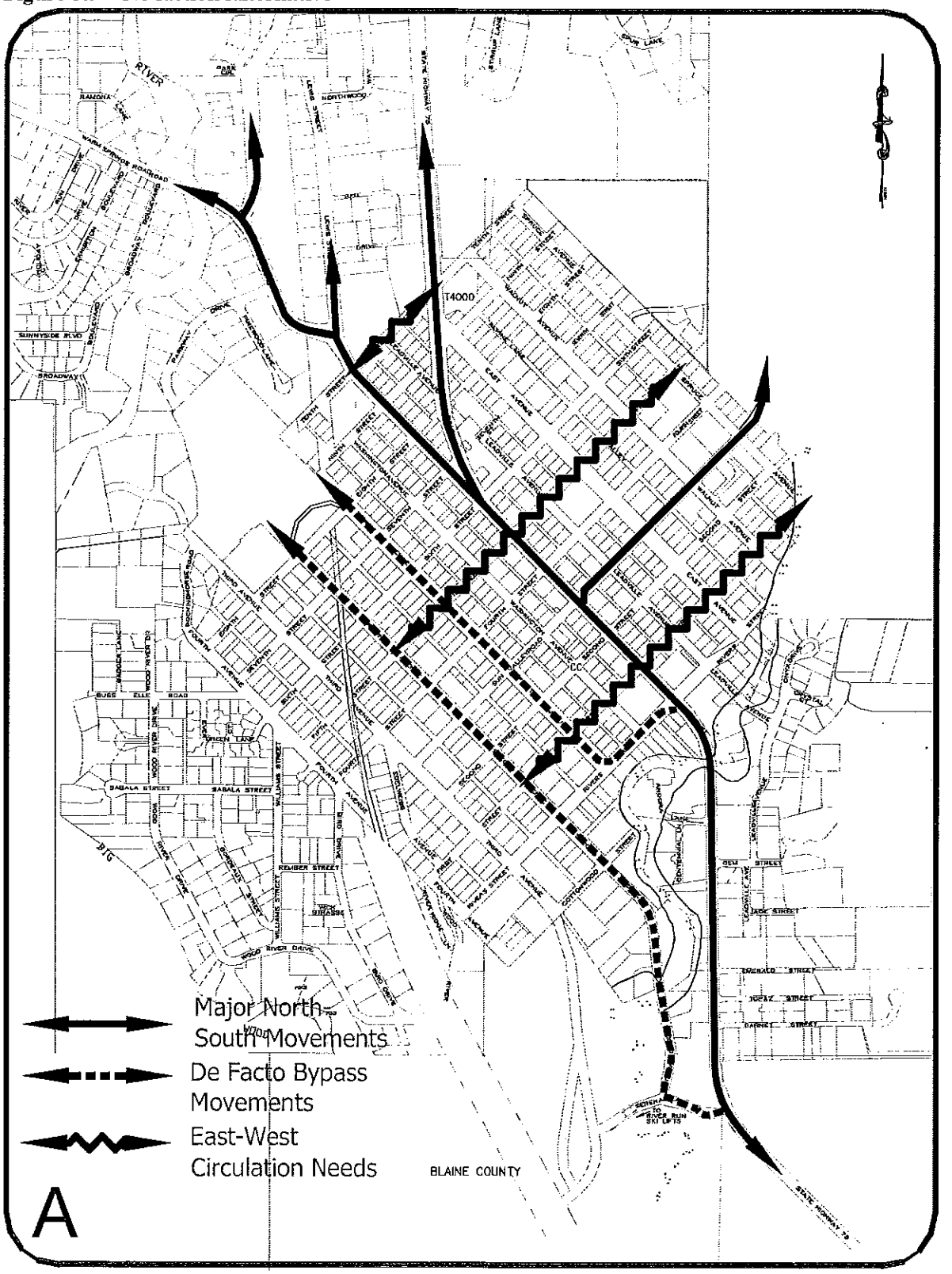


Figure 5.10 – Five-Lane Main Street

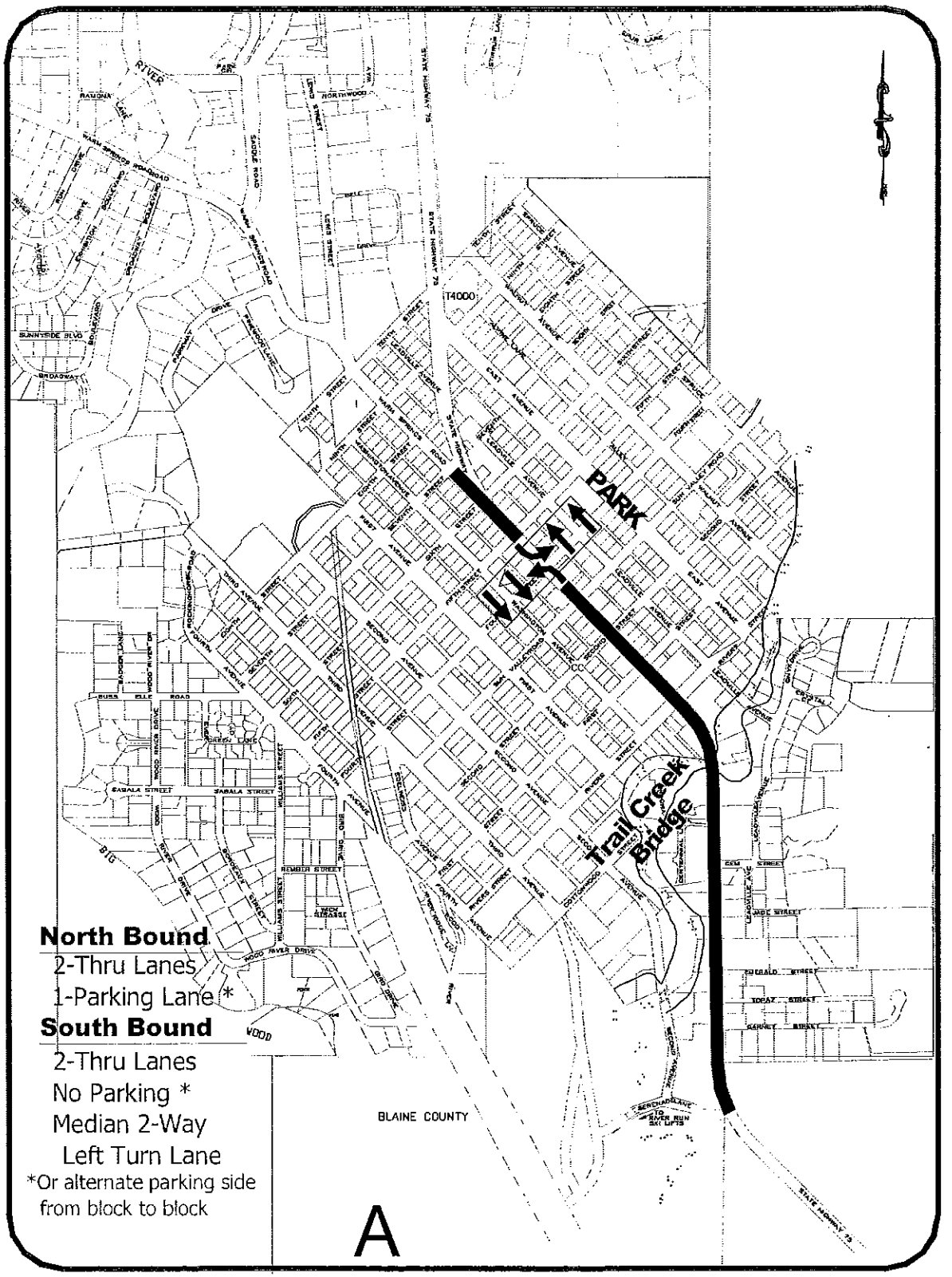


Figure 5.11 – Possible Lane Configurations on Main Street

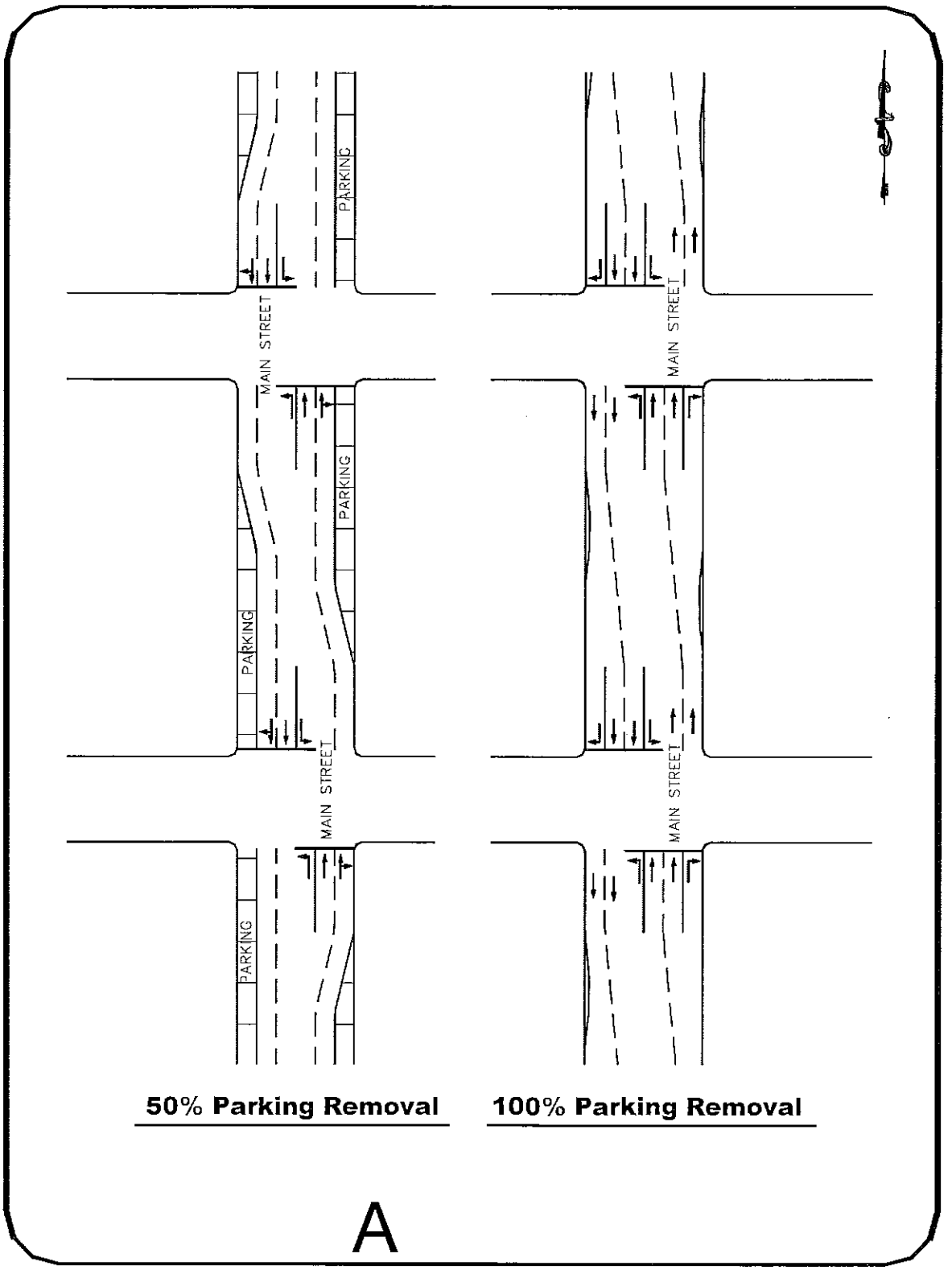


Figure 5.12 – Main Street Options

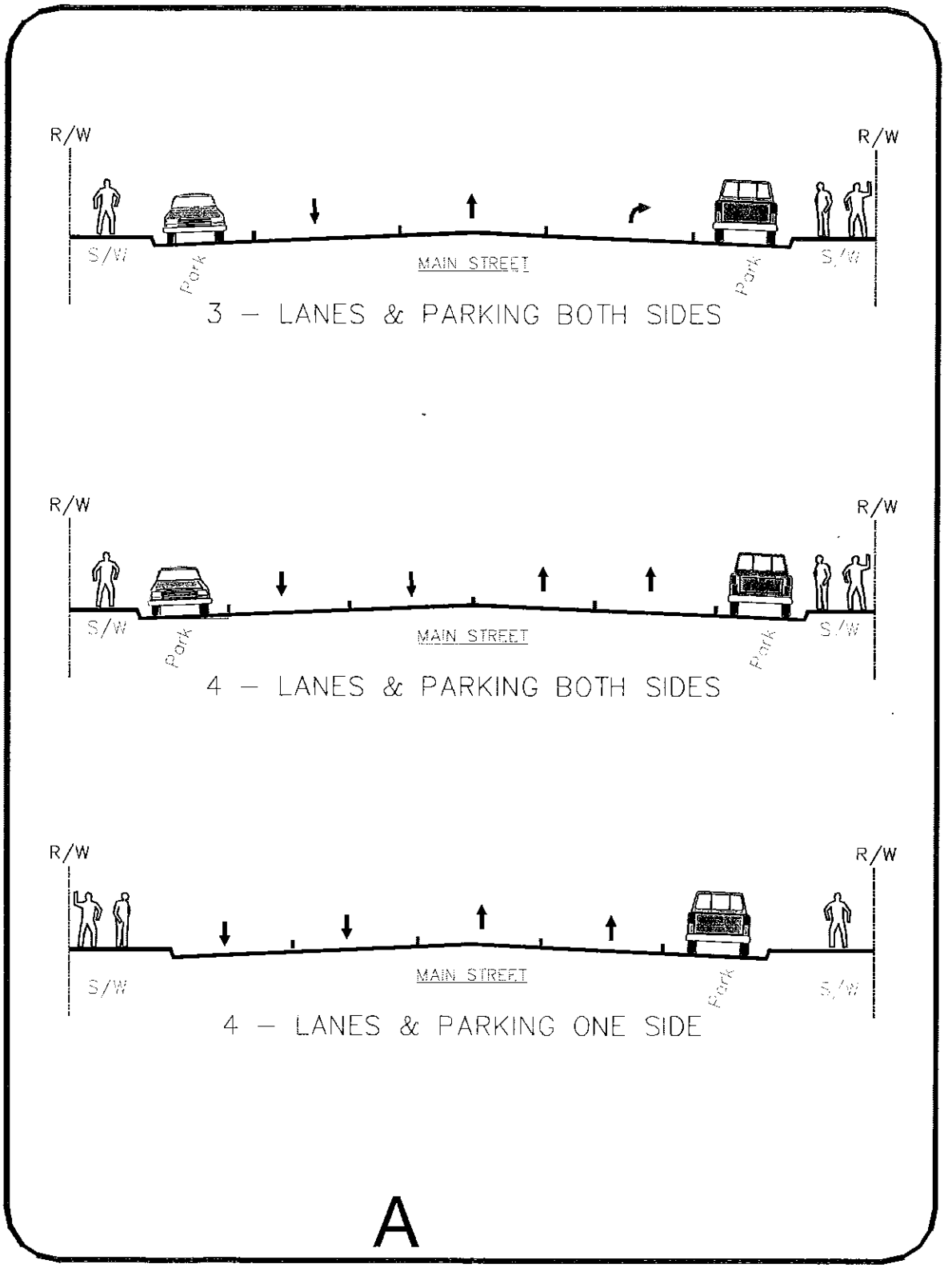


Figure 5.13 – Main Street Options

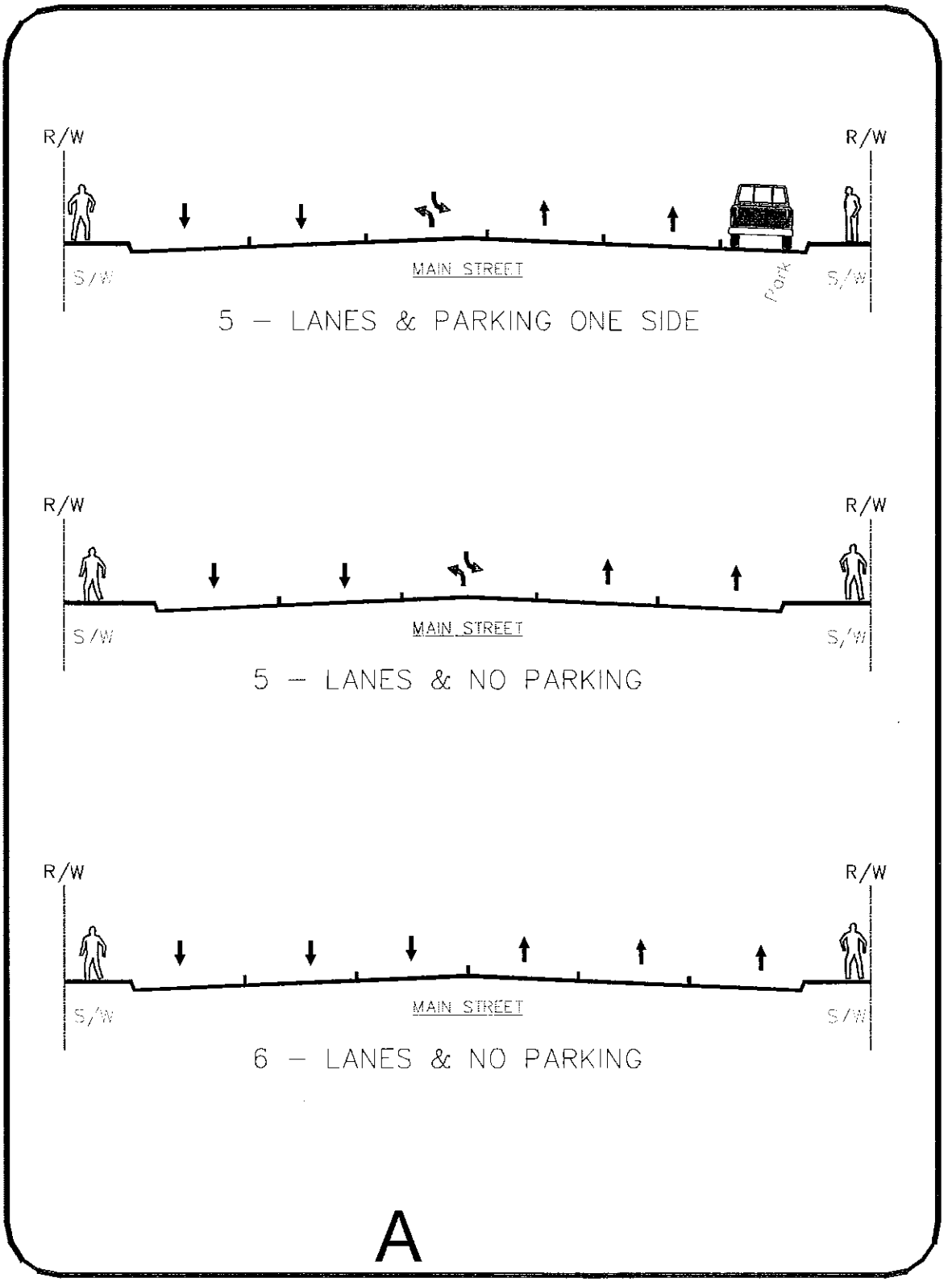


Figure 5.14 – Main Street Tunnel as Bypass

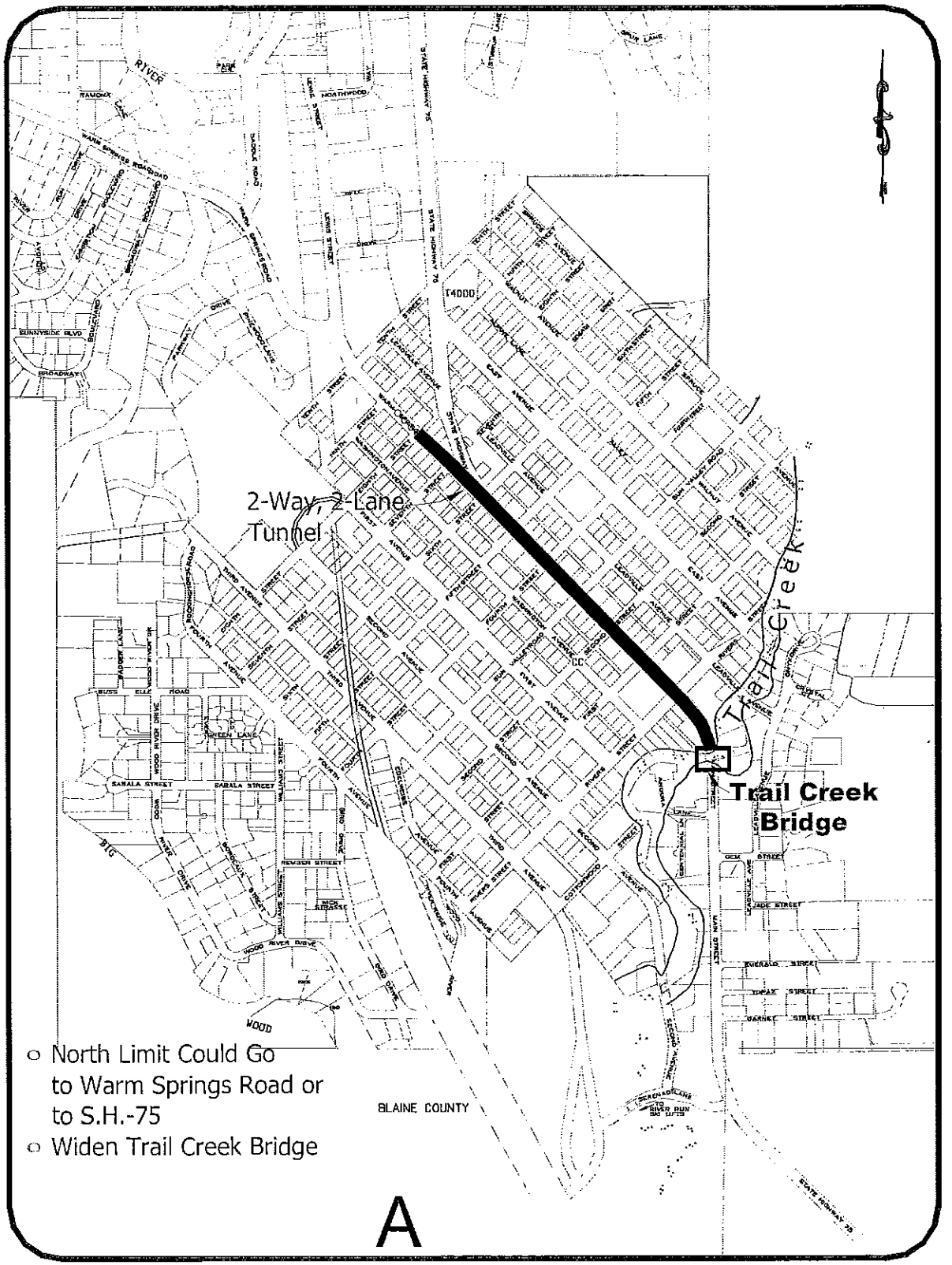


Figure 5.15 – Main Street / Second Avenue One Way Couplet

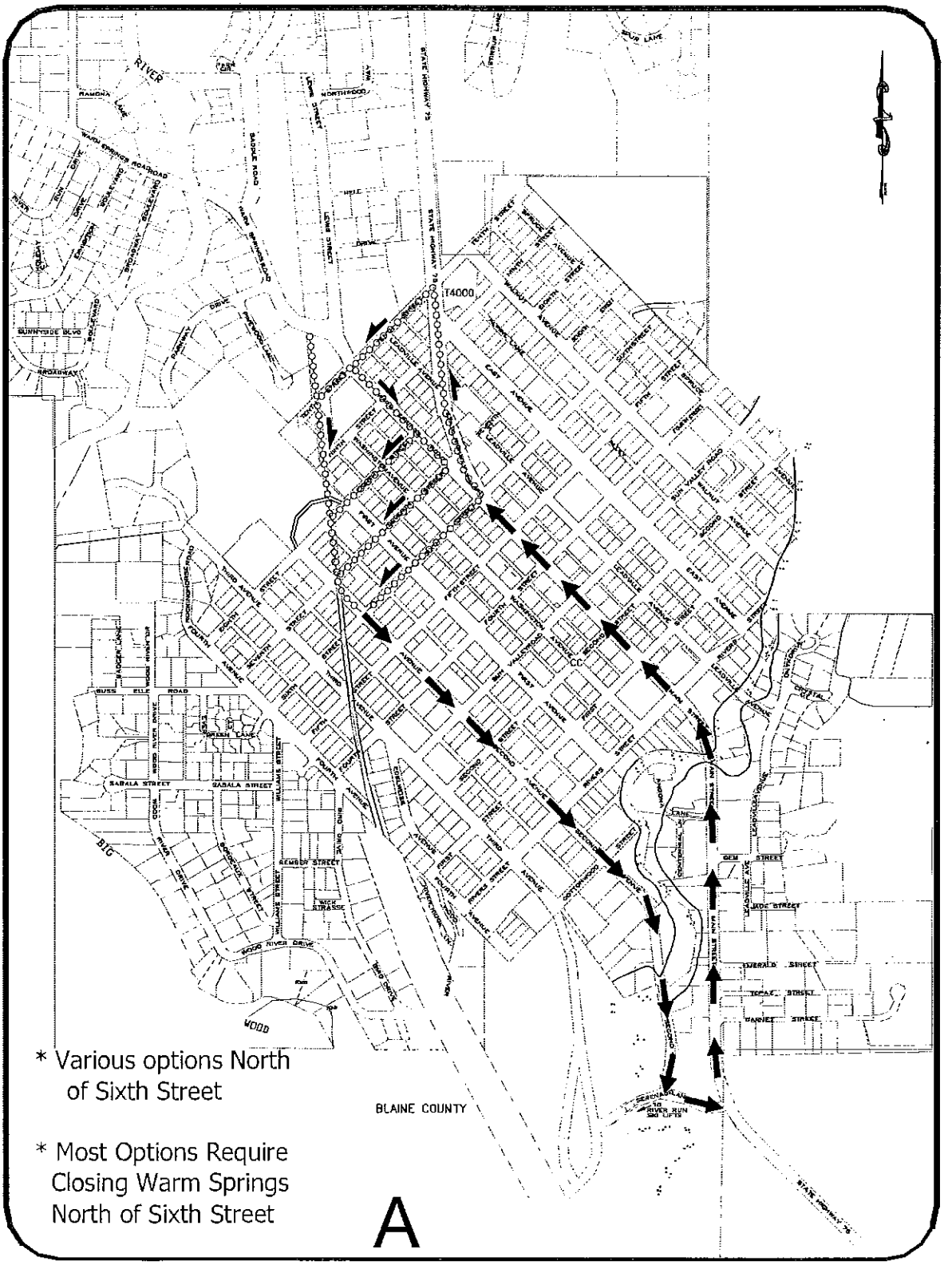


Figure 5.16 – Main Street / First Avenue One Way Couplet

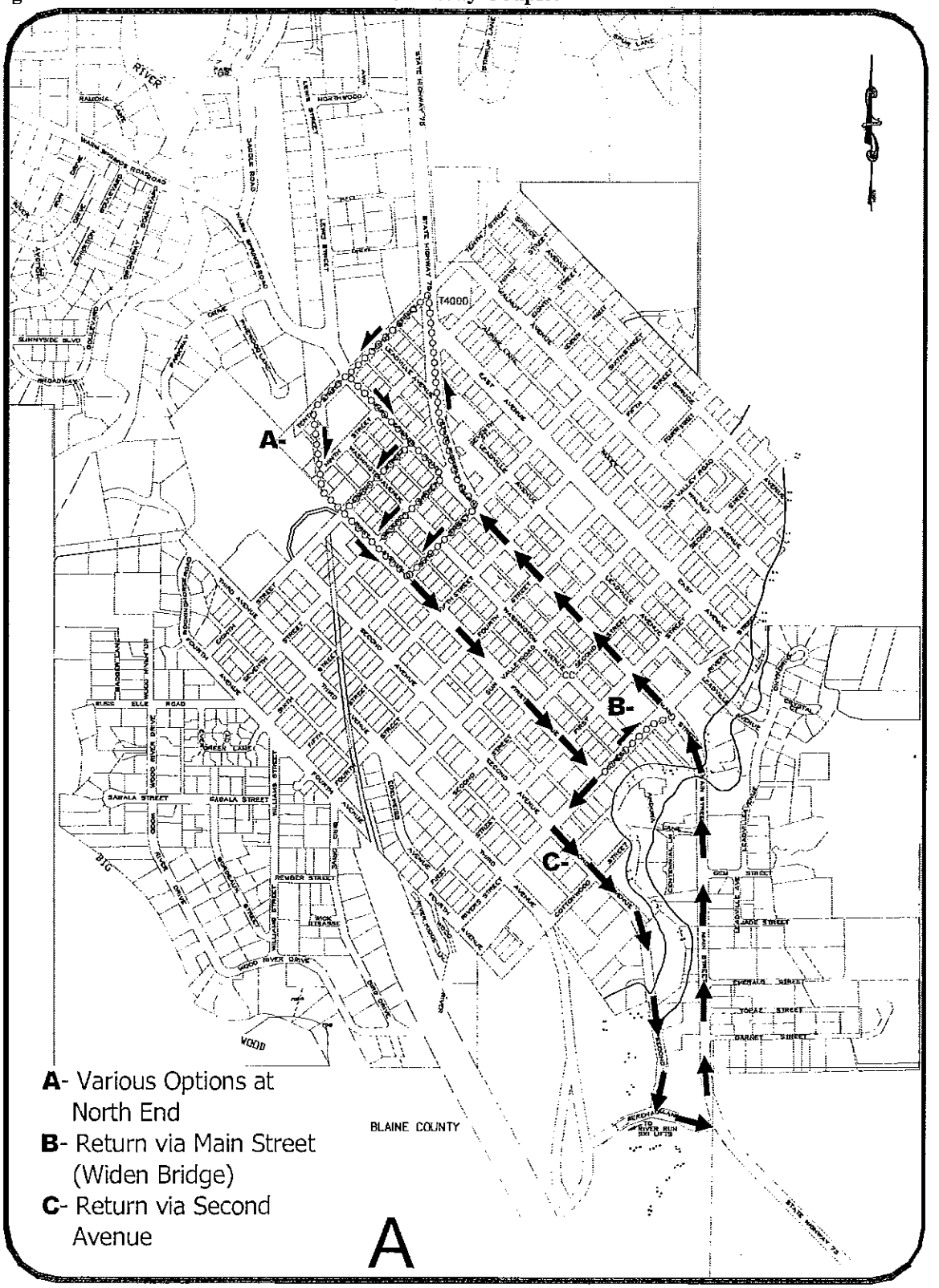


Figure 5.17 – Main Street / Washington Avenue One Way Couplet

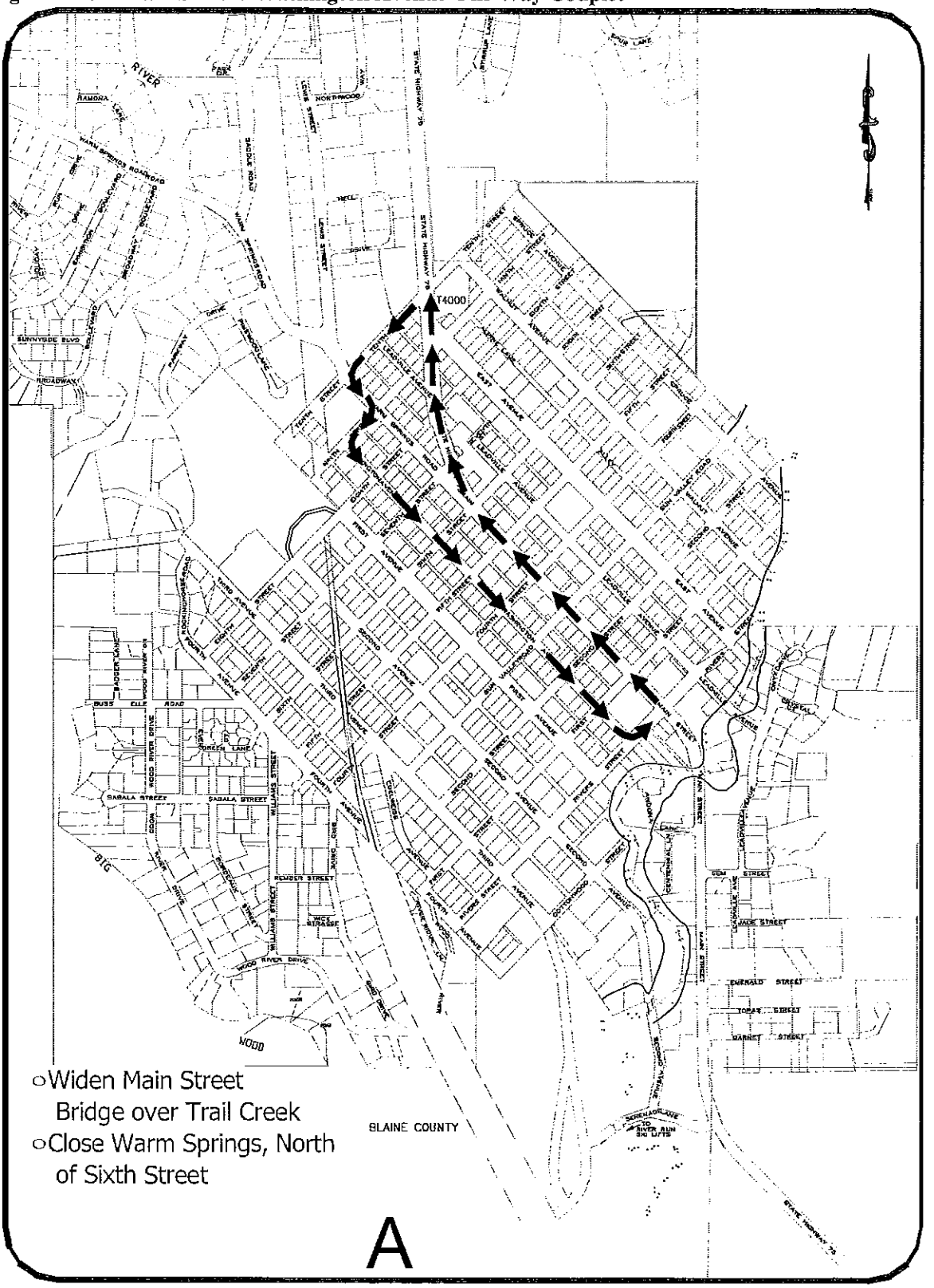


Figure 5.18 – Main Street / Leadville Avenue One Way Couplet

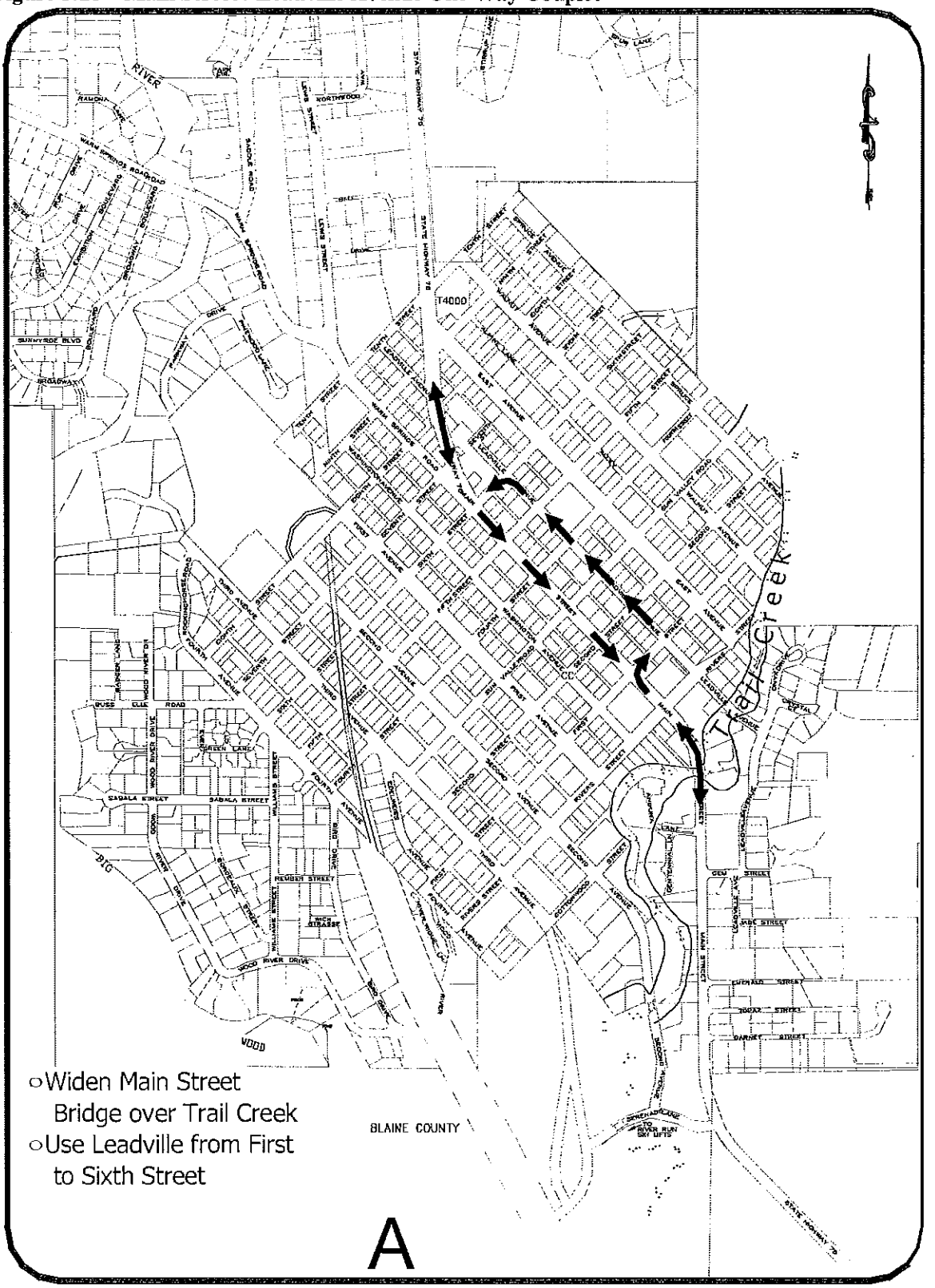


Figure 5.19 – Leadville & Washington Avenue Parallel Routes

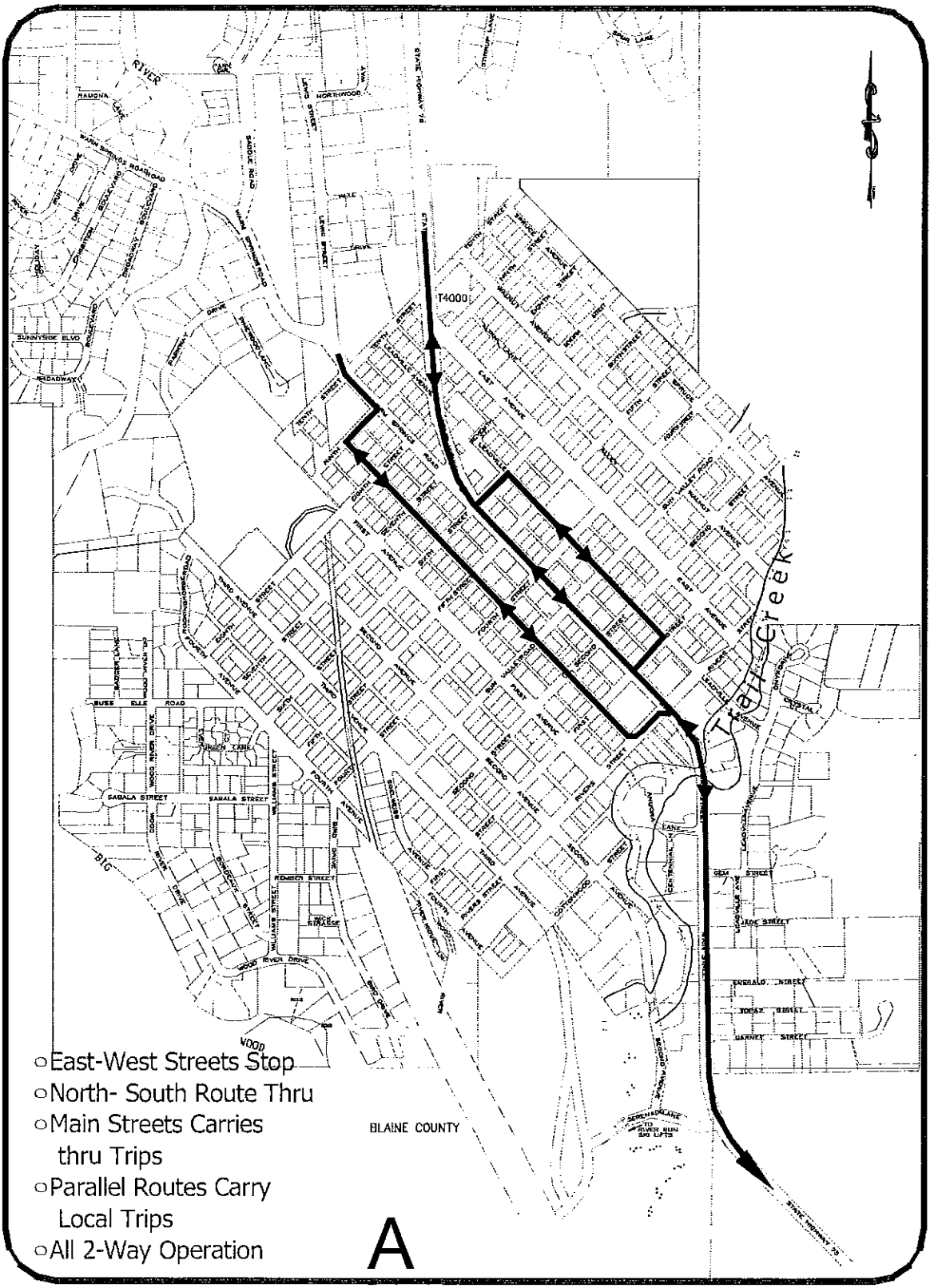


Figure 5.20 – Bypass Via Second Avenue

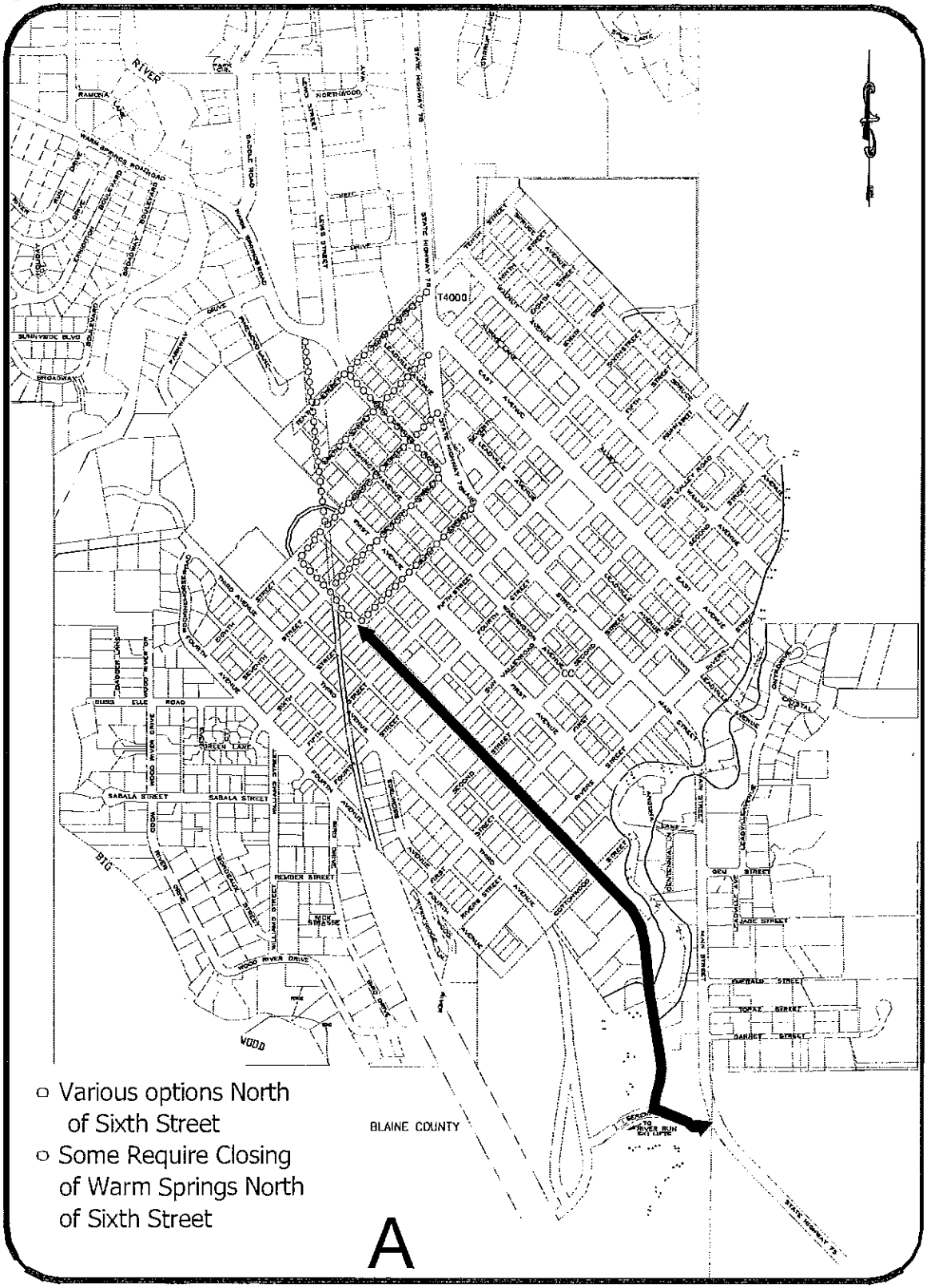


Figure 5.21 – Intersection Controls with Bypass Route (Second Avenue Example)

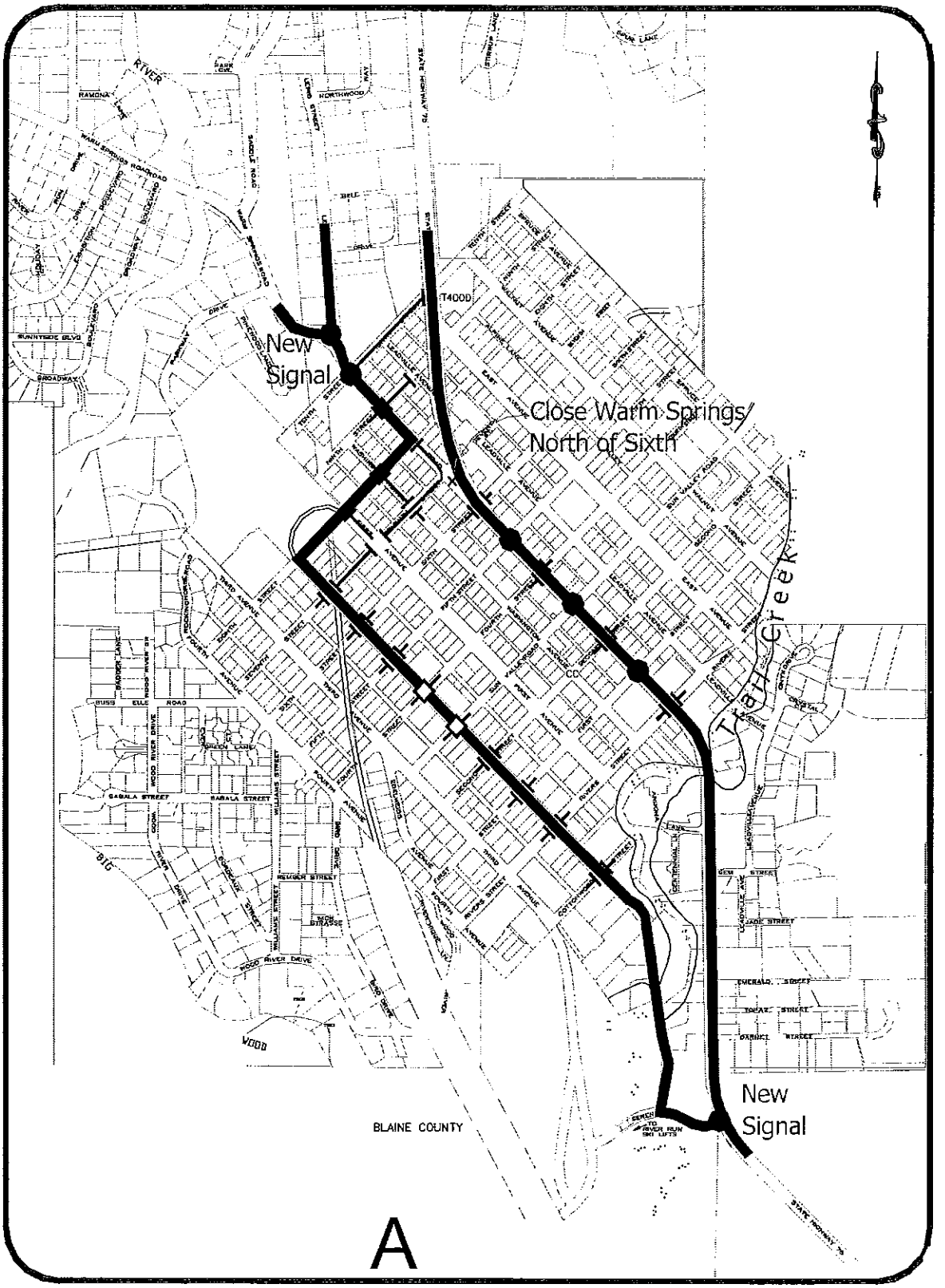


Figure 5.22 – Bypass via First Avenue

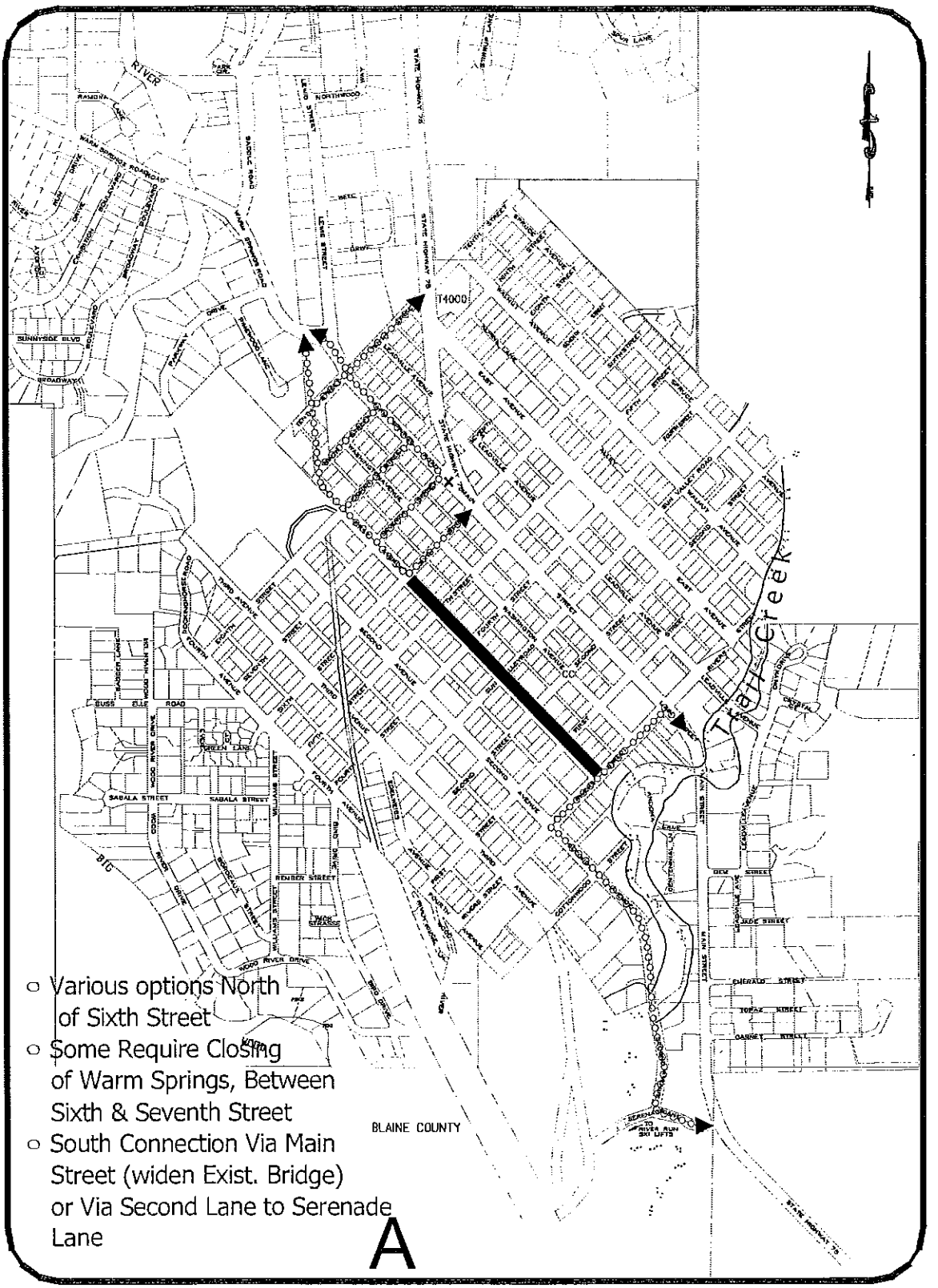


Figure 5.23 – Second Street & Third Street One-Way Couplet

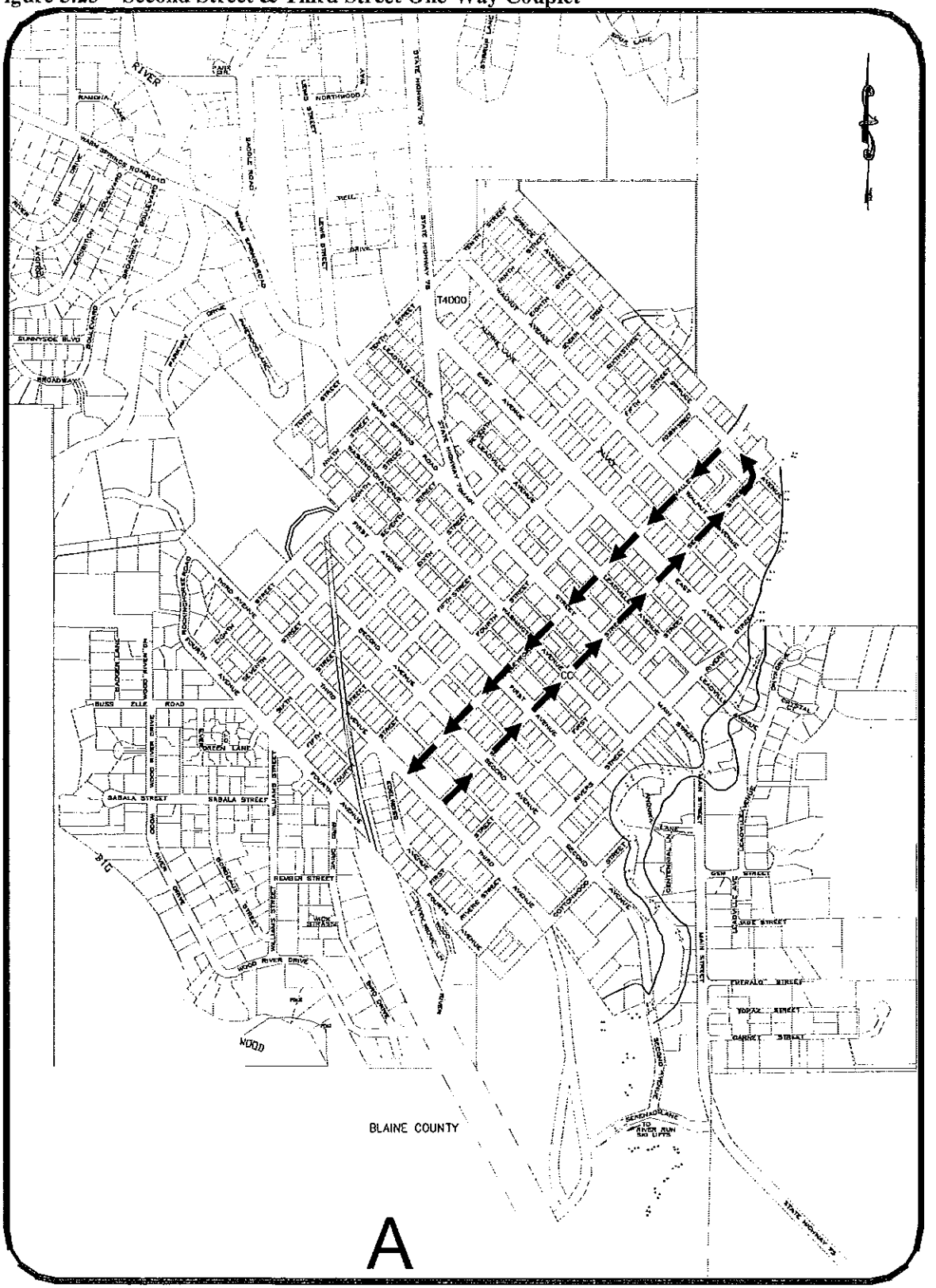
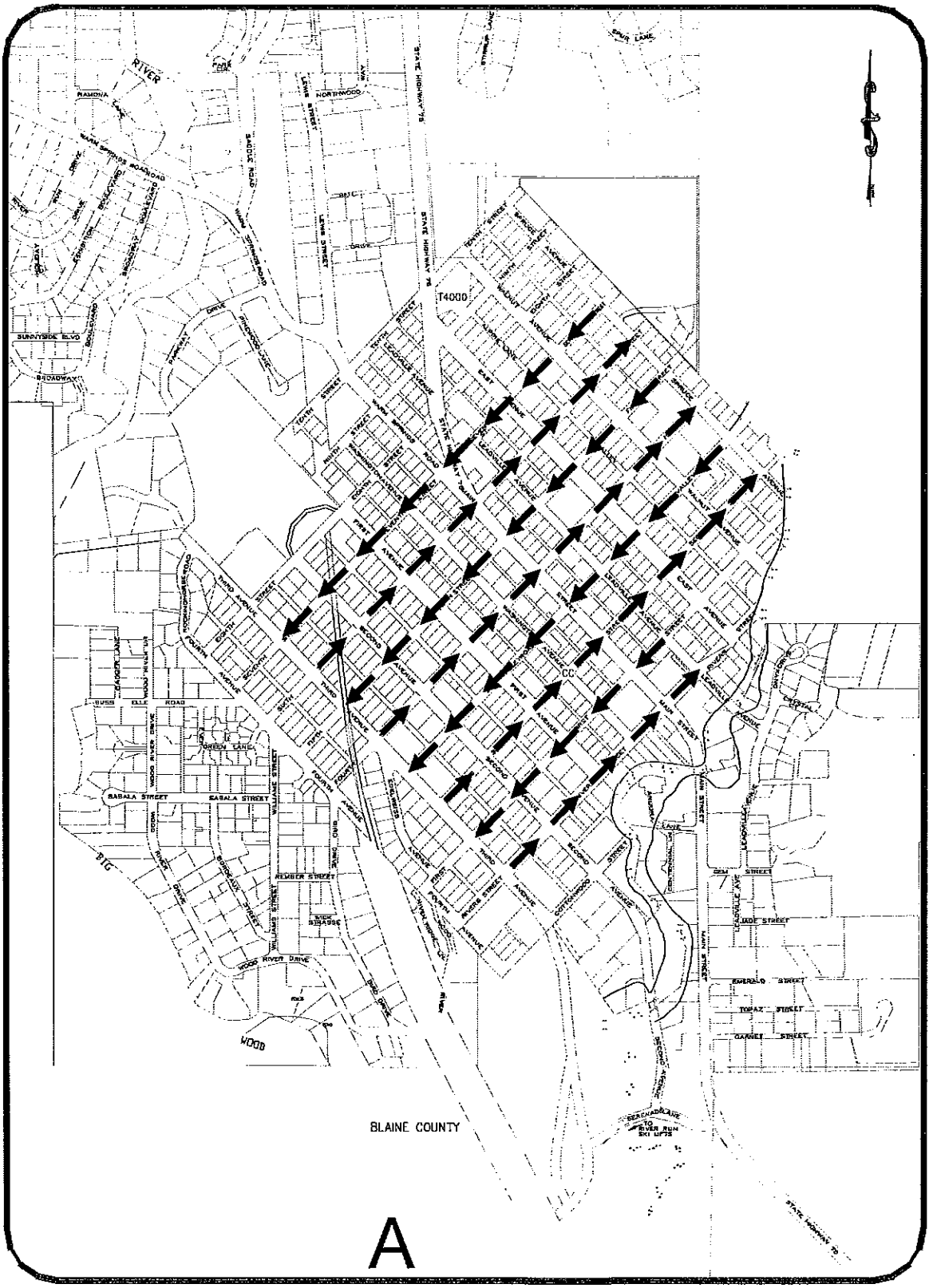


Figure 5.24 – East-West One-Way System



CHAPTER 6 – SCREENING CRITERIA FOR CAPACITY IMPROVEMENTS

To serve the traffic growth, a wide range of potential alternative improvements were identified in the course of a year-long study of transportation options in Ketchum from mid-2002 to mid-2003. Alternatives were identified based on their ability to provide capacity or other traffic improvements, and were located in all parts of Ketchum. A two-part evaluation process was next applied to screen the alternatives and identify those with the most benefits and least disadvantages.

The first step consisted of a "fatal flaw" assessment to eliminate many of the candidate improvements based on their relatively obvious and self-evident deficiencies in terms of costs, feasibility, adverse impacts, and traffic effectiveness.

The second step consisted of rigorously screening the surviving short list of viable improvements against a detailed set of criteria addressing several performance areas. Screening criteria reflect policies of the City's Comprehensive Plan, perspective gained from interviews with Ketchum City Council members, Planning Commission members, and City staff, and opinions of the community at large that were expressed at public presentations of interim study findings during the fall and winter of 2002-2003. With the agreement of City staff, consultants adopted the following criteria for screening of alternatives:

(A) Traffic Impacts
1. Main Street Traffic Conditions
    (a) Near Future
    (b) Distant Future
2. Other Traffic Conditions
    (a) Near Future
    (b) Distant Future

(B) All Other Impacts
3. Pedestrian Conditions
4. Parking Conditions
5. Business Conditions
6. Residential Conditions
7. Environmental Conditions

(C) Feasibility of Implementation
8. Public Opinion
9. Capital Improvement Costs
10. Operating Costs
11. City Implementation
12. Jurisdictional Coordination
13. Right-of-Way Acquisition

6.1 Fatal Flaw Review of Candidate Improvements

The "Baseline" demand forecast generates a future need for increased north-south through capacity in at least one corridor, plus additional turn lanes and/or intersection controls at various locations. An increase of north-south capacity is clearly the critical issue in Ketchum, which must be resolved either along Main Street or via parallel alternative routes. Numerous alternative corridors were identified as possible locations for these improvements, and preliminary findings were presented to the Ketchum City Council in the fall of 2002, and further refined and proposed for public comment in December 2002. A public opinion questionnaire was circulated at that time to solicit public reaction as well.

Incorporating feedback from all sources, the consultants reviewed all alternatives for their relative merits based on obvious features of traffic performance, cost, implementation feasibility, and adverse impacts. This review was based on a subjective assessment of obvious features of the alternatives, rather than on detailed analysis. The intent of a "fatal flaw" analysis is to remove from further consideration those alternatives that are clearly not as effective or as acceptable as other alternatives, and to conserve study resources for more detailed analysis of surviving alternatives that have greater merit. Passing the fatal flaw test does not mean there are no adverse impacts to the proposed alternative. It means only that there are sufficient net benefits to continue evaluation at the next level.

Tables 6.1, **6.2**, and **6.3** provide comparisons of all road capacity alternatives, grouped according to common themes. The fatal flaw reasons to reject each alternative are stated, and are sufficiently severe as to clearly outweigh any positive benefits the alternative may have. The descriptions provided account for the main features of each alternative, but do not address all possible variations. Alternative channelization plans and alternative forms of adjacent street connections exist in many cases. These details are not described unless the information is important to the definition of the alternative.

The "fatal flaw" assessment was applied only to road capacity alternatives in keeping with the starting premise of this chapter that future traffic growth would take place. A previous chapter evaluated the separate alternative of a transit and demand-management orientation to address future growth. The alternative strategies favored in that chapter should be understood as survivors of an implied fatal flaw screen as well.

Table 6.1 – Alternatives for Expansion of Main Street Corridor

Alternative and Description	Fatal Flaws
No Action. No additions to existing streets, apart from minor operational adjustments.	Pass. (point of reference for evaluation of other alternatives)
Three Lane Operation of Main Street. Convert present four-lane operation (no left turn pockets) to three lanes, with two-way left-turn lane and one thru lane each way. Coordinate all signals.	Existing traffic operations are not improved, and no capacity is gained for future growth.
Left turns eliminated from Main Street. Prohibit left turns from Main Street into east-west streets, and relocate existing left turn patterns to alternate routes. Simplify phasing plans and coordinate all signals. No change to left turns into Main Street from cross streets.	Pass.
Left Turn Pockets on Main Street. Remove some parking to provide for alternating left-turn lane pockets. Coordinate all signals.	Pass.
Five Lane Operation of Main Street. Remove all parking to provide a continuous two-way left-turn lane and right-turn pockets. Coordinate all signals.	Pass.
Five Signals on Main Street. Add signals at Second and Fourth Streets, to reallocate east-west traffic to more streets and improve Main St. efficiency.	Pass.
East-West Couplet on Second, Third Streets. Operate Second Street one-way eastbound, Third Street (Sun Valley Road) one-way westbound, to raise efficiency of Main Street signal operations. Requires signal at Second Street.	Existing traffic operations are not improved overall, and no capacity is gained for future growth.
Tunnel Under Main Street. Relocate through traffic from surface Main Street into a two-lane tunnel from Trail Creek to north of Sixth Street.	Extremely high cost of tunnel construction, and disruption of downtown area during construction.

Table 6.2 – Alternatives Using Corridors Other Than Main Street

Alternative and Description	Fatal Flaws
No Action. No additions to existing streets, apart from minor operational adjustments.	Pass. (point of reference for evaluation of other alternatives)
Leadville and Washington Streets Arterial Upgrade. Assign through-priority to both streets, and retain two-way operation of each. East-west cross streets all stop, enabling faster north-south travel on these parallel routes.	Poor connections to existing Main Street corridor at north and south ends, Washington St. needs reconstruction to level grade for arterial function, adjacent land uses adversely affected by traffic relocation.
First Avenue Arterial Upgrade. Assign through-priority to First Avenue. Connect at south end via River Street to Main Street or to Second Avenue. Connect at north end to Main Street at Sixth Street, or to Warm Springs Road at Seventh or Eight.	Poor continuity at south end to reach existing bridges across Trail Creek, loss of existing parking supply on First Avenue.
Second Avenue Bypass Route to Warm Springs Road. Designate Second Avenue as through arterial, and modify Serenade Road to match at south end. Close Warm Springs Road between Sixth and Seventh. Connection to Warm Springs Road may be via Ninth Street and First Avenue, or at Tenth Street via old railroad route between school and KART bus maintenance facility, or near Lewis Street via existing parking lots and driveways with possible relocation of some businesses and/or access to elementary school.	Strong opposition of School Board to traffic increases near Hemingway School. Possible right-of-way and business relocation costs. Inconvenient routing of connection to Ninth Street for that option.
Second Avenue Bypass Route to Main Street. Designate Second Avenue as through arterial, and reconstruct Serenade to match at south end. At north end, reconnect to SH-75 (Main Street) via Sixth Street. Close Warm Springs Road between Sixth and Seventh. Signalize Sixth/Main intersection.	Return to Main Street at Sixth eliminates much of the travel time benefit of the bypass concept.
Second Avenue/Third Avenue Bypass Route to Warm Springs Road. Designate Second Avenue as through arterial. Extend arterial route via Eighth Street to Third Avenue and connect Third Avenue to Park Drive, to connect to Warm Springs Road.	Adjacent residential community adversely affected by conversion of Park Drive to arterial status.
Third Avenue Bypass Route to Warm Springs Road. Complete missing links of Third Avenue from Third Street north to Park Drive, and designate Third Avenue as through arterial from Serenade Lane to Warm Springs Road.	Adjacent residential community adversely affected by conversion of Park Drive to arterial status.
Second Avenue Arterial Upgrade. Assign through-priority to Second Avenue, and retain two-way operation. Matching revisions at Serenade Lane. Continue arterial to Warm Springs Road at north end via Seventh Street. Warm Springs Road from Seventh to Sixth Street may be unchanged, or one-way northbound.	Pass.

Table 6.2 – Continued

Warm Springs Corridor Upgrade. Add signals to Warm Springs at 10th and at Lewis. Add left-turn pockets where needed. Consider all-way-stop and roundabout alternatives as well.	Pass.
Lewis Avenue - Saddle Road Connection. Provide one new east-west link between these roads, through city-owned "park-ride" property, coordinated with future development options on that site.	Pass.

Table 6.3 – North-South One-Way Couplet Alternatives

Alternative and Description	Fatal Flaws
No Action. No additions to existing streets, apart from minor operational adjustments.	Pass. (point of reference for evaluation of other alternatives)
North-South Couplet, Second Avenue & Main Street. Main Street northbound, Second Avenue southbound. Uses existing bridges across Trail Creek. Modify Serenade Lane to match at south end. North end connections include options via Sixth Street to SH-75 (Main Street), or to Warm Springs Road via Seventh or Eighth Streets, and from there via Tenth Street to SH-75.	Pass.
Leadville Avenue & Main Street Couplet "A". Northbound via First Street to Leadville, return to Main Street at Sixth Street. Southbound via Main Street. Widen Trail Creek Bridge.	Adjacent community adversely affected by traffic relocation, inconvenient routing to/from Main Street at both ends of corridor.
Leadville Avenue & Main Street Couplet "B". Northbound via Gem Street to Leadville, return to Main Street at Sixth Street. Southbound via Main Street. Use existing Trail Creek bridge on Leadville.	Adjacent community adversely affected by traffic relocation, insufficient traffic benefits.
First Avenue & Main Street Couplet. Main Street northbound, First Avenue southbound. Widen Trail Creek bridge on Main Street and connect to First Avenue via River Street. Various options to connect at north end.	Adverse impacts on adjacent community, loss of parking, inconvenient connection to First Avenue from Trail Creek bridge.
Washington Avenue & Main Street Couplet. Main Street northbound, Washington Avenue southbound. Widen Trail Creek bridge on Main Street and connect to Washington via River Street. Various options to connect at north end.	Inconvenient connections to existing Main Street corridor at north and south ends, Washington St. needs reconstruction to level grade for arterial function, adjacent land uses adversely affected by traffic relocation.

CHAPTER 7 – TRANSIT- CENTERED GROWTH STRATEGY

This chapter outlines a plan to implement fully the intent of Ketchum City Council Resolution #772 to avoid additional growth in traffic entering the city, while accepting economic growth within the city.

7.1. Resolution #772

The Ketchum City Council, in Resolution #772, called for zero increase in traffic entering Ketchum from the south, measured over a twenty-year period. Key actions supported by that resolution are:

- Increase KART local transit service
- Increase Peak Bus commuter transit service
- Support High Occupancy Vehicle (HOV) Lanes on Highway 75
- Avoid highway expansion within City limits except for justified turn lanes
- Pursue a parking management plan for downtown Ketchum including paid parking
- Pursue state legislation to authorize a local sales tax option for public transit
- Pursue a Regional Public Transit Authority in Blaine County

The resolution calls for a combination of limited capacity improvements and aggressive demand management strategies. It allows limited, carefully targeted capacity improvements on SH-75 for congestion relief and support of high occupancy vehicles (transit and carpools), but any increase in general-purpose travel lanes is excluded.

The aggressive demand management strategies start with increased funding for KART and for Peak Bus, but look beyond that beginning to regionalization of the transit operating function. State legislative authority must be obtained in order for regionalization to occur.

The parking management plan for downtown Ketchum would provide a "stick" to encourage behavior changes in the direction offered by the "carrot" of increased transit service.

7.2 Scope of Commuter Transit Program

The scope of services required by 2025 is quite large if transit service alone is to supply the capacity required to offset the forecast demand. It is assumed for sake of the calculations that public funds and institutional arrangements to operate expanded transit services will be forthcoming over time, and that people will actually use the service. Those important assumptions are not proven, however, and represent considerable risks. Some comments on implementation methods are provided later.

7.2.1 Potential Commuter Transit Market

By the year 2025, the baseline growth forecast indicates an increase in population, jobs, and travel demand of about 58% over the existing conditions in 2000. For simplicity, estimate the future directional demand from the latest SH-75 traffic counts in combination with the 58% growth forecast.

The current traffic counts on SH-75 show a peak directional volume of 1,200 vehicles per hour, and 1,500 total trips in both directions. The 2025 forecast of vehicle-trip demand both ways was stated earlier as 2,500, of which 2,000 would be in the peak direction and 500 in the opposite direction. About 10% of these vehicles presently carry 2 or more occupants, so the actual existing person-trip volume in the peak direction is approximately 1,300 in those 1,200 vehicles. For the future 2,000 vehicles, the corresponding person-trip demand is 2,200. The net increase is 800 peak direction person-trips over the existing.

The potential maximum requirement for transit in 2025 is therefore a total of 800 new riders in the peak hour, added to the current Peak Bus ridership. Out of the total 70 daily riders each way, one bus-load or 40 riders is served by the only bus run that operates in the true peak hour. Therefore, the maximum requirement would be to serve 840 passengers in the peak hour.

This requirement represents a goal for transit to achieve to satisfy Resolution #772. It is not an assured level of ridership, and the feasibility of generating that much true demand must be considered. The demand would come from commuters to new jobs in Ketchum and Sun Valley from south Blaine County who are interested and able to commute by bus instead of by car. In Chapter 3, the baseline employment growth forecast for the Ketchum - Sun Valley area was described as an increase of 3,562 jobs (66%) from 2000 to 2025. The target of 800 new transit riders therefore represents 22% of the forecast job growth.

Nationwide, transit only serves 2% to 5% of all travel, although in large urban areas transit serves 20% to 50% of peak hour commuters to the downtown core. In high-transit areas, the commuter corridors are usually congested like Ketchum. Even more important is that parking in downtown districts is usually limited and costly. With those facts in mind, a 22% target for Ketchum may be possible to achieve due to the congestion on SH-75 and the likelihood that parking in the future will be more costly and less available. But a target of 22% would not be realistic if parking remains reasonably priced and reasonably available, or if the travel time by transit is not reasonably comparable to that of automobiles.

Some of the new jobs in 2025 would be held by new Ketchum residents, and some jobs would be in time periods other than the traditional schedule of 8 to 5. The proportion of new jobs actually supportable by peak hour transit from south Blaine County would therefore be far less than 100%. From that perspective, the transit target of 22% for commuting from South Blaine County appears risky to assume, but it will be used in this section to demonstrate the program size and cost ramifications that the assumption requires.. The SH-75 Timmerman to Ketchum Environmental Analysis developed an estimate of 2025 transit ridership that is much lower, based on more conventional and realistic assumptions with a strong likelihood of accomplishment. That study concluded that a 2025 transit service would consist of 3 or 4 buses in each peak hour, including supportive policies for *transportation demand management.* That volume of service provides a capacity for up to 150 rides, one-way. This is far less than the 840 rides just estimated for the idealistic maximum transit scenario.

In the analysis that follows, it must be remembered that the 3-4 buses per hour assumed by the SH-75 study is the most likely estimate of future transit demand, corresponding to about 5% transit mode share. To assume the much higher estimate of 22% to satisfy Resolution #772 constitutes an act of faith in a future that differs from the past. To (hopefully) achieve that future will entail large and sustained efforts to change the behavior patterns of many auto-oriented commuters, and the public cost will not be small. The remainder of this section outlines the magnitude of that effort assuming full success, but there can be no assurance that the assumed ridership will be attained.

7.2.2 Efficiency of Commuter Transit Operations

The existing Peak Bus operation represents the initial step in the direction of transit commuting. It presently serves a ridership of 70 round trips per day using three runs per peak period, on a frequency that can be served with one bus (one run that is timed to match the primary 8-to-5 work shift). It carries a full bus load of about 40 passengers. The other two runs before and after that time are only about half full.

This pattern illustrates the sharply peaked commuting pattern in Ketchum and most other small communities where road congestion is not the normal condition. The "peak hour" of worst road congestion is presently only 30 minutes long, according to traffic counts, and most businesses maintain a conventional work schedule. Therefore transit demand, like road traffic demand, is concentrated around

the primary 8-5 work schedule. As a result, the Peak Bus operations have an overall efficiency factor of only about 60%, based on the provision of three runs at 40 seats for 120 seats of peak directional capacity, and a ridership of 70 (70/120 = .583, rounded to .60).

With an expanded system operating more buses in the single peak hour of highest demand, and fewer buses in hours of less demand, the efficiency of the system should rise above the existing experience of Peak Bus. A future efficiency level of 80% will be assumed for planning purposes, when the system is running many buses per peak hour.

7.2.3 2025 Commuter Bus Operations

Based on the foregoing calculations, a 2025 bus system that fully meets the no-net-increase goal of Resolution #772 would need to carry 840 passengers between South Blaine County and Ketchum - Sun Valley, in one peak hour, with an average load efficiency of 80%. The total seats required to do that is therefore 1,050 seats per hour (840/0.80 = 1,050).

Based on an average capacity of 40 seats per bus, that volume of seats would require 26 bus runs within the peak hour. The present Peak Bus operation is able to complete a round trip in 45 minutes or 3/4 hour. Thus the full scope of peak hour operations can be provided with a fleet of just 3/4 the 26-bus requirement, or 20 buses and 20 drivers. That is the essential information needed to scope the program and estimate a budget.

To assure that most jobs are accessible by transit, the highway corridor commuter bus operations should operate continually for 2 to 3 hours each morning and each afternoon. Assume each bus operates 4 round trips in 3 hours each morning and each afternoon, for six hours of "revenue service". That duration times 20 buses leads to 60 bus-hours per day for peak period service.

Finally, assume that a tax-supported countywide transit program will be expected to provide some off-peak circulation services, to provide some mobility options to all county taxpayers. The frequency would, however, be much lower than peak period services. Assume a basic service would require three buses in operation over ten hours of mid-day and evening services, or 30 bus-hours per day. Using the 45-minute round-trip time, these three buses will deliver four busloads per hour, or 160 seats per hour.

The entire program of transit services would therefore add up to a total of 90 bus-hours per day. Because the Ketchum - Sun Valley economy is strongly oriented to resort and recreational activities, assume there is a need for the same operations on Saturday and Sunday as well as weekdays. The weekly, monthly, and annual service totals are obtained by direct proportion to the daily total:

Bus-hours per week =	7 x 90	= 630
Bus-hours per month =	30 x 90	= 2,700
Bus-hours per year =	365 x 90	= 32,850

7.2.4 Ridership Totals

Total ridership for the system derives from the peak hour ridership of 840 riders. The second and third hours of the three-hour peak period will not be as productive as the main peak hour. Assume 60% productivity for those hours instead of 80% in the peak hour. Finally, assume 20% productivity for the average of all off-peak hours. The daily ridership total is calculated as follows:

AM Peak Hour =	80% x 1050 seats =	840
AM 2nd, 3rd Peak Hours =	2 x 60% x 1050 seats =	1,260
PM Peak Hour =	80% x 1050 seats =	840
PM 2nd, 3rd Peak Hours =	2 x 60% x 1050 seats =	1,260
Off-Peak Hours =	10 x 20% x 160 seats =	320
Total Daily =		3,680
Total Monthly =		110,400
Total Annual =		1,332,250

7.3 Commuter Transit Financial Requirements

The outline of a financial plan is based on current experience of KART and Peak Bus.

7.3.1 Ridership Revenues

Based on the ridership forecast, if the one-way fare charged is $1.50, the daily revenues would be $5,520 and annual revenues would be $2 million. Higher or lower fares may be warranted, as needed, to balance costs between revenues collected and subsidies from taxpayers and businesses and possible state or federal grants. The current Peak Bus fare policy is $1.50 one-way for single rides, with a 50% discount for monthly passes, down to $38/month. The assumption here is that parking restrictions and other transportation demand management efforts will sustain the market for an average fare of $1.50 each way net of discounts.

7.3.2 Operating Budget

The current experience of KART is a suitable reference point for estimating the cost of future transit service. KART's operating costs have been analyzed at $43.15 per hour plus $1.30 per mile. Based on KART's budget analysis, the average operating speed is 12 miles per hour. This allows a simplification to $58.75 per hour for planning purposes. Operating costs for transit in larger metropolitan areas tend to run closer to $75-$80 per hour. That may reflect higher wage costs in urban areas, and also may reflect the high cost of full-size coaches compared to KART's smaller vehicles. Therefore, base the highway transit operations budget on an average cost of $70 per hour. The annual operating budget for 32,850 hours of service would then be $2,300,000.

7.3.3 Capital Budget

KART's capital costs are based on a per-vehicle cost of $250,000 and a 12-year lifespan, and 15% spares. The average bus in service therefore costs about $21,000 annually, or about $1,050 per seat assuming 20 seats per bus. Highway cruiser buses have higher capital costs, but longer lifespan and they provide 40 seats per bus. Use an estimated cost of $500,000 per bus, 20-year lifespan, and 15% spares. The annual cost is $28,750 per bus, or $718 per seat. For simplicity and to be conservative, use $1,000 per seat per year for all bus purchase costs, including 15% spares.

capital cost =	$40,000 / year	per bus
20-bus revenue fleet =	$800,000 / year	

7.3.4 Contingency

To allow for uncertainties of cost estimates and demand forecasts, and to allow for bus maintenance facilities and other administrative costs that may vary from the current experience of KART and Peak Bus, add 20% to the operating and capital budget.

7.3.5 Total Budget

The estimated operating and capital budget in 2025 for the highway transit commnter bus service to Ketchum - Sun Valley is the sum of the preceding three components:

Operating Budget =	$2,300,000
Capital Budget =	$ 800,000
20% Contingency =	$600,000
Total Annual Cost =	$3,700,000

7.3.6 Farebox Cost Recovery

Based on the revenue estimate of $2,000,000, the farebox receipts account for 54% of total costs. This is well above the average for most urban areas where 25% cost recovery is typical.

The ratio is higher in this case because the fare is relatively high compared to many rural transit programs, and because the scope of off-peak services has been held to a low proportion of the peak period service. The system as outlined is relatively cost-effective, and focused on delivering only as much bus service as demand will justify.

A voter-approved transit district might not be able to maintain the assumed level of efficiency. Future elected officials might choose to expand the countywide coverage of off-peak services to justify countywide funding through a transit tax. That would add costs faster than it would add riders, leading to higher deficits. Future elected officials might choose to hold fares down in the belief that this would increase ridership. Experience elsewhere suggests otherwise. Free transit is sometimes offered, similar to KART, but that practice is not found in urban areas with high congestion problems. There is a tangible economic value associated with commuting to a job. The quality of the service provided to commuters generally does more to attract riders than the price charged for the service.

From a marketplace perspective, the price charged for the transit service should be competitive with the cost of parking plus the out-of-pocket costs for gas and oil that the commuter otherwise pays if using an automobile. Although the true cost of automobile ownership involves much more than the cost of gas and oil, experience elsewhere is that only out-of-pocket costs have significant influence over driver choices for transit versus an automobile. Most people consider their automobile as necessary for other purposes outside of commuting to work. They unconsciously amortize all the fixed costs of the car over those personal purposes, leaving only the out-of-pocket costs of gas and oil eligible for tradeoff against a charge for transit. In the SH-75 corridor, the gas and oil cost for a 12-mile commute one-way, times two ways, can be loosely equated to the cost of a gallon of gasoline, assuming a vehicle that get 25 miles per gallon. That is approximately $1.50 to $2.00 in today's market. If parking charges become a reality in Ketchum, as little as $2/day would suffice to make the $3.00 round trip by bus appear cheaper to most commuters. Whether a still higher bus fare and a higher parking charge of, say $5 per day, are feasible options cannot be predicted with any certainty. Experimentation with actual programs will be the best way to learn the realities of Ketchum-area transportation economics.

7.3.7 Subsidy Requirements

The subsidy requirement to sustain a transit operation is the difference between farebox revenues and total costs. Based on the assumptions above, the 2025 subsidy would need to be the difference between $3,700,000 costs and $2,000,000 revenues, or $1,700,000. This subsidy requirement would be furnished by any politically and economically feasible combination of taxes within Blaine County, state and federal grant programs, and business contributions from within the Ketchum - Sun Valley area that benefits. Solely for sake of illustration, the ratios obtained by dividing this annual cost among various components of the local economy work out as follows.

Annual Subsidy per Blaine County resident in 2025 = $1,700,000 / 28,914 = $59
Annual Subsidy per Ketchum-Sun Valley employee in 2025 = $1,700,000 / 8,939 = $190

7.3.8 Inflation Effects

All future costs and revenues are expressed in current dollars, with no adjustment for inflation. The uncertainty of forecasting supply, demand, and cost factors 20 years ahead is at least as great as the rate of inflation, so that additional step was not included. As cost inflation is experienced in future years, actual operating costs will increase. Inflation will automatically affect receipts from any regional tax that may be enacted. The net difference will need to be made up from farebox receipts. Therefore, from time to time fares must be adjusted upward as well, but generally in increments of 5, 10, or 25 cents to simplify collection of fares. For overall perspective, at a nominal 2% annual rate of inflation, compounded over 20 years, the total adjustment of all financial estimates would be approximately 50%.

7.3.9 Rail Transit Alternative

Rail transit is a viable alternative to buses in large urban areas due to economies of scale. Rail transit is superior to buses in terms of higher capacity and sometimes higher speed depending on the mode of operation. Those advantages come at the cost of substantial capital investments in track, stations, and rolling stock. Recent new starts for federally-funded light rail have involved capital costs of about $20-$40 million per mile.

A rail line of 20 miles between Ketchum and Hailey-Bellevue might therefore be expected to cost $400 to $800 million to construct and equip before operations begin. A private for-profit business might find ways to reduce those costs by avoiding federal procurement regulations and other federal standards. But a business would need to recoup all costs out of the fares charged, with capital costs amortized over decades of time but with interest on investments added to the initial costs.

In order for a rail transit alternative to be cost-effective versus a bus alternative, such large investments in facilities and equipment must be justified by high ridership. To score highly in the competitive process for scarce federal grants, a light rail transit proposal would need to show a high benefit for the costs incurred. Existing light rail lines elsewhere may carry from 10,000 to 50,000 riders per day. Service frequency may vary from 5 to 30 trains per hour. Train size is typically four to ten cars per train to fully utilize the labor cost of train drivers and other on-board personnel, but a train can be as small as one car. Capacity of rail lines can therefore be as high as 300 cars per hour and rail transit is capable of carrying up to 20,000 seated passengers per hour, without mention of additional capacity for standing passengers.

The peak hour ridership forecast (840 riders) for Ketchum's commuter population in 2025 would be satisfied by a service offering just fourteen cars per hour at 60 seats per car. At this level of demand, the investment in 20 miles of right-of-way, tracks, and stations would be so lightly utilized that the

investment is highly uneconomic. At $400-$800 million capital cost, the annualized cost would be $20-$40million per year over a 20-year amortization period. Annual ridership for Ketchum's highly optomistic future situation was estimated above at about 1.3 million. The capital cost per ride would thus be about $15-$30. Annual operating costs and interest on investments would lead to a total cost per ride of at least $18-$33. That level of performance would not earn priority standing in any federal-aid funding program. The annual cost is also much larger than the Blaine County economy can foreseeably support as a subsidy to just one of many public priorities. The cost per ride is also too high for a private business to consider as a for-profit venture, since the market is best defined by the current Peak Bus fare of only $1.50 per ride.

Tourist-oriented recreational train rides are known to operate elsewhere with cost factors that may be lower than the illustrations just presented, possibly as much as 25% lower. Such private operations only operate when and where demand is high, and don't run at all in off-peak times. Most importantly, however, they benefit from a pre-existing railroad track, which in some cases is also be used by some freight operations. These supportive factors once existed in Blaine County but are no longer available.

In Washington State, the recently launched Sounder commuter train operates between Tacoma and Seattle over existing freight tracks, using diesel locomotives to pull passenger cars. The actual cost of this popular and fully used service is about $25 per ride. The service is largely subsidized by local-option sales taxes so the users pay only $5 per ride. The fare charged is competitive with all-day parking costs in downtown Seattle, which vary from $10 to $25 a day. The market for this commuter train was well-established by express commuter buses operating on freeways, long before the train service was conceived. Although the service is criticized as overly expensive compared to expanded bus service, it was implemented as a first priority of the fledgling Sound Transit regional transit authority because of the availability of usable freight tracks.

The City of Aspen, Colorado, recently sold or gave away three streetcars it had received as a gift about 20 years ago. Over those years, Aspen was unable to develop a feasible plan for a streetcar system to utilize the cars, in spite of strong popular support for the idea.

7.4 Trigger Points For Implementation of Commuter Bus

Since growth occurs gradually, the system should be implemented gradually. Beginning with the current Peak Bus operation using one bus, the scope of operations should expand at the average rate of one additional bus in service per year, for each of the next 20 years. As new service is introduced, demand should be carefully monitored, and adjustments made from year to year to keep the system at an efficient level of performance that balances costs and revenues.

The service added in year one would logically be an expansion of Peak Bus service, from one bus per peak hour to two per peak hour. The subsidy cost should be about 1/20 of the 2025 cost described above, or $85,000. Each year thereafter, the same amount should be added to the budget in order to continue expanding the service.

The trigger point for annual increments of service would be based on the success of each preceding year's expansion. As long as the service provided is well utilized with full or near-full busloads in the main commuter peak hour, there is reason to assume that adding more service will gain more riders. But if the previous increment of service does not produce a corresponding increase of riders, then further increases should be postponed until ridership growth is achieved. In other hours, ridership is not likely to fill the buses.

There is no reason to expect that ridership will rise uniformly from year to year. Some years will be better than others. The economy will not expand at a uniform rate, and may even decline in some years.

Ridership may also be affected by the type of jobs available, the hours of employment, the wages offered, and parking availability. Developing a transit service requires close monitoring of the needs of riders, much as any service-oriented business strives to always meet the needs of its customers in a changing marketplace.

The trigger point for expanding transit service to other hours is also based on experience. After about 3-5 years of expansion of peak service, ridership data should be adequate to indicate the feasibility of expanding the hours of service. Market surveys should be employed to determine what hours of service to operate, and what specific locations to serve. Both riders and non-riders should be contacted for a complete survey. The routes used to service major employers in peak hours may need to be altered to provide the best access to commercial and recreational areas for non-commuting riders.

Since providing commuter rides to employers is the main purpose of this program, it will be important in designing the system to include the advice of major employers in the Ketchum - Sun Valley area, and work hard to maximize the benefits of the system to their employees.

7.5 Traffic Conditions Within Ketchum

Even if the commuter traffic problem is held to no increase in volumes on SH-75 by full attainment of goals of Resolution #772, there will be an increase in local traffic within Ketchum that affects virtually all streets.

Preceding analysis showed that the baseline forecast would include an estimated 55% travel growth within the Ketchum - Sun Valley area. This internal increase in travel demand is based on travel desires that are largely unrelated to work commuting, and are therefore unaffected by the highway commuter transit program. Five general approaches are available to deal with this forecast demand:

a. ***Do nothing*** - accept increased traffic and congestion rather than provide new capacity in any form.
b. ***Non-Motorized Modes*** - provide maximum support to travel on foot and by bicycle, to minimize short local trips by automobile.
c. ***Travel Demand Management*** - implement a variety of programs and policies to change people's behavior patterns in ways that reduce or remove the need to travel.
c. ***Local Transit Service*** - provide an effective transit option that serves the forecast demand as an alternative to automobiles.
d. ***Traffic Improvements*** - improve the operation of existing streets through a combination of traffic controls and minor reconfigurations of existing streets. Major construction to provide continuous new lanes would be the last resort considered if all other strategies fail.

The following sections outline the scope of actions needed in each of these areas, one approach at a time, to meet the increase in forecast demand, as if only that approach would be used to the exclusion of the others. In reality, a blend of all approaches is likely to emerge, with only partial implementation and partial costs in each separate area.

7.5.1 Do Nothing

The baseline forecast of internal growth corresponds to an increase of 385 peak hour trips across Main Street, independently of travel increases along Main Street due to external causes that would be offset by the commuter transit program. If nothing changes on Main Street itself, that increase in east-west traffic could not be accommodated directly in the existing most-used streets such as Third Street / Sun Valley Road. Queues would extend longer on east-west streets, frequently blocking the intersections at

Washington Avenue west of Main Street and Leadville Avenue east of Main Street. The excess demand would also spill over to adjacent streets to utilize any available alternative paths. For example, recent experience in Ketchum indicates that traffic around Main Street congestion has encouraged excess use of Ninth Street. Similar diversions could be expected to materialize in various degrees on any and all streets between Serenade Lane at the south end to Tenth Street at the north end.

7.5.2 Non-Motorized Modes

Walking and bicycling modes can be made more attractive for travel within Ketchum by strengthening the completeness and attractiveness of paths and sidewalks for those modes, and by public information campaigns or other motivational methods to increase general awareness and appreciation of an attitude or ethic to leave cars at home whenever possible. This approach requires both a capital investment by the city in non-motorized facilities, and an ongoing investment in public information programs, such as by funding a demand management specialist to work with the whole spectrum of community organizations and the public as a change agent.

7.5.3 Travel Demand Management Strategies

Travel demand management strategies work in two ways: by diverting car travel to other modes, or by changing human activity patterns to reduce or eliminate travel by car.

Actions that are feasible for Ketchum to manage directly include:

Parking management - controlling the price and availability of parking on streets and in public lots, and regulating the supply and cost of parking in private developments. Zoning codes could permit reduced parking when appropriate conditions are met. The Community Core Parking Management Plan provides the starting basis for such a program.

Multi-use developments patterns can be encouraged by land development policies in the Comprehensive Plan. This could apply to the downtown Ketchum area in particular.

Growth management policies can increase the linkage of land use decisions to transportation consequences.

Actions in the private sector that Ketchum can encourage by policy statements include:

Employer support of alternative modes on an equal basis with support for parking of cars. The Wood River Rideshare Program is the ideal channel to encourage innovation by local employers.

Flexible Work Schedules to reduce peak hour congestion effects. The Wood River Rideshare Program is the ideal channel to encourage such actions among private businesses. The City of Ketchum can provide such options to its own employees as a demonstration.

The cost to implement demand management strategies is quite varied depending on the particulars. To implement most other demand management strategies begins with adoption of city policies, but actual effectiveness will require the funding of a staff professional to work as a "change agent" in public outreach to all parts of the community. The existing Wood River Rideshare Program provides a starting foundation for this type of activity. Most of the "cost" of demand management is actually born by the community in the form of changes from past activity patterns, and the job of the "change agent" is to demonstrate the positive benefits to employers, businesses, and citizens.

7.5.4 Local Transit

Some part of the internal traffic increase may be avoided or offset by the demand management strategies suggested in Resolution #772. Increased KART transit service within Ketchum can remove some local vehicle trips, if the expanded service is designed with good market research and responds to the needs of Ketchum residents for efficient transit access to shopping, recreation, and other personal business destinations.

The following program of local transit service would be providing enough transit service capacity to fully offset the forecast increase in east-west traffic across Main Street. This assumes no reduction in forecast traffic would come from travel demand management programs that eliminate traffic by changing people's behavior. Making the capacity calculation does not, however, assure that the ridership will actually materialize. A critical factor would be the implementation of parking management strategies to control the cost and availability of parking in the downtown area. That particular demand management strategy would encourage all Ketchum residents to reconsider their daily travel patterns and stimulate greater use of local transit.

The growth forecast of Table 6.1 suggests an increase of 385 peak hour trips across Main Street (say 400 for round numbers). At 20 seats per KART bus, that would require 20 buses per hour to cross Main Street, half in each direction. A service program using 10 buses could provide that capacity at full loads, i.e., 100% load factor, assuming one round trip per hour for each route crossing Main Street. But the type of local service provided by KART is most attractive and speedy if buses are not so fully loaded. Comfort and convenience are critical factors for a successful local transit circulation program. A more realistic load factor of about 67% in peak hours would attract the most riders by assuring that seats are available for all riders on all bus runs. That level of transit service can be provided with a fleet of 15 buses. That size of a bus fleet would provide a high quality of local circulation transit. For example, the system could be designed to link every neighborhood of Ketchum with the downtown area, each with its own dedicated route.

The magnitude of service just outlined is equivalent to a 750% increase in operations over the present two-bus service in summer months. The added demands of recreational travel in wintertime would be a further increase in that service plan. Presently the winter service adds 4 buses to the 2-bus summer schedule. The demand for recreation-oriented bus rides would be expected to increase in rough proportion to the 59% forecast of general travel increases, so the extra winter service should also increase to at least 7 buses added to the 15-bus summer program, or 22 buses operating in winter months.

Overall, these assumptions lead to an annual program and budget increase for KART in 2025 of about 500%. The current budget for KART is over $800,000 for operations only, and capital costs are covered by grants. Assume in round numbers that a total budget of $1,000,000 adequately covers all aspects of KART operations and capital facilities. Then a future budget of $5,000,000 would appear to be needed to provide the expanded scope of services just outlined. Expanding gradually over a 20-year time period would suggest an annual increase in funding at the rate of $200,000 additional each year. No fare is collected on existing KART operations. That might change in the future if economic conditions so require, but no such change has been considered here.

7.5.5 Traffic Improvements

Some internal traffic growth should be expected even if external growth is successfully intercepted and diverted to transit. Traffic operations improvements within downtown Ketchum will be necessary to maintain minimally satisfactory flow conditions on Main Street, even if external traffic growth is minimized. The extent and timing of traffic operations improvements would depend on how much

demand actually materializes in the future after the effects of demand management strategies and transit alternatives are known.

Traffic control options to consider for Main Street in this context might include any or all of: additional traffic signals to increase the usability of Second and Fourth Streets for east-west travel; interconnection and coordination of all signals on Main Street; removing some parking on Main Street to provide for left turn lanes, and possibly other actions.

Traffic improvements in other areas are more situation-specific, and will be driven largely by development activity in particular areas.

See chapter on the road capacity alternative scenario for additional details of specific improvements that may be selected from within that larger context.

7.6 Feasibility of Achieving Resolution #772

The preceding analysis has outlined the size and cost of a program to deliver enough transit capacity to absorb all of the increased travel that is otherwise predicted to occur. This is not, however, a guarantee that the program will succeed. The mode shift assumptions are ambitious and not confirmed. It should be cautionary that the current Peak Bus operations are only 60% utilized, and the free KART program is lightly used in summer months.

The response of commuters may be less enthusiastic in practice than was assumed for purposes of scoping the program. The program could easily fail to attract the required ridership. There is no parallel experience to draw from in similar locales that lends confidence. Only direct experience with an evolving program will tell if Ketchum's situation is sufficiently unique and compelling to support a dramatic new alternative.

Additional efforts involving travel demand management strategies and selected road improvements should also be pursued and constantly evaluated for overall effectiveness, along with transit expansion.

7.7 Total Financial Requirements

The total program to implement Resolution #772 will be most influenced by the cost of providing transit service to offset travel growth. The staff requirements and other costs to implement travel demand management strategies will generally be lower than the cost of delivering equivalent transit services. Therefore, the "worst-case" estimate of future total costs for a combination program can be assumed to be no higher than the cost of the transit-only option. In practice, a portion of the suggested annual transit subsidy would instead be allocated to the travel demand management effort, and necessary transit growth would be less than as illustrated for the 100% transit solution.

The combination of commuter bus operations and local circulation operations was sized to provide enough seat capacity to offset the forecast demand in 2025, resulting in a large increase over existing services. The overall budget requirements for both programs are summarized in **Table 7.1**. After accounting for farebox revenue recovery, the current annual subsidy of approximately $1,000,000 would rise to about $6,700,000 over 20 years, at an annualized growth rate of $185,000 per year. It may be most effective to allocate more of that annual increment to the travel demand management efforts in the first couple of years, and more to transit program increases in later years.

Table 7.1 – Financial Requirements of Resolution #772 Transit Program

	Local Transit	Commuter Transit	Commuter Transit	Total Transit
Year	KART Annual Budget	Peak Bus or Successor Budget	Expected Farebox Revenues	Net Subsidy Requirement
2000	$1,000,000	$85,000	-$77,000	$1,008,000
2025	$5,000,000	$3,700,000	-$2,000,000	$6,700,000
Year-to-Year Increase	$200,000	$85,000	-$100,000	$185,000

7.8 Relationship to SH-75 NEPA Analysis

The success of a commuter transit program depends heavily on the competitive quality of the service. To divert commuters from the convenience of their cars, transit must provide advantages over cars in terms of travel time and cost. The cost advantage would be easy to demonstrate if parking in Ketchum-Sun Valley becomes costly. Harder to provide is a travel time advantage, because buses typically stop frequently to serve passengers, and because riders must usually walk to bus stops and wait for the bus.

In the congested SH-75 highway corridor, it will be necessary to provide buses with a powerful advantage over cars via reserved queue jumper lanes at congested intersections, and giving buses the top priority via signal pre-emption devices. This idea is clearly expressed in two NEPA alternatives that either provide a continuous HOV lane, or HOV queue bypass lanes at signalized intersections. Either strategy can be implemented south of Ketchum with beneficial results for an aggressive transit program. Within Ketchum, and specifically north of Elkhorn Road, the available right-of-way does not permit the continuation of dedicated HOV lanes through intersections with left-turn pockets, specifically at Weyakin Drive and at Serenade Lane. Nevertheless, a continuous HOV advantage through the SH-75 corridor from Hailey to Elkhorn Road accounts for the vast majority of the corridor length, so the absence of a HOV priority within Ketchum would not be a major liability. The best condition for transit operations in that section would be a four-lane road with two lanes in each direction. Any buses and carpools that use a queue bypass lane through the Elkhorn Road intersection would be ahead of other traffic to start, and the four-lane configuration would have less congestion and more consistent operating speeds throughout the section than a two-lane section serving the same volumes.

Based on the funding priorities of the state and federal governments, it is likely, however, that any improvements to the SH-75 corridor are 10+ years in the future. More immediate implementation of some transit-supportive intersection improvements could be undertaken by the Idaho Transportation Department, Blaine County, and its cities, independent of the larger and more costly corridor designs that take so long to fund and implement. Spot improvements could include short sections of queue bypass lanes at the most congested intersections, and other signal control and channelization revisions. To accomplish such improvements would require a ***detailed operational study*** of the major intersections in the SH-75 corridor.

A second option would be to investigate the possibility of a ***connecting local collector street system*** from the Hospital intersection via Broadway Run southward as far as East Fork Road and beyond into Hailey. This route would serve various local access purposes, and would not involve the SH-75 corridor at all. The benefit for Ketchum would be to provide a continuous route between the north side of Hailey and the hospital area that does not depend on funding of long-range improvements to SH-75. It would also provide transit access to a growing residential area that generates some of the new commuter demand into

Ketchum. Portions of the route could be provided by developments as they occur, but the timing of developments is always uncertain. The best strategy for public agencies would be to adopt the route on official plans so as to support compliance with the route as local developments arise, and also to prioritize public funds toward the early completion of missing links. Idaho's law on traffic impact fees would allow later recovery of some costs from future development if the route were constructed earlier with public funds.

A related consideration is the possibility of developing ***a transit-only route along any portion of the Wood River Trail***, a former railroad corridor now converted to a popular bicycle path. Available right-of-way may allow parallel construction of a bus-only route in some or all of this corridor without interfering with the operation of the bicycle path.

All of these options for transit supportive improvements are important to the success of the transit-centered alternative, but are located outside the City of Ketchum. They involve expenditures for road construction by other agencies to achieve Ketchum's goal. Ketchum will need to work closely with Blaine County, City of Hailey, and ITD to develop the awareness of mutual benefits and to assure priority interest in those projects by other agencies.

CHAPTER 8 – ROAD – BASED STRATEGY

This chapter outlines an alternative plan to provide for growth as if the goals of Ketchum City Council Resolution of #772 would not be achieved. For simplicity, this alternative assumes no expansion of transit services nor any appreciable diversion of future traffic growth away from the existing pattern of private automobile travel both within Ketchum and to/from Ketchum.

8.1 Traffic Growth Forecasts

The overall magnitude of future traffic growth was developed in a previous chapter, using the "Baseline" economic growth profile identified in the SH-75 Timmerman to Ketchum Environmental Analyses. That alternative is considered the most likely future trend considering the economic conditions throughout Blaine County. Based on that growth profile, 59% growth in traffic demand is estimated in the SH-75 corridor south of Ketchum by the year 2025. It is assumed for this analysis of conditions within Ketchum that capacity improvements in the SH-75 corridor would eventually be implemented to deliver that level of future travel demand. There are various ways to achieve that level of capacity increase in the SH-75 corridor south of Ketchum, which is the subject of the current SH-75 environmental analysis study and is beyond the scope of this study to address. Here it is simply assumed that the specified level of future travel demand will materialize due to countywide growth, and that demand will be served south of Ketchum by presently uncertain future highway improvements. The increase in traffic demand within Ketchum will then be served by the system of improvements to be developed in this chapter.

If the "Baseline" future growth scenario comes to pass, with 59% increase in travel to/from the south, then an average of 55% higher traffic demand would be expected within the city. In some parts of Ketchum, traffic growth would be higher or lower than those rates depending on the amount of local growth. The downtown area would grow less, and outlying areas such as Warm Springs and to the north of Ketchum would grow more, in the 80% to 100% range. **Figure 8.1** shows projected future volumes at selected points on the major roads of Ketchum, based on those assumptions.

The basic premise of the traffic pattern in Figure 8.1 is that existing roads within Ketchum would continue to serve traffic volumes in the same way as at present, without diversions to alternative corridors. This method of forecasting is merely an assumption, but it is useful to identify the locations most preferred by future travelers, as indicated by current travel patterns. The obvious message from this figure is the need for additional capacity on SH-75 entering Ketchum from the south, and along Main Street through downtown Ketchum. In addition, capacity increases of a lesser order would be needed along Warm Springs Road.

Figure 8.1 – Future Travel Demand on Existing Corridors

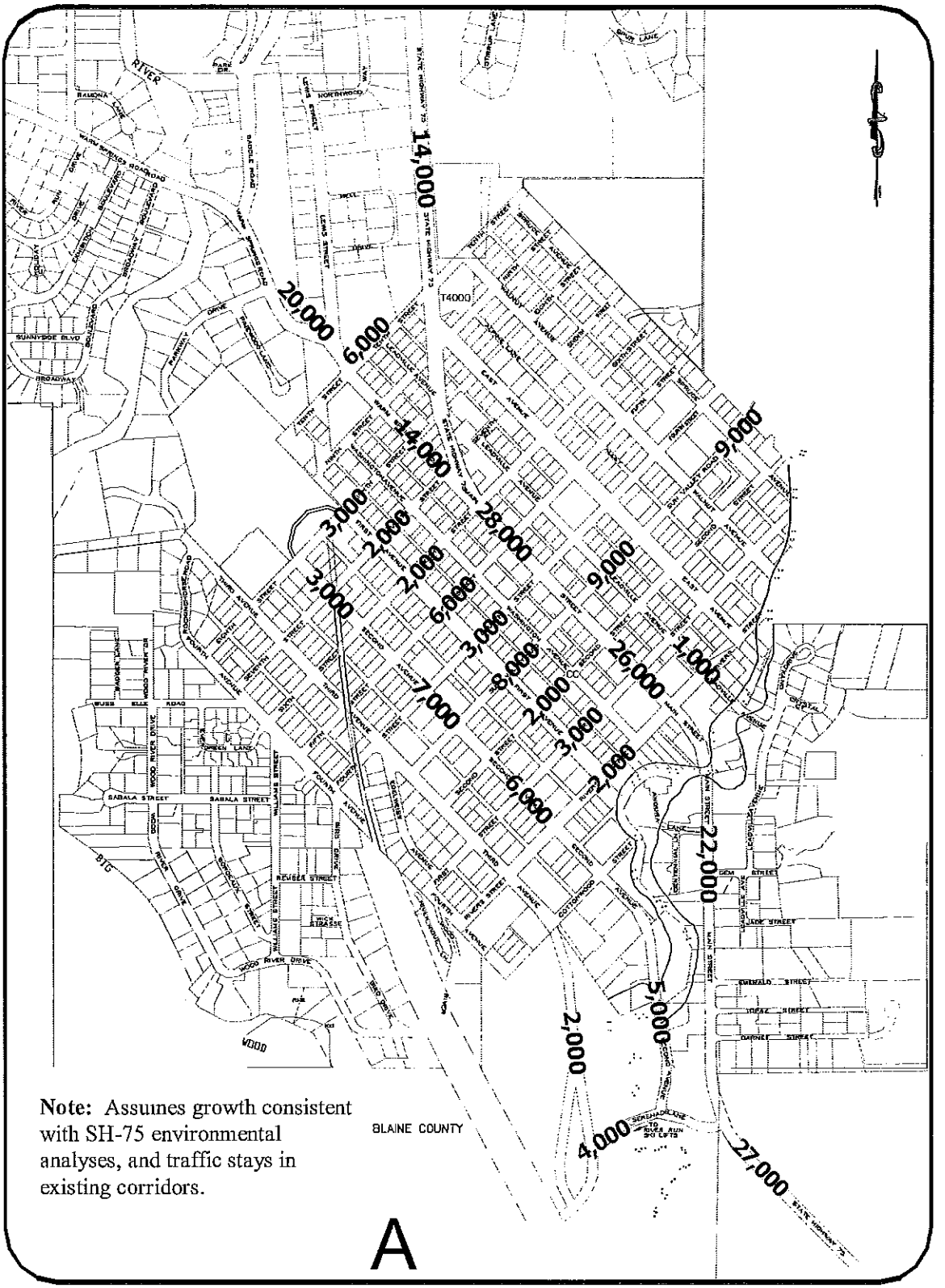


Figure 8.2 shows an alternative distribution of traffic as if Main Street could not absorb much additional traffic, so that the future needs would have to be served elsewhere. The principal issue to address is where to provide additional capacity across Trail Creek, if not on Main Street itself. Currently there are two available alternative bridges across Trail Creek, via Second Avenue to the west of Main Street and via Leadville Avenue to the east.

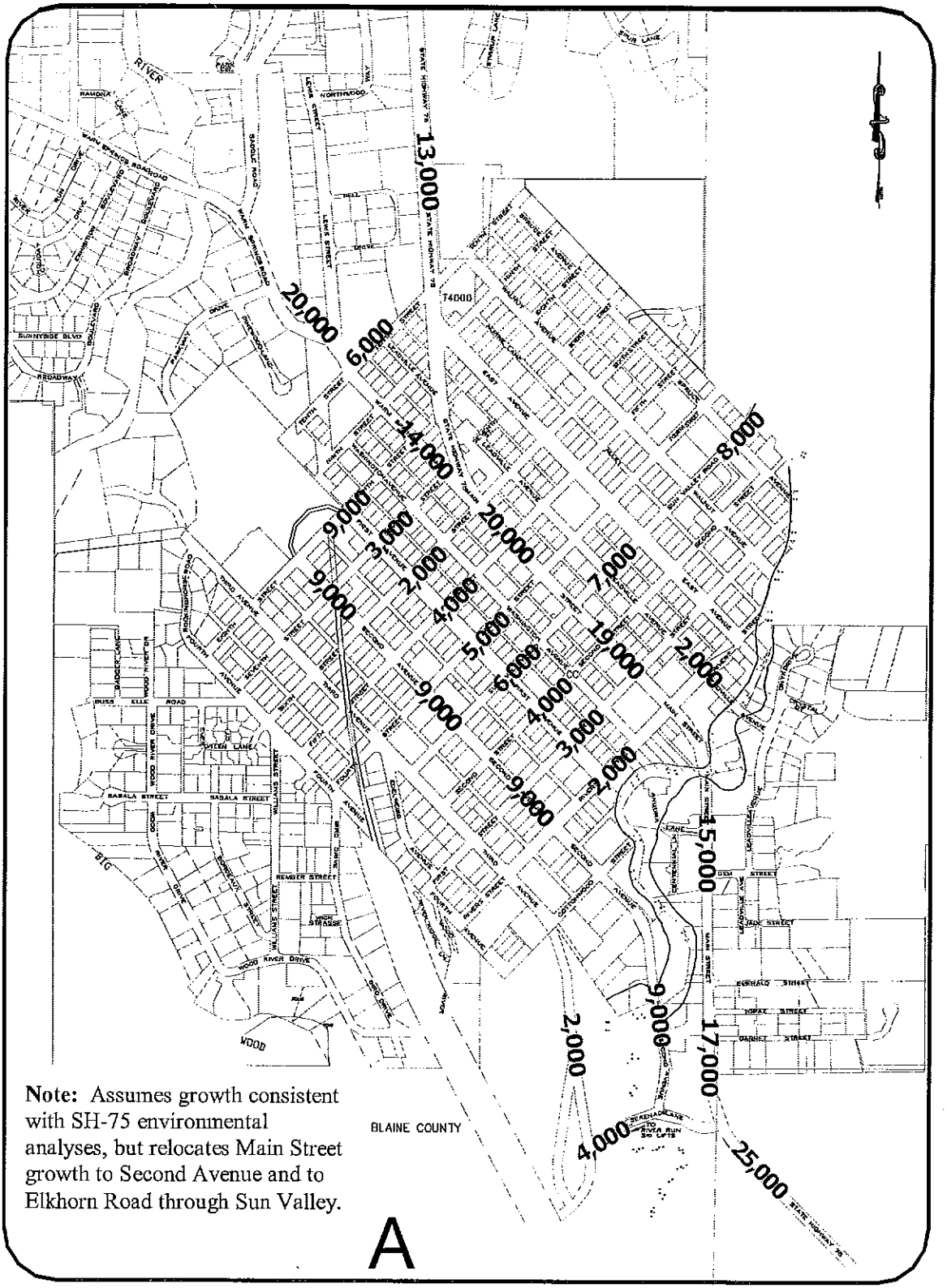
The west crossing of Trail Creek via Second Avenue leads most directly to the areas expected to generate future traffic increases - i.e., the west Ketchum area and the Warm Springs area. Therefore, this western route will naturally attract most of the future growth that Main Street cannot serve. North of Trail Creek, the traffic growth would be carried either on Second Avenue or on other parallel roads from Washington Avenue to Third Avenue, depending on later choices of alignments and connecting improvements.

The easterly crossing of Trail Creek via Leadville Avenue would only benefit a fairly small portion of travel demand - specifically travel generated in the east downtown Ketchum area.

Figure 8.2 shows a redistribution of traffic away from Main Street based on those assumptions. It is also assumed in Figure 8.2 that a portion of future travel through Ketchum to Sun Valley would divert around Ketchum via Elkhorn Road, given the assumption that Main Street itself would not serve all demand. This assumption leads to a lower demand forecast on the routes via Second Avenue and via Leadville Avenue than would otherwise be the case. The modest amount of diversion assumed can be satisfied on Elkhorn Road without capacity increases in that corridor.

The forecast in Figure 8.2 is also based on redistribution of east-west travel demand to more streets than current traffic patterns reflect. Currently, Sun Valley Road / Third Street carries about as much volume as First and Fifth Streets combined, and those three streets serve most of the east-west demand. All other east-west streets from River Street to Sixth Street do not have the benefit of signalized access at Main Street and so carry much lower volumes. In the future scenario of Figure 8.2, the increased east-west travel is born more equally on at least five east-west streets, although Sun Valley Road / Third Avenue would continue to stand above all others due to its central position in the city street grid.

Figure 8.2 – Future Travel Demand Using Alternative Corridors



Note: Assumes growth consistent with SH-75 environmental analyses, but relocates Main Street growth to Second Avenue and to Elkhorn Road through Sun Valley.

8.2 Screening Criteria For Capacity Improvements

To serve the traffic growth indicated in **Figures 8.1** and **8.2**, a wide range of potential alternative improvements were identified in the course of a year-long study of transportation options in Ketchum from mid-2002 to mid-2003. Alternatives were identified based on their ability to provide capacity or other traffic improvements, and were located in all parts of Ketchum. The "fatal flaw" review described in an earlier chapter reduced the list of possible alternatives to a short list of viable actions. A more detailed screening process was next applied to identify those alternatives with the most benefits and least disadvantages.

The second step consisted of rigorously screening the surviving short list of viable improvements against a detailed set of criteria addressing several performance areas. Screening criteria reflects policies of the City's Comprehensive Plan, perspective gained from interviews with Ketchum City Council members, Planning Commission members and City staff, and opinions of the community at large that were expressed at public presentations of interim study findings during the fall and winter of 2002-2003. With the agreement of City staff, consultants adopted the following criteria for screening of alternatives:

(A) Traffic Impacts
1. Main Street Traffic Conditions
    (a) Near Future
    (b) Distant Future
2. Other Traffic Conditions
    (a) Near Future
    (b) Distant Future

(B) All Other Impacts
3. Pedestrian Conditions
4. Parking Conditions
5. Business Conditions
6. Residential Conditions
7. Environmental Conditions

(C) Feasibility of Implementation
8. Public Opinion
9. Capital Improvement Costs
10. Operating Costs
11. City Implementation
12. Jurisdictional Coordination
13. Right-of-Way Acquisition

8.3 Public Review of Alternatives

At three points in the study process, information was shared with the public and responses were noted. The first opportunity was a presentation to the City Council in September 2002. The second opportunity was a public open house in December 2002.

Immediately following that open house event a draft proposal was circulated to the public for a transportation action plan, outlining a series of proposed strategies for actions. The overall strategy was described as focusing first on improving mobility for pedestrians, bicycles, and transit, and addressing the parking problems in downtown Ketchum, and only considering road improvements for increased car

travel to the extent still necessary after accounting for all other options. A questionnaire was included to solicit reactions to 20 specific action items that seemed appropriate based on Earth Tech's technical analysis to date. For each proposed action, a second-choice alternative was also given.

Although several hundred questionnaires were made available in public places, only 20 questionnaire responses were returned to the City of Ketchum, plus two personal letters. This low level of response limits the confidence to be placed in the results. Nevertheless, the received information represents the considered opinion of 20 persons with enough interest to respond, and their opinions should be considered as reflecting to some degree the whole community of interested citizens. A summary table of all responses is given in **Table 8.1**. Analysis and interpretation follows.

Nine of the 20 proposed actions received majority support, with at least 50% of the respondents expressing "favor" or "strongly favor", and less than 25% stating "no opinion or neither". In one case, the proposed action and the alternative action were equally supported, with few respondents in the "no opinion or neither" category.

In eight cases there was a near-even split between the choice of "no opinion or neither" and either the proposed action or the alternative action. These cases illustrate the distinct split in philosophy that divides the Ketchum community.

A choice of "no opinion" could mean something quite different from "neither". To be conservative, all such responses have been interpreted as "neither". That gives weight to the assumption that the respondent disapproves both offered choices rather than to the assumption that the respondent has not formed an opinion at all.

8.3.1 Proposals Favorably Received

Substantial majorities favored expanding parking and transit programs to divert traffic away from downtown Ketchum, and sidewalk improvements to enhance pedestrian mobility. Favored parking strategies included expanding peripheral parking for commuters to local jobs, enforcing parking time limits, and charging for parking in the downtown area. Supported transit strategies included expanded commuter bus service and expanded KART local circulation. However, a proposal for subsidized door-to-door dial-a-ride service received little support.

Support was strong for pedestrian improvements such as expanding the width of downtown sidewalks and completing the sidewalks where now missing in the downtown core area. But widening Main Street sidewalks per se had little support, perhaps because of concern for the adverse effects of removing parking or removing travel lanes to make room for wider sidewalks.

Asking employers to encourage workers to commute by means other than a car received majority support in principle, but opinion was divided over the method to accomplish that goal. The recommended "transportation benefit allowance" in lieu of free employee parking received less support than the alternative of a free transit pass.

Table 8.1 – Opinion Survey Questions and Responses

OUR PROPOSAL	Strongly Favor	Favor	No Opinion	Favor	Strongly Favor	NEXT ALTERNATIVE
Reduce Main St. congestion in the short run by diverting some traffic to other routes, and by revising traffic circulation plans for better efficiency.	50%	35%	15%	0%	0%	Remove some or all parking from Main St. in order to move more traffic through the downtown area; add lanes to Main St. across Trail Creek and southward.
Provide additional parking supply for commuters away from the downtown core area.	70%	5%	20%			Let parking shortages mount in the core area as the economy grows, with probable spillovers into adjacent areas.
Increase public funding for commuter transit from south county and for local transit within the City of Ketchum, to slow the rate of traffic increase.	55%	20%	20%	0%	5%	No additional transit programs, let traffic congestion and parking problems get worse and be solved by private choices.
Charge for parking on all street parking in core area with 2-hour time limits strictly enforced	45%	25%	10%	5%	15%	Continue existing free parking but increase penalties for overtime parking
Ask employers to charge for employee parking, AND give each employee an offsetting "transportation benefit" allowance with no restrictions on how used.	45%	20%	25%	0%	10%	Ask employers who provide free parking to employees to also provide a free transit pass or bicycle storage if employee prefers.
Purchase and develop parking areas outside core area for all-day employee parking.	30%	33%	20%	3%	15%	Adjust zoning code and other regulations to encourage private sector construction of parking lots.
Expand commuter bus service with public subsidies.	35%	25%	20%	10%	10%	Expand commuter bus to extent supported by fare revenues, after initiating parking charges.
Expand free KART local bus services for more frequent service.	30%	25%	25%	10%	10%	Continue existing level of KART service.
Subsidize door-to-door dial-a-ride service. Set fare to recover 50% of cost. Operate by KART or by taxicab companies under contract.	35%	15%	15%	15%	20%	No change to existing shared-ride services currently provided by taxicab companies

Table 8.1 – Continued

OUR PROPOSAL	Strongly Favor	Favor	No Opinion	Favor	Strongly Favor	NEXT ALTERNATIVE
Build HOV-only lane on railroad corridor, Elkhorn to Serenade, in lieu of widening SH-75 through Reinheimer Ranch.	35%	10%	40%	10%	5%	Add lanes on SH-75 south of Serenade Lane for buses and carpools, at reduced urban design standards to fit right-of-way.
Develop Second Avenue bypass concept as a two-way road.	30%	15%	40%	10%	5%	Develop one-way couplet using Main Street northbound and Second Avenue southbound.
Upgrade Eighth Street to connect Second Avenue bypass route to Warm Springs.	25%	15%	45%	15%	0%	Upgrade Seventh Street to connect Second Avenue by pass route to Warm Springs.
Close Warm Springs north of Sixth Street	15%	25%	40%	10%	10%	Keep Warm Springs open southbound only.
Install signals at Lewis/Warm Springs and at 10th/Warm Springs.	20%	20%	30%	5%	25%	Install 4-way stops at Lewis/Warm springs and at 10th/Warm Springs.
Develop an east-west street connection between Saddle Road and Lewis Street, north of Warm Springs Road.	10%	30%	20%	5%	35%	No new street in that area.
Convert 2nd, 3rd Streets (Sun Valley Road) to a one-way couplet, to reduce crossing conflicts at Main Street.	10%	25%	45%	15%	5%	Convert Washington Avenue and Leadville Avenue to through-priority streets to alleviate Main Street volumes.
Widen Main Street sidewalks at expense on one travel lane, after creation of bypass route to reduce left-turn demand on Main Street.	10%	25%	45%	10%	10%	Widen Main Street sidewalks at expense of parking on one side, with or without bypass improvements.
Expand sidewalks, reduce travel lane width on designated pedestrian friendly streets in core area (e.g., Main, 2nd, 4th Streets)	20%	5%	55%	5%	15%	No action.
Construct all missing sidewalks in core areas, over period of 5 years.	0%	20%	38%	15%	28%	Construct all missing sidewalks in core areas, over period of 20 years.
Designate 2nd / 3rd Street one-way couplet as alternative to present Sun Valley Rd bike route.	15%	5%	35%	20%	25%	Leave Sun Valley bike route on 3rd Street both ways.

8.3.2 Proposals with Mixed Support

Opinion regarding specific road improvement actions was mixed, with 40%-45% support for the proposed actions, balanced by similar proportions stating "no opinion or neither." The suggested alternative road projects received only 15%-20% support. If it is fair to combine support for the proposed action with the support for the proposed alternative, then a slight majority favored action of some kind versus no action at all. But the 40%-45% negative responses indicate a near-majority opposed to all road improvements. That is a much higher level of opposition to road proposals than was the case for transit and pedestrian proposals.

Such divided opinion applies to the following road construction proposals:

- Second Avenue bypass
- Eighth Street upgraded as part of Second Avenue bypass
- Close Warm Springs north of Sixth Street
- Add signals on Warm Springs Road at Lewis Street and at Tenth Street.
- Add lanes to SH-75 south of Serenade Lane for buses and carpools only, at reduced urban design standards to fit right-of-way
- Alleviate Main Street congestion by upgrading either Second and Third Streets as a one-way couplet (proposed action) or by upgrading Washington and Leadville Avenues as parallel through streets (proposed alternative)

8.3.3 Proposals Not Favored

In a few cases, the choice of doing nothing received majority support. One question produced a 55% majority response of "no opinion or neither." In two cases, the second choice proposal amounted to no action, so the combiuation of support for that choice combined with "no opinion or neither" formed a majority against the first-choice proposal. On that basis, the following proposals met with majority opposition:

- New east-west connection between Saddle Road and Lewis Street, north of Warm Springs Road
- Relocate Sun Valley bike route to Second / Third Street one-way couplet as alternative to present location via Third Street both ways
- Public subsidy for door-to-door dial-a-ride service
- Widen Main Street sidewalks by removal of travel lanes or parking

8.3.4 Additional Comments

Most responses included personal comments which were illuminating. Many expressed fervent support for retaining the rural small-town identify of Ketchum through pedestrian-oriented design actions, and a passion for bus and/or light rail transit solutions to commuter demands rather than road expansion. One respondent described in detail his bicycle commuting pattern and needs. Others were outspoken against widening of SH-75, but the focus of concern varied. The Trail Creek crossing, Reinheimer Ranch, and Elkhorn Blvd were all mentioned by different writers. Several advocated paid parking in downtown, and/or peripheral park and ride lots, though one decried the visual blight of parking garages. Others objected to any traffic increases near the Post Office or Hemingway School. One Ketchum retailer supported a no-parking zone in downtown, observing that it would be acceptable to all if fairly and uniformly applied. Opinions were expressed both for and against a bypass route to alleviate Main Street. Some questioned whether there was a real traffic problem or not. Some frankly regarded the questionnaire as poorly designed and biased toward growth. These also responded "no opinion or neither" to many

questions. Others commented favorably on the consultants' "good work" to date, and these respondents generally supported tangible actions.

8.4 Second Screening of Candidate Improvements

This section provides a multi-criteria evaluation and comparison of the alternatives that survived the fatal flaw test.

Analysis of level of service conditions at critical locations was conducted for various demand levels up to the amount of future demand indicated in the preceding section. A technical appendix provides detailed information on that analysis. The traffic performance ratings assigned herein are supported by the analysis in the appendix.

The following text provides explanations for the ratings in **Tables 8.2, 8.3,** and **8.4**. For each evaluation criterion, a five-point scale of values was established, which are represented in the table by symbols. A blank represents no impact or negligible change, compared to No Action. A rating of "+" indicates positive benefits, and "++" represents strong positive benefits. Disadvantages of the alternative are represented by "-" or "--", with the double negative representing strongly negative impacts.

Mathematically, these ratings are equivalent to point scores from +2 to -2. The last column in each table indicates the simple sum of point scores across all criteria for each alternative. Final assembly of priority rankings is performed in a later section using those summary scores.

8.4.1 Comparisons based on Traffic Criteria

Table 8.2 represents the comparisons based on traffic criteria. The ratings of all alternatives for traffic criteria were established as follows. A technical appendix contains the supporting technical analysis of capacity benefits.

1(a). Main Street Traffic Conditions (Near Future). The highest rating ("++") was assigned to alternatives that could provide a substantial immediate benefit to Main Street traffic operations, by virtue of simple implementation without major construction costs or other factors that could delay implementation. A single "+" rating was given to alternatives that were easy to implement but offered only modest immediate benefits. A neutral rating was assigned to alternatives with obviously long implementation times due to cost and other complications.

1(b). Main Street Traffic Conditions (Distant Future). The highest rating ("++") was assigned to alternatives that would provide a capacity benefit of at least 30% to Main Street, either in the form of new capacity added to that corridor, or the opportunity to divert that proportion of traffic away from Main Street to other routes. Capacity benefits of 10% to 29% received a single "+" score, and alternatives with near-zero benefits to Main Street received a neutral (blank) score. The fatal flaw screening removed alternatives with negative traffic benefits. A technical appendix documents the capacity analysis of all alternatives that provides these estimated benefits.

2(a). Other Traffic Conditions (Near Future). The ratings for this criterion were similar to those for Main Street, but with reference to all other locations in Ketchum except Main Street.

2(b). Other Traffic Conditions (Distant Future). The ratings for this criterion were similar to those for Main Street, but with reference to all other locations in Ketchum except Main Street.

Table 8.6 is based on double weight for traffic performance criteria. Top priority is again associated with operational improvements to Main Street for added signals and/or restriction of left turns. In this case, however, high priority is also awarded to the Five-Lane Main Street alternative and both alternatives that use Second Avenue to relieve Main Street. The No Action alternative remains last.

Table 8.6 - Priority Ranking Based on Double Weight for Traffic

Alternative	Traffic Benefits	Non-Traffic Impacts	Implementation Feasibility	Sum of Scores	Relative Rank (1=Best)
No-Action	**0**	0	0	0	9
No Left Turns on Main Street	**+8**	+1	+2	+11	2
Left-Turn Pockets on Main Street	**+12**	0	- 1	+11	2
Five-Lane Main Street	**+12**	-1	- 1	+10	4
Five Signals on Main Street	**+8**	+5	- 1	+12	1
Second Avenue Arterial Upgrade	**+8**	+1	+1	+10	4
Warm Springs Road Upgrade	**+4**	+2	- 1	+5	7
Lewis-Saddle Connection	**+4**	+2	- 1	+5	7
North-South Couplet, Second Ave - Main Street	**+8**	+3	- 3	+8	6

Table 8.7 is based on double weight for non-traffic performance criteria. The results are nearly identical to the rank order based on equal weights. Top priority is again associated with operational improvements to Main Street for added signals and/or restriction of left turns. The No Action alternative remains last.

Table 8.7 - Priority Ranking Based on Double Weight for Non-Traffic Impacts

Alternative	Traffic Benefits	Non-Traffic Impacts	Implementation Feasibility	Sum of Scores	Relative Rank (1=Best)
No-Action	0	**0**	0	0	9
No Left Turns on Main Street	+4	**+2**	+2	+8	2
Left-Turn Pockets on Main Street	+6	**0**	-1	+5	5
Five-Lane Main Street	+6	**-2**	- 1	+3	8
Five Signals on Main Street	+4	**+10**	- 1	+13	1
Second Avenue Arterial Upgrade	+4	**+2**	+1	+7	3
Warm Springs Road Upgrade	+2	**+4**	- 1	+5	5
Lewis-Saddle Connection	+2	**+4**	- 10	+5	7
North-South Couplet, Second Ave - Main Street	+4	**+6**	- 3	+7	3

Table 8.8 is based on double weight for implementation feasibility. Top priority is again associated with operational improvements to Main Street. The Second Avenue Arterial Upgrade project also scores highly, but the North-South Couplet using Second Avenue scores next to last ahead of No Action.

Table 8.8 - Priority Ranking Based on Double Weight for Implementation Feasibility

Alternative	Traffic Benefits	Non-Traffic Impacts	Implementation Feasibility	Sum of Scores	Relative Rank (1=Best)
No-Action	0	0	**0**	0	9
No Left Turns on Main Street	+4	+1	**+4**	+9	1
Left-Turn Pockets on Main Street	+ 6	0	**- 2**	+4	4
Five-Lane Main Street	+6	-1	**- 2**	+3	5
Five Signals on Main Street	+4	+5	**- 2**	+7	2
Second Avenue Arterial Upgrade	+4	+1	**+2**	+7	2
Warm Springs Road Upgrade	+2	+2	**- 2**	+2	6
Lewis-Saddle Connection	+2	+2	**- 2**	+2	6
North-South Couplet, Second Ave - Main Street	+4	+3	**- 6**	+1	8

Table 8.9 combines the results of the preceding four tables, and sorts the alternatives according to the order of the equal-weighting column. The top three projects rated in the top third of all four weighting schemes, and are designated here as the HIGH priority group. Based on this ranking, the highest priority should be placed on operational improvements to Main Street by adding signals at Second and Fourth Streets, with or without the restriction of left turns on Main Street, and supplemented by the upgrading of Second Avenue to arterial status. These three projects are complementary and can be combined in any order.

The MEDIUM priority group consists of three further capacity expansion projects for relief of Main Street. These projects are more complex than the HIGH priority group, with a mixture of positive and negative qualities. They also differ sharply with respect to parking and pedestrian issues on Main Street, and are competitive with each other rather than complementary. Two of these would serve traffic growth entirely in the Main Street corridor and require that some or all parking be removed from Main Street. The couplet alternative shifts traffic growth away from Main Street, preserves parking, and permits a more pedestrian-friendly narrower cross-section of Main Street. The choice between these design concepts should be postponed until future traffic growth exceeds the capacity of the HIGH priority alternatives, and a consensus emerges as to which design approach is most effective for Ketchum.

The next priority group of two projects are unrelated to Main Street issues, and instead address future traffic growth on Warm Springs Road. They are independent of the Main Street alternatives, so the Priority Group was not defined.

Table 8.9 - Final Priority Groups

Alternative	Equal Weight	Traffic Benefits x 2	Non-Traffic Impacts x 2	Implementation Feasibility x 2	Average Rank Order	Relative Priority Group
Five Signals on Main Street	1	1	1	2	1.3	HIGH
No Left Turns on Main Street	2	2	2	1	1.7	HIGH
Second Avenue Arterial Upgrade	3	4	3	2	3.0	HIGH
Left-Turn Pockets on Main Street	4	2	5	4	3.7	MED
Five-Lane Main Street	5	4	8	5	5.5	MED
North-South Couplet, Second Ave - Main Street	5	6	3	8	5.5	MED
Warm Springs Road Upgrade	7	7	5	6	5.7	**
Lewis-Saddle Connection	7	7	7	6	6.7	**
No-Action	9	9	9	9	9	LOW

The LOW priority group consists only of the No-Action Alternative, which scored distinctly lower than all other choices in all weighting schemes. This outcome indicates that the City of Ketchum should undertake some action - any action - rather than do nothing and allow traffic conditions to continue to deteriorate. Only the alternatives eliminated by the fatal flaw screening appear less desirable than doing nothing.

8.6 Summary of Recommended Strategy

Based on the preceding screening analysis, the road-based strategy consists of the following six recommended projects that survived the screening analysis. These improvements have high or medium rank order, and are mutually compatible and logically related. Trigger points to determine when to implement each action are described with each project.

Trigger points for implementation.
The road-based strategy is based entirely on the presumption that traffic will increase despite strong desires to the contrary by much of the community. If traffic volumes and congestion eventually exceed certain levels in spite of all efforts to avoid that future, then each action in this program will be justified, generally in the order described below. The earliest actions described below appear to be warranted by existing deficiencies, so the trigger point methodology is designed to justify actions to correct the existing deficiencies, and then set a standard for preventing a return to similar poor conditions in the future.

Traffic conditions can be objectively measured both in terms of congestion (level of service) and in terms of blocking queues, which affect both congestion and safety. Each of these criteria can be used as trigger points for future actions, based on the following reasoning that appears to fit the community's needs and priorities. It should be understood that the triggers do not preclude improvements to achieve better

conditions than the minimum standards, at any time. The purpose of the triggers is to clarify when conditions are so adverse that remedial action can no longer be postponed.

Congestion Trigger. Congestion beyond a reasonable level represents excessive lost time and higher economic costs to travelers, and should be mitigated. But the limit of "reasonable" congestion varies according to community values. In order to give the greatest deference to public desires not to expand road capacity in Ketchum, a very high tolerance for congestion is proposed, and measured by the traffic engineering concept of Level of Service (LOS). Whereas a rural environment is normally represented by a LOS of "B" or better, Ketchum should adopt a lower standard reflecting the compromises of urban conditions. Existing conditions at several intersections in Ketchum are now at LOS "F", and a general consensus exists that improvements are needed. The proposed signalization projects on Main Street will lift the level of service from "F" to "E" or better. The most lenient standard that can be applied using level of service methods would be to enforce a standard of "E", expressed as follows in the form of a policy statement:

> **Congestion Trigger. Road improvements shall be undertaken to restore level of service "E" or better whenever traffic conditions fall below "E" into "F," as defined by the Highway Capacity Manual, latest edition, and such events occur repeatedly. Signalization of unsignalized intersections, as a remedy for congestion, shall be considered only if standard warrants for traffic signals be met.**

The exception for low-volume unsignalized intersections is included to avoid demands for unwarranted signals. There are occasions when delay to unsignalized side streets is high, but the volume affected is too low to justify the expense of a traffic signal. Such situations should be resolved by other means, or simply tolerated as unavoidable.

Blocking Queue Trigger. When queues back up to block preceding intersections, less traffic is able to use the intersection than the actual demand that exists. Part of the actual demand is denied access to the intersection on account of the blockage. The level of service calculation for that intersection will be artificially elevated because a count of traffic understates the true demand. Whenever blocking queues are present, the situation is as undesirable as an LOS "F" rating and should be remedied.

The blocking queue trigger provides a more visible connection to public concerns for safety and economic impacts. Whereas level of service is calculated using complex computer programs, queue blockages can be measured in the field by laymen and recorded on videotape without any use of computers. What is required in addition to field observation is an objective standard to evaluate the information gathered. An occasional blockage can be tolerated, but regular and frequent occurrences should be avoided, so the standard must consider the frequency of failures.

Engineers commonly design turn storage lanes to serve the "95-percentile queue length". In other words, the design length should be sufficient to hold all arriving traffic, 95 percent of the time. Stated in reverse, exceptions can be tolerated up to 5 percent of the time. This rule can be used to define a 5% blocking tolerance limit of 3.0 minutes out of a 60-minute peak hour, as follows.

> **Blocking Queue Trigger. Road improvements shall be undertaken to reduce blocking queues whenever such blockages occur for periods of time that, when added together, exceed 3 minutes during any one-hour period, and such events occur repeatedly. A blocking queue exists when vehicles in a through travel lane back up into or across a preceding intersection, or when vehicles in a turn storage lane back up into the adjacent travel lane.**

Any location that is blocked and unusable for as much as 3 minutes per peak hour, on a regular basis, will be deemed highly unsatisfactory by most Ketchum residents. In most cities, action would be taken much sooner to remedy such situations.

For both of these triggers, the meaning of "repeatedly occurring" is left to the discretion of City decision-makers. At a minimum, the event must be documented on one occasion. That is sufficient if there is confidence that the observation is representative of conditions that occur on other days. Additional data may be collected on multiple days to verify the assumption, if desired. Exceptions may be granted to disregard unusual events such as stormy weather conditions, holiday events, etc. Many cities decline to rely on traffic data for Friday afternoons and during Christmas shopping seasons.

Other Triggers. Additional trigger points unique to two of the projects are also described, to account for the relationship of these projects to other major development situations in Ketchum.

8.6.1 Add Two Signals to Main Street, at Second Street and at Fourth Street

This action will provide about 20% additional capacity to the Main Street corridor, greatly reducing congestion in the short term. Adding signals at Second Street and Fourth Street will enhance pedestrian safety at those important crossing points, and supports the Comp Plan goal of creating a pedestrian-friendly corridor along Fourth Street. The addition of signals to protect pedestrians crossing at those two intersections makes possible effective coordination of all signals in the Main Street corridor. It also permits the reduction of the number of signal phases at Main / Sun Valley Road to support that coordination. Turning movements within the downtown area will redistribute to take advantage of the opportunities provided by the two new signals, giving relief to the most congested intersection at Main / Sun Valley Road. This moderate-cost capital improvement will require the support of Idaho Transportation Department.

Congestion Trigger. The existing LOS is "F" at one signalized intersection on Main Street, thus warranting corrective action immediately. Technical analysis in an appendix demonstrates that adding two signals is the best single step to provide that correction.

Blocking Queue Trigger. The current high level of congestion on Main Street is partly due to the signal timing plan that is designed to adequately serve crossing traffic on Third Street (Sun Valley Road*). This timing plan is designed to avoid long queues on those approaches to Main Street.* If the signal plan were modified to increase the time available for the Main Street through movements, then storage queues would increase on the side streets (Sun Valley Road especially). The Blocking Queue Trigger might then be activated instead of the Congestion Trigger. It is possible that queue blockages are also occurring now on approaches to Main Street at various intersections, and even on Main Street itself, but that data has not been systematically collected. Either way, this signal project is justified now to provide lasting relief.

8.6.2 Eliminate Left Turns on Main Street

This is a separate action from the preceding project. It may be added to that project for additional capacity benefits later on. There are possibly unknown consequences to local businesses and residents of multi-use areas on nearby streets that should be further investigated by a public review process, before this project can be positively recommended without reservations. This action will have about a 10% capacity benefit, either as a standalone action or in addition to the effects of the previously added signals. It may not be necessary to make this traffic revision in the near future if other actions are successful in alleviating congestion.

This action could also be implemented first, rather than second, if the alternative to add signals along Main Street is not implemented in the near future. This simple operational change would provide some immediate relief to congestion on Main Street at little cost, if the secondary effects on adjacent streets are acceptable. Support of the Idaho Transportation Department is required.

Congestion Trigger. The preceding action is favored first. This second action should be held in reserve until after the additional signals are installed on Main Street, and traffic is allowed to adjust to the revised east-west circulation opportunities those signals would provide. After those conditions are met, this additional action should be considered if future traffic conditions along Main Street fall again below the Congestion Trigger. If the preceding action to install two signals on Main Street cannot be implemented for whatever reason, then this project should be undertaken immediately as the alternative.

Blocking Queue Trigger. By the same reasoning as for the congestion trigger, this project should be implemented if the signal installation is not undertaken, or could be considered later as an additional improvement if blocking conditions were to return.

8.6.3 Operational Upgrade of Second Avenue

This alternative has several components, each involving minor revisions to the existing use of Second Avenue. The emphasis would not be on capacity improvements per se, but rather on "traffic calming" improvements to better accommodate the adjacent land uses and human environment to the existing traffic and some growth that may be unavoidable. Traffic speeds and operating conditions would not be appreciably different from existing conditions, so this alternative is quite different from the highway-style high-speed bypass routes that were eliminated in the fatal flaw analysis.

A large part of this project's scope would be to design and implement continuous sidewalks, landscaping, parking, and possibly bicycle lanes as well, along Second Avenue. This provides more defined separation between vehicles and people on adjacent properties, and would tend to reduce traffic speeds by increasing the "visual friction" perceived by drivers.

The initial traffic change would only be to revise the stop control priority at two intersections so that east-west traffic generally stops for Second Avenue, instead of vice-versa or an all-way-stop. Only the four-way stop at Fourth Street by the Post Office is appropriate to retain, because of high pedestrian crossings there. No other action is immediately required, and some relief of Main Street congestion can be expected to follow. The next step would be to rename the Serenade Lane connection to SH-75 as Second Avenue so that Second Avenue begins at SH-75 and proceeds west, then north. Also re-shape the existing intersection of Second and Serenade to clarify that through priority belongs to Second Avenue. Traffic from the west leg of Serenade Lane would then stop before entering the renamed Second Avenue en route to SH-75. This can be required as a condition of the annexation of River Run into Ketchum. The design of improvements related to River Run could be used to create a visual gateway entrance to Ketchum, as a separate project from the enhancement of the Second Avenue corridor.

Approval of the Idaho Transportation Department is needed for changes affecting SH-75. At the intersection with SH-75, add an acceleration/merge lane on SH-75 southbound, combined with a separate right-turn lane on the Second Avenue approach. This will eliminate existing delays for southbound turning movements from Second Avenue. Signalization of this intersection may also be considered, but will only be justified if the delay to left turns exceeds ITD standards and causes backups in the left-turn storage lanes to disturb through traffic lanes.

At the north end of Second Avenue, no action is required. Some traffic revisions may be considered in the future if traffic conditions continue to worsen between Main Street and Warm Springs Road in spite of all

other efforts to the contrary. That situation will not arise soon, if all other HIGH priority actions are implemented.

Possible north-end actions include revising the through priority on portions of Sixth Street, Seventh Street, or Eighth Street to better connect Second Avenue to Warm Springs Road. If that becomes necessary, the chosen street sections should be reconstructed to city standards including sidewalks for pedestrian safety. The option remains available as well to close Warm Springs Road either one way or both ways, between Sixth Street and Seventh Street, if that were desired to enhance pedestrian mobility in the north end of the downtown and to relieve Main Street traffic congestion.

There are several parts to this corridor-long strategy. Each may be implemented in a series of small steps, or several steps may be made at once if the City prefers. Viewing this alternative as a series of steps provides the City with the most flexibility, taking each step if and when the results of preceding steps have been digested and the need for further action is confirmed by continued violation of the trigger points in the Main Street corridor.

Congestion Trigger. Congestion on Main Street is the triggering issue for most of the proposed improvements on Second Avenue. As for the case of the prohibition of left turns on Main Street, this group of actions need not be considered until after the results of the signal installations are known. If preceding actions do not produce sufficient improvements along Main Street, then additional steps should be taken to increase the usefulness of Second Avenue. If the preceding actions cannot be implemented, then the priority for Second Avenue improvements would rise to the top.

Congestion at Serenade/SH-75 provides another triggering issue. The existing level of service is "F" in afternoon peak hours due to the inability of right-turning vehicles to enter the highway due to continuous flow on SH-75 southbound. This intersection is not signalized. A signal is not warranted if a channelization improvement to allow "free right turns" would solve the problem. This is a design issue to be resolved in cooperation with Idaho Transportation Department.

Blocking Queue Trigger. If and when blocking queues on Serenade Lane back up to the preceding intersection at Second Avenue, then Ketchum should pursue corrective actions as discussed above, in cooperation with Idaho Transportation Department.

Urban Design Trigger. In combination with the future annexation of the River Run area and addition of hotels and other facilities in that area, revise the intersections on Serenade Lane at Second Avenue and at Main Street, to create a visual gateway entrance to the city. This trigger would work together with the Congestion Trigger for Serenade / SH-75, above.

8.6.4 Choose Between North-South One-Way Couplet and Wider Main Street

The final step in addressing future Main Street issues would be to choose from among three design alternatives that are available to address longer-range traffic growth. Each represents a different urban design concept with different impacts on the community. If future traffic growth is less than forecast, especially if transit and parking programs succeed in reducing travel demand below projected levels, then this action may never be necessary. But if future traffic growth overwhelms the benefits obtained from transit and parking strategies as well as the preceding Main Street improvement options, then one of these actions must be chosen.

The addition of alternating left-turn pockets to Main Street may be viewed as a half-step toward the five-lane alternative, with different community impacts. It preserves half the existing parking on Main Street by not including right-turn pockets. The distance pedestrians would cross is one lane wider than existing.

This alternative provides roughly a 50% capacity increase for the Main Street corridor, compared to existing conditions. If the Trail Creek bridge on Main Street is not replaced with a four-lane bridge, and so continues to act as a traffic meter for the downtown area, this alternative would have enough capacity to assure that downtown Ketchum traffic operations would remain uncongested for the foreseeable future.

The five-lane alternative adds about 70% capacity to Main Street and keeps the majority of traffic on Main Street, at the expense of eliminating on-street parking along Main Street. It provides a continuous two-way left turn lane through the downtown area, and right-turn pockets as well at most intersections. Pedestrian crossings are greater by two lanes than the existing crossing width because parking is eliminated on both sides. This alternative would be strongly justified if the SH-75 corridor is expanded to four lanes south of Ketchum including a four-lane bridge across Trail Creek.

The north-south one-way couplet reduces the width of Main Street to at most three lanes northbound, with a matching configuration on Second Avenue southbound. This has considerable benefits to the pedestrian environment on Main Street as well as preserving on-street parking. It diverts almost half the traffic growth to Second Avenue, which creates a mixture of good and bad effects for the city as a whole.

If future traffic growth reaches a level where a choice must be made between these three concepts, the question to the community boils down to a choice between preserving pedestrian mobility and some parking supply on Main Street, versus raising traffic volumes on Second Avenue.

The future configuration of SH-75 entering Ketchum from the south has some bearing on the decision, and vice versa. If the Trail Creek Bridge on Main Street is replaced by a four-lane bridge, all three alternatives may be reasonably matched to that design for SH-75. But if that bridge remains a two-lane bridge, regardless of how SH-75 may be expanded from Serenade Lane southward, then most future traffic growth will naturally shift toward other existing bridges across Trail Creek on Leadville Avenue and on Second Avenue. Only the north-south couplet makes balanced use of all bridges in that situation. The other two improvement concepts for Main Street would be oversized and underutilized in downtown, negating their benefits.

These major decisions can safely be postponed until future traffic conditions provide greater clarity, but the need to eventually implement one of these plans will not go away as long as high traffic growth remains a possibility.

Congestion Trigger. This major decision would not be considered until after preceding steps are taken, their effects accounted for, and also after future traffic growth impacts are encountered in spite of desires to avoid such a future. But if Main Street congestion returns again to an unacceptable level, after all other efforts have been expended, then the choice must be made between Main Street widening and the North-South Couplet. In terms of volumes alone, the existing Main Street configuration can be construed as effectively full use of current capacity. But the recommended revisions with coordinated control of five signals could raise the corridor capacity through downtown as much as 20%. Therefore, future traffic increases could rise that much above existing counts before the congestion trigger is clearly activated. To the extent that transit and travel demand management programs are successful in diverting peak hour travel demand to other modes and other times of day, the overall growth of the Ketchum economy could be somewhat greater than 20% before the congestion trigger is actually reached.

Blocking Queue Trigger. This action could also be triggered by the return of excessive queues on the side streets approaching Main Street, with future growth.

Trail Creek Bridge Trigger. If a decision is made NOT to expand the SH-75 bridge across Trail Creek from two lanes to four or more lanes, then only the North-South Couplet could provide the needed

capacity. If that bridge is widened to more lanes, then the choice remains open to consider either Main Street widening or the North-South Couplet.

Urban Design Trigger. If the community can come to a viable, sustainable majority decision regarding the value of pedestrian-oriented street design, versus the value of serving peak hour traffic flows on Main Street, that would greatly clarify the direction of this decision. If the community decides that it will in any case widen Main Street sidewalks at the expense of through lanes and/or parking lanes, then the North-South Couplet would be the obvious choice for future capacity increases when the need arises. For this choice, no additional lanes are needed across Trail Creek on SH-75. Growth is absorbed by other roads instead. This would allow a three-lane design on SH-75 between Serenade Land and Trail Creek, with one lane in each direction plus a left-turn median lane, for current volumes and near-future conditions. Eventually, if traffic growth requires the change to one-way couplet in downtown, this section of SH-75 could be re-striped as a two-lane road northbound plus one lane southbound. If, however, highest priority is placed on serving future traffic growth on Main Street rather than other streets, regardless of the impact to parking and pedestrian concerns on Main Street, then the decision must be to widen Main Street to better accommodate four through traffic lanes plus turn lanes.

That in turn leads to a need for four lanes across Trail Creek on a new bridge, and a four-lane design for all of SH-75 north of Elkhorn Road. In the section between Serenade Lane and Trail Creek the needs of access to adjacent properties and to/from the Gem Streets neighborhood would benefit from adding a median left-turn lane. Existing right-of-way would not allow this configuration in combination with sidewalks, but the City has established a practice of requiring new developments to provide easements for public sidewalks on private property, so a five-lane roadway can be developed, or a lesser roadway plus bicycle lanes and landscaping in the same space.

Relationship to SH-75 NEPA Analysis. North of Elkhorn Road, the surviving alternatives in the SH-75 Timmerman to Ketchum Environmental Analysis are two-lane, three-lane, and four-lane roadways for general traffic. There is not enough right-of-way for five lanes through Reinheimer Ranch. The two-lane and three-lane designs would be unable to deliver the higher traffic volumes to downtown Ketchum that are the reason to consider Main Street alternatives. Therefore, the four-lane design from Elkhorn Lane is the only configuration capable of serving higher traffic volumes, or providing a less-congested experience to existing travelers. What is unclear, however, is whether the four-lane configuration north of Elkhorn Road should continue beyond Serenade Lane, or cross Trail Creek. The most critical aspect of city/state coordination occurs at Trail Creek. The state is unlikely to make final decisions without direct input from the City of Ketchum. Therefore, the City's choices for Main Street through downtown will have more influence on the SH-75 design at Trail Creek bridge than any SH-75 corridor choices further south have on the City's design for downtown Ketchum.

If the City settles on the one-way couplet to serve future traffic growth, the logical design for SH-75 north of Serenade Lane would be an unbalanced three-lane road from Serenade Lane to Trail Creek (two lanes northbound, one lane southbound). Only the two northbound lanes would cross the bridge into downtown Ketchum, so no bridge widening is required for traffic reasons. Pedestrian/bicycle improvements can be added on a separate structure alongside the existing bridge Alternatively, a new bridge could be built to replace the existing antiquated bridge, and providing the same two lanes for vehicles plus pedestrian and bicycle facilities. Through the downtown area, the couplet could be two lanes or three lanes, depending on other traffic operations choices. South of Serenade Lane, the four-lane design would complement perfectly the two northbound lanes via Main Street and the two southbound lanes via Second Avenue. The single southbound lane on SH-75 from Trail Creek to Serenade Lane would join the southbound couplet lanes at Serenade Lane. A small left-turn pocket would be needed at Serenade Lane to provide access to the River Run area and local businesses on Second Avenue south of Trail Creek. Signalization at Serenade Lane would be needed to protect left turns.

If the City settles on the Main Street Widening concept for dealing with larger future volumes, then the clear choice for SH-75 would be four lanes across Trail Creek, and continuing from there southward to Elkhorn Road. A fifth lane for left turns would be desirable in the Gem Streets area between Serenade Lane and Trail Creek. This is possible within the existing right-of-way, since the City has initiated a practice of requiring new developments in that area to provide sidewalks on private property behind the property line. At Serenade Lane, left turns to the River Run area and to Second Avenue would require the protection of signalization. The existing lengthy northbound left turn pocket would be shortened to terminate north of the Reinheimer Ranch. This would be consistent with the policy to serve most traffic on Main Street, and avoid higher use of Second Avenue. Through Reinheimer Ranch the configuration would be four lanes.

With either decision for downtown Ketchum, the long-range need is for four lanes, between Serenade Lane and Elkhorn Road, to either serve unwanted but possibly inevitable traffic growth, or to provide a less congested driving experience for all existing traffic on SH-75. At Weyakin Drive, the existing southbound left turn lane may or may not be retained, depending on right-of-way considerations. At Elkhorn Road, the existing five-lane configuration would be retained. South of Elkhorn Road, the surviving options range from two lanes to five lanes, with the option to dedicate the added outside lanes to high occupancy vehicles only, at least in peak hours. Those configurations are entirely compatible with a four-lane concept north of Elkhorn Road, and either of the City's choices from Serenade Lane to Trail Creek.

In the Mortgage Row area just north of Elkhorn Road, the City has expressed interest in reducing access from SH-75 by developing alternative access to those properties from the west side. That idea should be pursued to completion, so that left-turns can be limited or prohibited in this area to/from SH-75. That will prevent accidents and may be necessary in the future in any event for compatibility with a four-lane design on SH-75.

8.6.5 Upgrade Warm Springs Road

This medium priority action would provide some immediate relief of congestion now existing at intersections along Warm Springs Road, but trigger points have not yet been crossed. Therefore, it can be deferred to a later date in order to give higher priority to Main Street improvements in the short term. The intersections at Lewis Avenue and at Tenth Street each warrant traffic signals to improve access to Warm Springs Road from those streets. Four-way stop controls may also be considered as an interim step until signalization can be completed. Because those intersections are close together, a coordinated design of both intersections as a single project is appropriate, but a staged implementation may still be possible.

Congestion Trigger. Improvements to Warm Springs Road should be undertaken when the congestion trigger is encountered at either or both of the intersections at Tenth Street and at Lewis Avenue. Presently, the Tenth Street intersection is at LOS "E" and may soon fall into "F," whereas there is more reserve capacity at the Lewis Avenue intersection.

Blocking Queue Trigger. This trigger point would be encountered if queues were to regularly back up from Warm Springs Road on West Tenth Street to the Leadville intersection. Similarly, at Lewis Street the backups should not regularly block the intersection at Belt Drive.

8.6.6 Connect Lewis Avenue To Saddle Road

This relatively simple action can relieve the Lewis / Warm Springs intersection by providing an alternative path for some of the traffic now forced to use that intersection. It is a medium priority action that needs to be recognized now in city plans, but actual implementation can be coordinated with the

eventual development of the City-owned "park and ride" property. The "park and ride" property is quite large and will require good access and internal circulation, whatever kind of land use is eventually situated there. Incorporating this road connection into that site plan can provide positive benefits to the site's future users as well as to the rest of the city.

Accounting for this connection in the Comprehensive Plan is the key step to assure that favorable outcome. The exact location of the connection can be determined later. There are several places along Lewis Avenue north of Warm Springs Road where a connection might be accomplished westward through the vacant "park and ride" property, with minimal impact on existing Lewis Avenue properties.

Opportunity Trigger. This project should be implemented immediately if an opportunity arises to develop the "Park-Ride Lot".

Congestion Trigger. The emergence of LOS "F" conditions at the Warm Springs / Lewis intersection would be a trigger to consider this project. Timing could precede the improvement project on Warm Springs Road, if this action appears simpler and more expedient to implement. If the intersection of Warm Springs / Lewis is improved first, then this new road connection provides a second level of improvement if congestion returns in the future.

Blocking Queue Trigger. If queue problems develop on Lewis Street Road north of Warm Springs Road, then this project should be considered, either before or after the Warm Springs Road intersection improvements, as for the Congestion Trigger.

CHAPTER 9 – TRANSPORTATION IMPROVEMENT PROGRAM

This chapter combines the recommended actions of the transit-based program in Chapter 8 with the road-based strategy in Chapter 9, in a time-sequenced manner that allows for future decisions to fine-tune the choices and eliminate possible duplicate efforts. The purpose of this chapter is to identify a short list of immediate actions, and combine all possible future actions in a single table for others to prioritize and manage in future years.

Table 9.1 itemizes all projects and programs for all modes that could be required in Ketchum, over a 20-year period. The list is sorted in order of approximate time of need, with annually recurring programs listed first. Cost estimates for defined road improvements are based on a preliminary engineering assessment using the unit cost method. Other program costs and costs for road improvements with undefined scopes (to be determined later) have very loose cost estimates that should be further refined when more details are known.

9.1 Pedestrian and Bicycle Programs

Pedestrian – Bicycle improvements were not all assigned cost values, because they are still poorly defined and/or may be incorporated into future developments in the affected areas. The Fourth Avenue project is a high-priority interest for downtown enhancement, at $440,000. Installing missing sidewalks on downtown streets was assigned an annual allowance $50,000, repeating for about five years repeating for about ten years or until the program is completed. This program may be combined with other possible downtown improvements such as lighting and repaving, for greater efficiency.

9.2 Transit Programs

Transit-related projects and programs are a combination of one-time improvements and annually recurring expenses that grow over time as additional buses are added to the fleets of Peak Bus and KART. Transit program operating costs are expressed as per year or per additional bus, and must be added together as bus acquisitions accumulate in future years. Transit programs would expand in future years as demand justifies, and not increase further if demand fails to grow. The maximum expansion potential for the Peak Bus program was estimated in an earlier chapter at 20 buses by 2025, or one additional bus per year. This is an idealistic maximum intended to satisfy the zero-net-traffic-growth goal of Resolutions #772, but there is no assurance that the demand will actually materialize for that level of service. The SH-75 Timmerman to Ketchum Environmental Analysis study has estimated more conservatively that the 2025 demand would support only 4 buses in the peak hour, and all other demand would be served by highway vehicles (including more carpools). The KART program expansion likewise assumes generously that a large increase in internal circulation transit within Ketchum will be desired and justified based on a change in lifestyle values of some or many Ketchum residents. The downtown shuttle concept would be one part of this broad expansion. The assumptions in Table 9.1 would provide for 10 additional buses over 20 years. KART buses operate about twice as many hours per day as the Peak Bus program, so the annual operating cost per bus is roughly twice as much also. Peak Bus charges a fare which provides some revenue to partially reimburse costs. KART service is free.

The program for "Employer Support of Transit" would be a part-time position for a manager of city programs to encourage and support employers to more actively support transit as the commuting mode for their employees, and to develop related city policies. This part-time position could be within the City staff, or be an extension and broadening of the scope of the existing Wood River Ridesharing Program.

The one-time project for the bus transit corridor from Hailey to Ketchum is simply a nominal allowance for spot improvements at several intersections and short street segments, to enhance transit operations in the near term before any more complete and lengthy SH-75 corridor improvements can be funded through federal programs. Blaine County and Idaho Transportation Department would be logical co-sponsors of such near-term activities.

Total program costs over 20 years for the aggressive bus program outlined in Table 9.1 could rise to $63 million, less fare revenues of possibly $13 million, for a net cost of about $50 million. This estimate does not provide for future inflation, nor account for possible future subsidies from state and federal sources. Actual transit program costs could be much less, however, if transit ridership does not materialize to match the assumptions. This aggressive program was sized to provide sufficient transit capacity in peak hours to reach the goals of Resolution #772. It is at least five times larger in scope than was considered realistic in the SH-75 Timmerman to Ketchum Environmental Analysis. If the transit-based strategy of Chapter 8 is not vigorously implemented, then most of this program cost would be cancelled.

9.3 Parking Management Program

A very uncertain estimate is provided at $50,000 per year for the initial management of a downtown parking program, rising to twice that over time as the program expands to more of the city. No capital costs for new parking lots have been accounted for, nor other increased operating costs, if any. This estimate is subject to revision as the city develops an actual program based on results of a separate study of that subject.

9.4 Road Projects and Programs

Road improvement projects are one-time expenses. The listed road improvements within Ketchum total approximately $4 million, and would be spread over several years' time. Some of these costs might be covered by joint agreements with Blaine County and Idaho Transportation Department, and by directly contributing developers. The road projects group includes a line item for annual street repaving, as a citywide ongoing expense. The overall cost for roads in Ketchum is relatively small compared to other programs because no major new road construction is envisioned, based on the surveyed sentiments of a majority of Ketchum residents. The projects are mostly intersection upgrades and other spot improvements at high-priority locations. All of the projects described here should be considered viable even with the transit-oriented strategy components, because they would reduce existing traffic congestion even if there is no new future traffic growth. If the aggressive transit strategy is not successful, these projects are more strongly needed, and there could be further needs for additional road projects, in that uncertain future.

9.5 SH-75 Highway Improvements

The costs of future construction in the SH-75 corridor are attributed to ITD and not assigned numeric values. The Timmerman to Ketchum Environmental Analysis study process has not yet selected any final design, so cost information at this time would be premature and inaccurate. These costs are assumed to be born by Idaho Transportation Department and the federal government. While the costs to upgrade a 20-mile highway corridor (the Bellevue to Ketchum portion) will certainly be high, they cannot be eliminated by assuming the success of the aggressive transit program above. In order for transit to operate successfully in that corridor, there must be supporting improvements to enable transit to operate efficiently, with some time advantages over other vehicles. That generally encourages the assumption of at least a four-lane highway, with additional turn lanes at intersections, and with or without HOV priority features.

Table 9.1 – Transportation Program Scope and Financial Summary

Category	Project Name, Location	Scope of Work	Time Priority	System Priority	Priority Triggers	Capital Cost*
Bus	Peak Bus Service Expansion, Bellevue to Ketchum and Sun Valley	Add 1 bus/year, increase commuter bus service	Annual	High	ridership growth in preceding year	$500,000/yr or per bus added
Ped Bike	Downtown Sidewalks, complete missing sections	Construct sidewalks where missing in downtown core and other priority areas	Annual	Medium	annual program	$50,000 /yr estimate
Road	Street Repaving, citywide	Annual program to repave, upgrade streets to standards (coordinate with sidewalk program)	Annual	Medium	ongoing program	$100,000 /yr estimate
Bus	Employer Support of Transit - Program Manager	Implement funding strategy for transit programs	1-3 Years	High	immediate	$20,000/yr estimate
Parking	Downtown Parking Management Program, management, enforcement	Implement paid parking in downtown area, enforce parking time limits	1-3 Years	High	immediate	$50,000/yr estimate
Road	Main Street Signals, First to Fifth Streets	Add 2 signals, coordinate all 5	1-3 Years	High	immediate action	$447,000
Bus	KART System Expansion, citywide	Add buses and routes for citywide coverage and frequent service	2-6 Years	High	ridership growth in preceding year	$250,000 per bus, every 2 yrs
Bus	Bus transit corridor, Hailey to Ketchum	Intersection improvements on SH-75, connect missing links of county road system	2-6 Years	High	immediate	$1,000,000 estimate
Parking	Citywide Parking Management Program, other employment areas	Manage parking in other employment zones; protect residential areas from spillover parking; develop remote parking lots and shuttle bus	2-6 Years	Medium	future congestion in downtown and SH-75	$50,000/yr estimate
Ped Bike	Fourth Street Ped/Bike Corridor, Second Ave to East Ave	Repave and stripe street for bike route, construct larger sidewalks, modify parking; sign for Sun Valley Trail	2-6 Years	Medium	completion of Fourth/Main signal; available funding	$441,000
Road	Warm Springs Road Intersections at Tenth Street, Lewis Street	Signalize and channelize 2 intersections, or equivalent other improvements	2-6 Years	High	signal warrants, completion of Main Street signal improvements	$390,000

Table 9.1 - Continued

Cate-gory	Project Name, Location	Scope of Work	Time Priority	System Priority	Priority Triggers	Capital Cost*
Road	SH-75 Bottleneck Relief, Hospital Drive to Trail Creek	Interim spot improvements for intersection and lane use relief before ITD corridor plan is funded	2-6 Years	High	signal warrants, congestion relief,	$500,000 estimate
Road	Second Avenue Operational Upgrade, Serenade Lane to Eighth Street	Realign stop controls, add turn pockets, sidewalks and bicycle lanes per systematic corridor design plan	2-6 Years	Medium	local growth in West Ketchum or future congestion on Main Street	$578,000
Road	Gateway Intersections, Serenade/Main and Serenade/Second	Signalize, channelize 2 intersections and access streets	2-6 Years	High	developer plans, Main Street congestion (cost includes ROW)	$1,145,000
Road	McCannville Subarea Access Revisions	Develop access plan for subarea using Hospital Drive; minimize access to SH-75	3-10 Years	Medium	agreements with stakeholders	developer cost
Road	Mortgage Row Access Revisions	Create west side access road; minimize access to SH-75	3-10 Years	Medium	agreements with stakeholders	developer cost
Road	Eliminate left turns on Main Street, First to Sixth Streets	Revise signal coordination, revise lane usage	3-10 Years	Low	severe congestion remains on Main Street	$30,000
Road	New Street Connection, Lewis Avenue to Saddle Road	Through-street connection added to development of park&ride land parcel.	3-10 Years	Low	developer plan (cost includes ROW)	$843,000
Ped Bike	South Main Ped/Bike Corridor, from Serenade/Wood River Trail to Main/First	Add sidewalks, shoulders, paths linking downtown to Wood River Trail near Serenade Lane	5-20 Years	Low	developer plans, state/federal funding	future
Ped Bike	Wood River Trail Refinements, Third/Third to Tenth/Hemingway School	Construct separated bike trail through undeveloped area of city, with new developments	5-20 Years	Low	development plans in West Ketchum	future
Road	One Way Couplet, Main and Second - OR - Widen Main Street and Remove Parking	Increase capacity through downtown area by one project or the other	5-20 Years	High	severe congestion, urban design choices	$150,000

Table 9.1 – Continued

Cate-gory	Project Name, Location	Scope of Work	Time Priority	System Priority	Priority Triggers	Capital Cost*
SH-75	SH-75 Improvements, North Hospital Drive to Elkhorn Road	Implement ITD plan for corridor	9-20 Years	Medium	as state/federal funding is available	future
SH-75	Trail Creek Bridge	Implement ITD plan for corridor	9-20 Years	Medium	as state/federal funding is available	future
SH-75	South Main Street Gateway, Serenade Lane to Trail Creek	Implement ITD plan for corridor	9-20 Years	Medium	developer plans, state/federal funding available	future
SH-75	SH-75 Improvements, Elkhorn to Serenade	Implement ITD plan for corridor	9-20 Years	Medium	state/federal funding available	future

* Transit programs have annual operating costs in addition to bus purchases:
Peak Bus: $125,000/year per bus added. Less farebox revenues
KART: $250,000/year per bus added (higher than Peak Bus due to more hours/day)

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