

Figure 1. Scott Winterman, Deseret News, July 2012

EMIGRATION CANYON MOTORISTS AND BICYCLISTS SAFETY ASSESSMENT

EMIGRATIONCANYON
roadway improvement committee

MISSION STATEMENT

Create a beneficial flow of information among Emigration Canyon residents, Canyon users, & Salt Lake County by seeking to facilitate a culture of good **C**OMMUNICATION, **R**ESPECT, **U**NDERSTANDING & **S**AFETY (CRUSE).



Figure 2. Scott Winterton, Deseret News, July 2012

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AREA OF STUDY

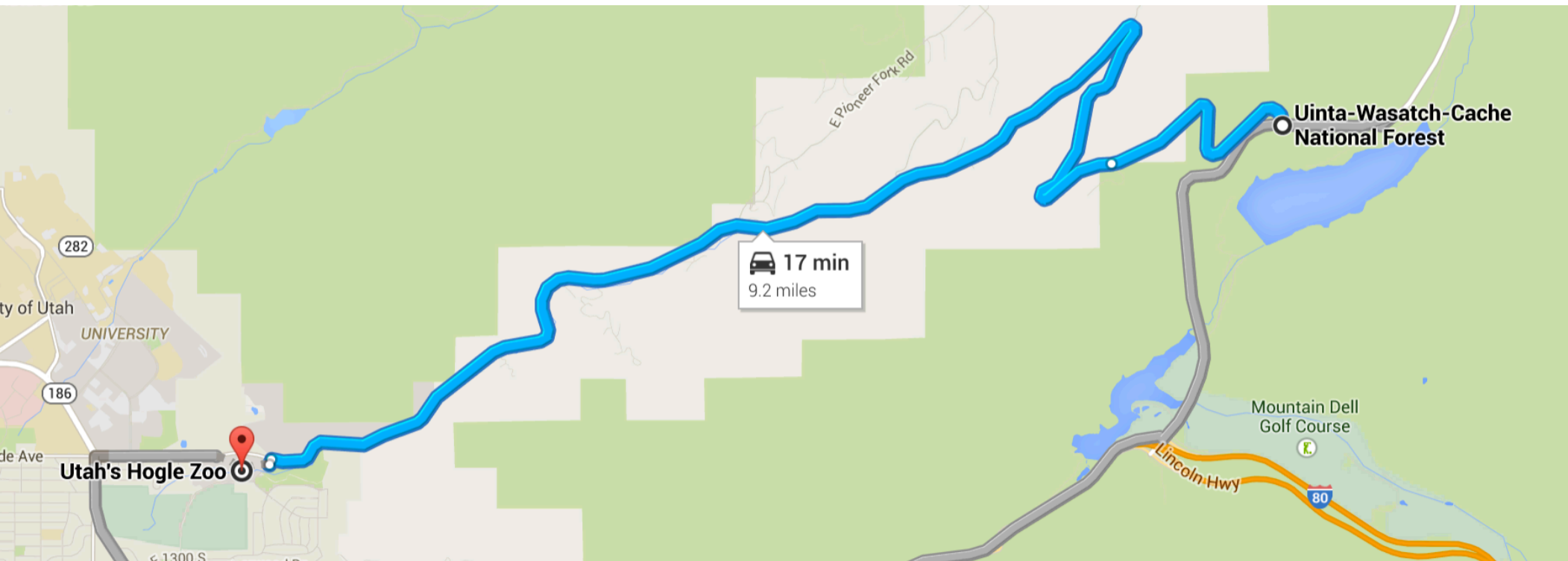


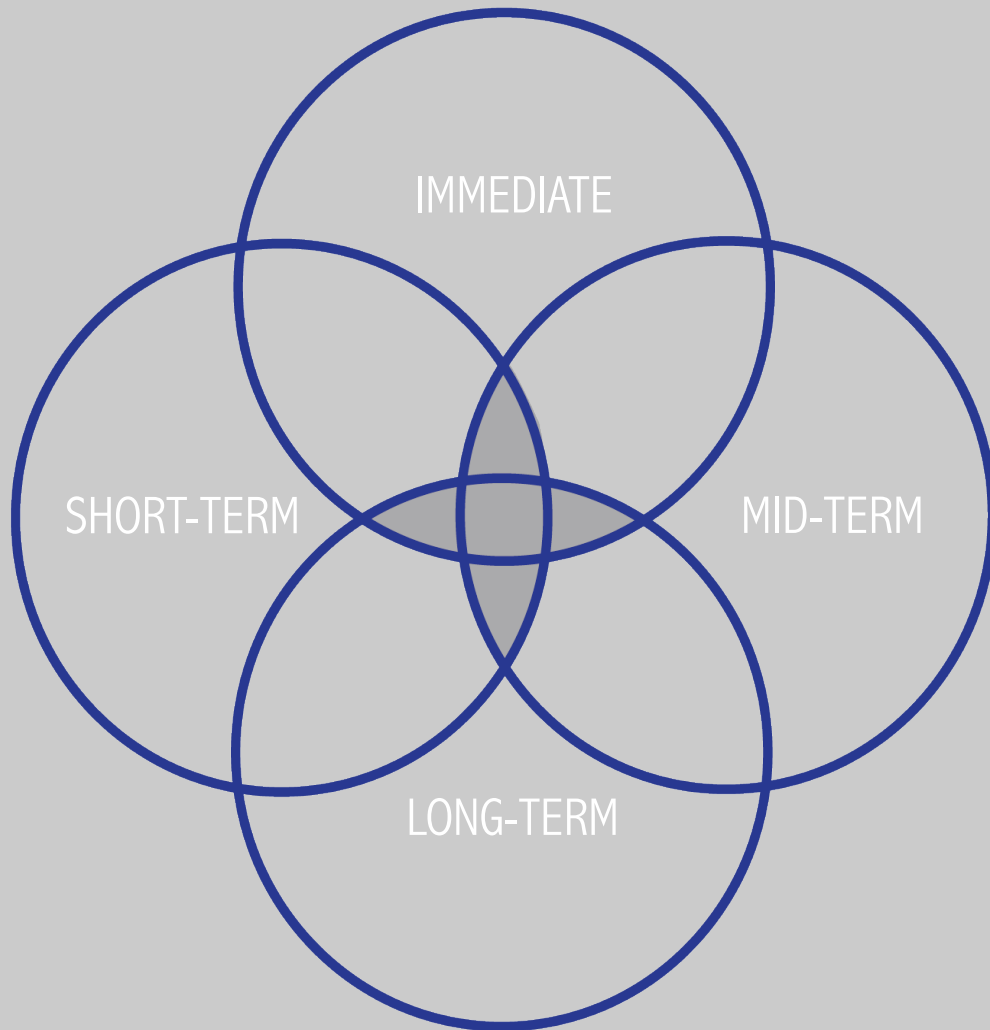
Figure 3. Mapquest, Emigration Canyon, 2014



Figure 4. Scott Winterton, Deseret News, July 2012

LEGISLATIVE CHANGES

1. Regulate construction sign placement on the roadway. A fines for non-compliance is recommended.
2. Work with the State to allow signage on the back of the bus. Signage should inform motorist AND cyclist that they need to stop if the red lights are flashing on a school bus.
3. Retrofit buses with additional swing-out sign on the back right of the bus, in addition to the original swing out signs on the left side. This allows signs to be seen by both motorists and cyclists. Approach special projects for funding (i.e. Honorary Colonel).
4. New technology on school buses: cameras that activate when the bus stops.
5. Require road ID tags on all road bikes for "Counties of the First Class".
6. Require on a state level that crash/accident data indicate if there was a bicycle involved.
7. Modify the law allowing vehicles to cross the double yellow to pass a cyclist for "Counties of the First Class" in canyon areas.



TIME FRAME

- Immediate – 0 years
- Short-Term – 2 years
- Mid-Term – 5 years
- Long-Term – 10 years or >



Figure 5. Scott Winterton, Deseret News, July 2012

MAIN FOCUS



ENGINEERING



INFRASTRUCTURE



ECOLOGY



PARKING



ENFORCEMENT



SANITATION



COMMUNICATION



Figure 6 - Scott Winterton, Deseret News, July 2012

SAFETY



BIKE LANE

“A portion of a roadway which has been designated by striping, signing, and pavement markings for the preferential or exclusive use of bicyclists.” They should have a minimum 5’ width, preferred 6’ width. (AASHTO)

SHOULDERED BIKEWAY

A paved shoulder separated from travel lanes with a lane stripe, and are typical for rural-style roadways without curbs and gutters. Because they perform multiple functions, shoulders are not typically marked for the exclusive use of cyclists. If bicycle volumes are high, however, it may be desirable to mark and sign shoulder bikeway as bike lanes.

TIME FRAME

IMMEDIATE

- Engineer selection
 - ECRIC Committee to be a part of the process
- Implement road study
- Develop design standards for bike lane and roadway
- Determine best solution for bike lanes, shoulders and roadway
- Address drainage issues
- Slope stabilization
- Review signage

SHORT/MID/LONG-TERM

- Slope stabilization
- Designate single file riding or no cyclists in Construction Zone



ENGINEERING

1. Implement a roadway project that will improve safety for cyclists, motorist and pedestrians along the Emigration Canyon Road Corridor. SL County along with ECRIC will select an engineering firm to conduct the preliminary work.
2. Road study should include the following:
 - # of car trips per day
 - #of bike trips per day
 - # of runners, walkers, skaters and skiers
 - Speed of vehicles.
 - Study should start early spring and continue to late fall. Day of the week and time of day should be noted when conducting counts.
 - Coordinate with upcoming road projects being proposed by various utilities, Country, etc.
 - Pursue installation of blank fiber-optic conduits in the road as part of this project.
 - Decide where bike lanes are possible and where widened shoulders should be appropriate.

ENGINEERING



Figure 7. Scott Winterton, Deseret News, July 2012



ENGINEERING

3. It is recommended that bike lanes be placed on the uphill side of the roadway when there is insufficient ROW for bike lanes on both sides.
4. Determine:
 - Where slopes should be stabilized and how to keep rocks off the road.
 - Where drainage is not working and how to repair problematic areas.
 - Where new drains should be placed.
 - What type of bike lane/shoulder/buffered lane should be used.
 - If speed limit should be changed/ lowered/ variable/raised, especially in the narrow sections of the canyon.
 - What type of signage should be added or eliminated.
 - Make bike signage consistent throughout the Canyon.
5. Determine how and where to widen road above and below the fire station to accommodate bike lanes or widened shoulders, potentially widening lanes to a double lane from the mouth of the Canyon to the fire station and again from Pinecrest to top of Little Mountain.

ENGINEERING



Figure 8. Scott Winterton, Deseret News, July 2012



ENGINEERING

6. SL County should make recommendations/regulations for driveways that join Emigration Canyon road. Currently gravel driveways deposit debris on the road. A possible solution could be to requiring the first 10' to 15' to be paved.
7. Review signage, implement both free standing and images on the road. Consolidate and remove old signs. Provide signage that is consistent throughout the canyon.
8. Make recommendations for grade and thickness of asphalt, placement of seams in road, chip seal. An Asphalt Specification needs to be written for compliance and a Consulting Engineer to be considered for Enforcement and Quality Control.
9. Identify line of site issues – taking into account trees, guardrails and slope of hills.
10. Address parking lots and make recommendations for the bottom of the Canyon and Little Mountain.
11. Determine single file riding or no cyclists during construction.

ENGINEERING

TIME FRAME

IMMEDIATE

- Bike lane or shoulder construction
- Address fiber optic
- Line of sight
- Bus stop safety issues
- Roadway maintenance
- Pavement – repair and edge of asphalt
- Enforce quality control - installation, materials and inspections
Post “Rules of the Road”

SHORT/MID/LONG-TERM

- Bike lane shoulder construction
- Line of sight – yearly maintenance
- Roadway maintenance
- Enforce quality control - installation, materials and inspections



INFRASTRUCTURE

1. Bike lanes should provide connectivity to areas beyond Emigration Canyon, such as East Canyon, Red Butte Canyon and Parley's Canyon.
2. Include blank conduits for additional future utility lines during the up-coming fiber optic installation project.
3. Provide a clean line of sight at all intersections. Trees, guardrails and slope of hills should be considered.
4. Meet with Granite School District as needed to review safety standards for school buses, including bus driver training, sign placement, and warning signs.
5. Review accident data and make sure bus stops are clear of problem areas. Retrofit buses with swing out stop sign on the right side. Address crosswalks and review signage placement.
6. Set up a routine maintenance schedule with SL County for the road corridor.

INFRASTRUCTURE



Figure 9. Utahdoutdoorfun.com website, posted by Dustin



INFRASTRUCTURE

7. Bike lanes and shoulders should be swept weekly. During winter, the bike lane/shoulder should be plowed.
8. Bike lane/shoulder at the edge of asphalt should have proper grade for drainage and asphalt protection.
9. Pavement should be kept in good repair consistent with AASHTO design standards.
10. SL County should enforce quality control standards for contractors or utility companies that disturb the road.
11. Post "Rules of the Road" information signs at the mouth and top of the Canyon. Signage could include bike laws, warnings of road conditions, where restrooms are located, change in laws, courtesy suggestions and upcoming events.

INFRASTRUCTURE

TIME FRAME

IMMEDIATE

- Address drainage
- Map migration patterns
- Erosion control measures
- Roadway maintenance
- Re-vegetation

SHORT/MID/LONG-TERM

- Maintain drainage areas
- Roadway maintenance

ECOLOGY

1. There are several low spots in the road that need to be addressed for drainage issues.
2. Consider natural habitats and wildlife migration patterns.
3. Hillsides that drop rocks on the road to be addressed with erosion control measures.
4. Set up a routine maintenance schedule in the canyon.
5. Use fire-resistant and drought-tolerant plants for re-vegetation and slope stabilization projects.



Figure 10. Emigration Canyon, <http://abc4.com>, Nov. 2013



TIME FRAME

IMMEDIATE

- Pave lots near the mouth of the Canyon
- Pave lot on Little Mountain
- Pave existing pullouts

SHORT/MID/LONG-TERM

- Maintain parking areas

PARKING

1. Pave parking lots near the mouth of the Canyon and at Little Mountain to prevent rock and debris from collecting onto in the road.
2. Pave existing pullouts so slower traffic and buses are able to pull over to let traffic pass.



Figure 11. Steve Griffin , The Salt Lake Tribune, Feb. 2014,



TIME FRAME

IMMEDIATE/SHORT/MID/LONG-TERM

- Enforcement - “rules of the road”
- Officers to issues warnings/tickets to cyclists and motorists
- Buses - warnings, tickets, higher fines
- Impeding traffic - issue warnings/tickets
- Officer present - events, races, or construction

ENFORCEMENT

1. Provide better enforcement by putting more officers on patrol at peak periods. Consider the use of motor unit or bicycle officers.
2. Issue warnings or tickets to cyclists and motorists who impede traffic or endanger others.
3. Officers could issue warnings/tickets and higher fines for those running through the flashing stop lights and signs of a school bus.
4. Require road ID tags on bicycles.
5. Officer should be present in the Canyon during events, races, construction or other public events.

Figure 12 - Darin, KSL, May 2013



TIME FRAME

IMMEDIATE

- New composting restrooms
- Bicycle repair stations
- Emergency phones

SHORT/MID/LONG-TERM

- Maintenance of facilities

SANITATION

1. Install composting restroom facilities near Ruth's Dinner, last camp monument, and previous Sun & Moon and the junction of Pinecrest/Emigration Canyon Road.
2. Provide bicycle repair stations with bicycle rack and repair tools near restroom facilities.
3. Provide emergency phone near restroom facilities.



Figure 13. <http://etsy.com> – True connection



SUMMARY

- Facilitate a culture of **C**OMMUNICATION, **R**ESPECT, **U**NDERSTANDING, and **S**AFETY (CRUSE) for all Canyon users.
- Facilitate Communication between Emigration Canyon residents and Salt Lake County.

“CRUSE”

COMMUNICATION

RESPECT

UNDERSTANDING

SAFETY



Figure 14. Scott Winterton, Deseret News, July 2012



TIME FRAME

IMMEDIATE

- The Emigration Community Council will form a Emigration Road Committee to promote understanding among SL County agencies, residents, motorists, cyclists, and pedestrians.
- SL County can help the Community Council and Emigration Road Committee by providing updated mailing addresses, and facilitating outreach strategies (ex: inserts into utility bills).
- The Emigration Road Committee and SL County will meet with the Granite School District to promote school bus safety
- SL County will require that event organizers place notice signs before any Canyon event and provide effective traffic management during the event.

SHORT-TERM

- The Emigration Road Committee will organize public meetings to provide information about infrastructure projects being planned.
- The Emigration Community Council will include bicycle project information in upcoming newsletters.
- Provide for on-going communication every year with Granite School District to monitor student bus safety
- Costs for required message signs and traffic management will be paid by event organizers.



RESIDENT OUTREACH

1. Conduct community meetings sponsored by Salt Lake County and Emigration Community Council to provide information about proposed road construction and maintenance projects. A follow-up meeting after project is completed is also recommended.
2. Include bicycle and road project information in upcoming Emigration County Council newsletters, utility bills, and public notices.
3. Event organizers should be required to place notice signs before all Canyon events and provide effective traffic management during the event at their expense.
4. Meet yearly with the Granite school district to insure school bus safety.

COMMUNICATION

TIME FRAME

MID-TERM

- The Emigration Road Committee will hold a public meeting before major canyon projects, and after completion to gather community feedback and concerns.
- Canyon Newsletters will include information about laws and public information programs that promote mutual respect among all Canyon users.
- The Road Committee will continue to monitor school bus safety and residents' concerns.
- The Emigration Road Committee will continue to monitor residents' satisfaction/concern about road events.

LONG-TERM

- The Emigration Road Committee will continue to monitor residents' satisfaction/concerns.
- Canyon Newsletters will continue to promote a culture of **C**ommunication, **R**espect, **U**nderstanding, and **S**afEty (CRUSE).
- The Emigration Road Committee will continue to monitor school bus safety and residents' concerns.
- The Emigration Road committee will monitor residents' satisfaction/concern about road events.



Figure 15. Scott Winterton, Deseret News, July 2012

TIME FRAME

IMMEDIATE

- Salt Lake County and the Emigration Road Committee will work with a professional media company to develop a public education program.
- Support an update of the Utah Driver's Education Manual to include bicycle laws and safety.
- Inform policy makers, road engineers, and educators about the Salt Lake County Bicycle Best Practices Manual.

SHORT-TERM

Implement a public education program based on "CRUSE" principles:

COMMUNICATION

RESPECT

UNDERSTANDING

SAFETY

MID-TERM

- The Emigration Road Committee will help determine which messages need to be distributed, to whom, and how often, with funding and assistance from Salt Lake County.

LONG-TERM

- The Emigration Road Committee will continue to monitor and promote a public education program.



PUBLIC OUTREACH

1. Work with a professional media company to create a public outreach program that facilitates a culture of Communication, Respect, Understanding and Safety (CRUSE) for all Canyon users. SL County and ECRIC will advise and select the media company.
2. Implement public education messages using mailings to residents, posters, public service announcements, websites, and movable signs to target motorists, bicycle groups and shops, County and City websites, law enforcement, and tri-canyon residents.
3. Support an update of the Drivers' Education Manual to include bicycle safety and regulations and tips for courteous conduit.
4. Inform policy makers, road engineers, and educators about the Salt Lake County Bicycle Best Practices Manual, which describes bikeway design, bicycle education, trail mapping, etc.
5. Support bicycle rallies to teach children and adults bicycling skills and regulations.

COMMUNICATION





Figure 16. Dean- Flickr, Sept. 2012

FUNDING OPPORTUNITIES

- All American Road
- Scenic Bi-way
- Parks and Recreation/Trails
- Alternative Transportation
- Great Western Trail
- Special Projects
- Leveraged Utilities
- Permitted Event Users
- Bicycle Safety Enforcement Action funded by:
 - Utah Department of Public Safety
 - Utah Department of Health
 - Utah Department of Transportation
- Utah Department of Transportation
- Utah Transit Authority



Figure 17. <http://emigrationcanyonutah.net/real-estate>

BENEFITS

- Improved SAFETY throughout the Canyon
- Improved road surface
- Improved road structure and layout
- Improvement to Telecom Infrastructure
- Improved communications, emergency services and utilities
- Improved road drainage
- Improved sanitation issues
- Safer conditions for children, getting on/off the school bus and crossing streets
- Better water quality
- Better maintenance of the road
- Better winter conditions
- Better enforcement for both vehicles and cyclist
- Better communication with SL County, City and school district
- Stewardship of resources
- Healthy Community

Salt Lake County is looking for ways to make the Emigration Canyon road **safer** for motorists and cyclists — and to assess its potential designation as a "recreational facility."

- Salt Lake Tribune

FINDINGS/RECOMMENATIONS/TASKS

The Emigration Canyon Roadway improvement Committee was tasked with finding solutions to motorist/bicyclist interactions. It became clear, during the first meeting, that there were other issues exacerbating the primary task. As someone put it: "this is more than just deciding where to paint white stripes."

The Roadway improvement Committee identified several other influences that either force the two primary groups (motorists and bicyclists) to interact: ecological issues such as geology (slope stabilization in slide areas, vegetation, etc.), hydrology (impacts to ground water, overland flow from slopes, poor drainage on the present road, etc.), visual resources, lack of proactive and reactive law enforcement, road maintenance (sweeping, repairs, etc.), noise from large groups of motorcycles, sanitation, parking, poor enforcement of County ordinances when contractors open the road, communication dead-zones, poor coordination with Salt Lake City at the mouth of the Canyon, and a poor track record of the County in implementing past decisions and agreements.

Abvram J. Martine

Collaborative Process Facilitator
Environmental Mitigation and Mediation

EMIGRATIONCANYON
roadway improvement committee

Collaborative Assessment Process

The Roadway improvement Committee identified other road users, in addition to vehicles and bicycles which impacted the safety of all: large motorcycle groups, school busses, heavy equipment, runners, walkers, the University of Utah ski team training using skates, deer hunters, wildlife, and "leaf peepers" in the fall. Peripheral issues such as adherence to school bus regulations and laws by motorists and bicyclists became an issue.



FINDINGS/RECOMMENATIONS/TASKS

The Emigration Canyon Working Group strongly suggests that the County start the process of converting these recommendations into a strategic policy to reduce the acrimony and make Emigration Canyon a safe place for residents and recreationists.

The approach puts in place long-term outreach and communication, implemented in regular PSA's and public meetings, both in the Canyon and in the County, to insure that the public will have an opportunity to participate in meaningful way. This strategic component suggests that economic development can occur in the Canyon.

Finally, the Cooperative Implementation Strategy outlines a facilitated process so the County and the Communities of Place and Interest can work together to solve further issues, insure that timelines are being met, that the public is informed in a timely manner about progress, or if the strategic deployment plan has to be modified.

Abvram J. Martine

Collaborative Process Facilitator
Environmental Mitigation and Mediation

Collaborative Assessment Process

- (Facilitated)--A comprehensive assessment plan with a list of recommendations was presented to Salt Lake County Mayor Ben McAdams. This plan is the result of a facilitated collaborative process. The plan lists actions that can be implemented in the short-term (some at minimum costs), mid-term, and long-term which will require coordinated and collaborative planning.

Collaborative Action Plan

- (Facilitated)— A Core Team (six selected Working Group Members representing the Canyon and the County at-large) has been chartered by the Working Group to consult with the Consulting Engineer to complete a comprehensive assessment of critical issues and opportunities in Emigration Canyon. This Core Team will meet as needed (at least bi-monthly), after the assessment, with County staff and leadership to insure that the Collaborative Action Plan is on track.

Collaborative Implementation Strategy

- (Facilitated)—This component is a long-term working document. The findings in the assessment report drives long-term project planning, identifies opportunities for partnerships to leverage funding and intellectual capital, and insures coordination with other County or Regional scale planning. This element suggests opportunities for the various County Departments to cooperatively plan for success by sharing the planning and implementation of this strategy. It strongly recommends that the County reassess stipulations for road repair contracts and inspections by the County,

FINDINGS/RECOMMENATIONS/TASKS

The approach puts in place long-term outreach and communication, implemented in regular PSA's and public meetings, both in the Canyon and in the County, to insure that the public will have an opportunity to participate in meaningful way. This strategic component suggests that economic development can occur in the Canyon.

Finally, the Cooperative Implementation Strategy outlines a facilitated process so the County and the Communities of Place and Interest can work together to solve further issues, insure that timelines are being met, that the public is informed in a timely manner about progress, or if the strategic deployment plan has to be modified.

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Collaborative Process Facilitator
Environmental Mitigation and Mediation

IMMEDIATE

- Consultation between the Core Team and the Consulting Engineer should begin immediately. The Core Team will cooperatively develop an infrastructure and outreach strategy with the Consulting Engineer. *All recommendations made by the Emigration Canyon Working Group should be the framework for further consultation;*
- The County should retain a media consultant and a conflict resolution consultant on an as-needed basis to inform the County about effective communication strategies; and to facilitate *the unresolved conflicts* between residents of the Canyon and non-residential users and use facilitated meetings as one vehicle to keep Canyon and County residents informed about plans and progress.
- The County should design an interactive web site specifically for the Emigration Canyon Assessment. The web site should post Core Team meeting notes, post action items with timelines as soon as they are determined, post notices of upcoming public meetings and results from public meetings and open houses, post questions from citizens and answers from the County, post draft timelines for infrastructure development, and other current information concerning Emigration Canyon. It must have a built in mechanism for responses to inquiries (within one week after receiving the inquiry).
- The County must review contract stipulations issued to contractors who open the road surface for any reason to insure that ridged standards are met for repair of the road surface. It is recommended that the County implement an incentive program for contract inspectors that will insure rigorous adherence to stipulations and standards.

ECRIC WORKING GROUP

Emigration Canyon Roadway Improvement Committee

Rick Raile, Emigration Canyon
Phil Sarnoff, Salt Lake City – Bicycle Utah
Tyler Tippetts, Emigration Canyon
Barbara Cameron, Big Cottonwood
John Herbert, Salt Lake - SLCBAC Chair
David Ward, Emigration Canyon
Chad Mullins, Holladay
Lisa Fitzgerald, Emigration Canyon
Pete Kuennemann, Salt Lake City
Henry Whiteside, Emigration Canyon
David Jones, Salt Lake City
Gary Bowen, Emigration Canyon
Betsy Byrne, Salt Lake City
Brian Stillman, Cottonwood Heights
Jennifer Hawkes, Emigration Canyon
Roger Bird, Emigration Canyon
Joe Smolka, Emigration Canyon
Beatrice Lufkin, Salt Lake City
Dan Frazini, SLCBAC
Jayne Rieser, Salt Lake City
Randy Rasmussen, Emigration Canyon

IMMEDIATE ACTION ITEMS

1. Core Team meets with and coordinates with Engineering Consultants.
2. Engineering Consultant includes the Core Team in all meetings with the County.
3. Continue coordination and problem solving with Granite School District. -- Jennifer Hawkes Core Team Member
4. Hire an as-needed conflict mediator to help the County resolve residual acrimony with Emigration Canyon residents. (set up and facilitate public meetings, feedback loop for comments with timely response).
5. Hire an as-needed media consultant who assists the County with high value/impact media technique

Communication Recommendations

--Betsy Byrne, Core Team Member

- Set up a feedback mechanism via the web site for public comment.
 - Set up a monitoring system of the web site so that comments are addressed within 5 working days or x number of days.
 - Promote the website through social media.
 - Identify other websites or organizations to partner with to direct traffic to the website (Bike Utah, bike shops/ clubs, other recreational groups, etc.)
6. Review new construction, maintenance, and utility repair inspection, contracting stipulations, bonding, etc. Set up a intra-County reward based system for insuring that contract stipulations are met.
 7. Create or re-purpose an FTE (or contract) in The Office of Township Services to be point person for Emigration Canyon. (This position could be a contracted position and could be tasked with resolving conflict resolution issues in the Canyon, intra-County coordination, serve as the conduit for receiving comments and responding, etc.)

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IMMEDIATE ACTION ITEMS

--Roger Bird, Working Group, June 25, 2014

1. Place porta potties in the canyon at strategic locations. Even though the fire station is open at times, I noticed not one biker of the hundreds passing by stopped on Saturday. We need to let them know the facility is available. **SL Country has currently placed two porta potties, one at Ruth's dinner and one at the junction of Pinecrest and Emigration Canyon Road.**
2. Make sure the road is swept weekly and after any heavy rain storm.
3. Engage the school district and Sheriff now to format a plan to deal with the start of school. It's not that far away and I'm sure it will take them some time to address the bus routes and best pick up and drop off locations. No one should pass a bus with it's lights on and stop signs out! **Crash data needs to reviewed with bus stop locations. Relocate bus stops that are located in areas with identified problems. Still need to resolve bus safety issues.**
4. Retain an engineer to move ahead on the next set of action items requiring their services. Having them attend our next meeting would also be helpful.
5. Let the bike community and canyon residents know we have a working group in place to address the safety issues in the canyon and request everyone's support and cooperation over the next few months to avoid conflicts.

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SPECIFIC ROADWAY IMPROVEMENTS

--Brian Stillman, Core Team Member

1. Soil nailing or screens should be completed early on where soil or rocks move onto the road surface.
2. The existing road needs to be verified if it has not been for legal reasons from bottom to top with road widths established from this point. With the dirt work/retain-age area's being done first the bike lanes can then be determined and any new striping will not be sullied. An Engineering study for these area's needs to be conducted and followed through on.
3. Determine a single bike lane from top to bottom "defining the bike lane or trail (as has been suggested)" for both directions.
4. Striping of Lanes as necessary on a temporary basis until the trail or lane design from is finalized.
5. Determine area's that can be widened providing retaining walls & drainage in these area's as necessary giving precedence to the uphill bike lane vs. the downhill lane.
6. The canyon should have an Emergency Cell Phone Tower.
7. Combine & Coordinate Utility work so that it can be done at one time including the Internet Line and all utilities planning any work in the canyon for the for-see-able future. Providing blank chases for future line pulls.
8. Drainage in problem area's needs to be determined with adequate drainage provided to mitigate these problem area's.
9. Meet or exceed AASHTO standards regarding road widths, bike lanes and road shoulders.

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SPECIFIC ROADWAY IMPROVEMENTS

--Joe Smolka, Core Team Member

1. From Crestview Drive to the first corner widen the north-side about 3'
2. Around the corner north-side widen about 2'.
3. Widen the north-side from the end of the jersey barricade on the south to the shotcrete hill and shift the road north.
4. At the shotcrete wall on the south side add rock retaining and pave both sides of the driveway.
5. Pave the pullout on the north-side and shotcrete rock hill. Plant east end of the hill ¼ mile up.
6. Shotcrete north-side of rock hill. Put retaining on south side behind jersey barricade and widen 6' up to the trees and extend the small culvert.
7. From the trees to the big log pave the bike lane from settling. **Area has already settled.**
8. Bottom of Sunnydale Ln, raise the water valves in bike lane.
9. 3718 E pave south side to cover old pavement.
10. 3748 trim trees.
11. 3748 plus 300' move guardrail south 3' to 4' past the rock hill on the north-side shift traffic lanes south.
12. Shotcrete hill on the north-side.
13. Got Teeth Ln. pave highway to eliminate puddle when it rains on lane north-side.
14. 3876 pave over old pavement south side.
15. Top end of Sunnydale curve guardrail south to improve line of sight down the canyon.
16. Shotcrete hill on the north-side.
17. East end of Sunnydale raise valve covers by fire hydrant.
18. 3191 fix drainage, keep driveway rock out of bike lane.

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Dan Frazini, SLCBAC
Jayne Rieser, Salt Lake City
Randy Rasmussen, Emigration Canyon

SPECIFIC ROADWAY IMPROVEMENTS

--Joe Smolka, Core Team Member

19. 4036 north-side trim tree, fix drainage, move traffic lanes north for bike lane on the south side. Driveway across the street puts rocks on the road.
20. 4072 north-side clear rocks off old bus stop pavement.
21. 4072-4132 pave 2' wide on the south side.
22. Top end of Camp K main parking widen to south to cover old pavement to the guardrail, at the guardrail on the north-side widen the road and shift the road traffic lanes to the north, extend small culvert to the north.
23. 4263 lot above, fix the drain so it doesn't drain onto the road top end Camp K upper entrance.
24. City water valves paved to keep rocks off road.
25. Maryfield Rd on the east side remove sidewalk and widen half way up to guard rail. Move the first half of the guard rail back and pave up to the guard rail.
26. From the top of the guard rail up to the next guard rail on the south side pave over the old pavement.
27. On the north-side pull out pave and remove willow trees around drain to prevent puddle on the road.
28. South side pave along the guardrail.
29. North-side hill rocks and drainage.(shotcrete)
30. Large retaining walls gets a puddle in the middle.
31. Below Badger Hollow on north-side change drain and widen about 800' long.
32. 4815 Skycrest Ln to the top of the jersey barricade? (bicycle stainer)
33. Rock hill on the north should be laid back with negative slope.
34. Trails End west shorten guardrail to improve visibility up and down canyon.

ECRIC WORKING GROUP

Emigration Canyon Roadway Improvement Committee

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Phil Sarnoff, Salt Lake City – Bicycle Utah
Tyler Tippetts, Emigration Canyon
Barbara Cameron, Big Cottonwood
John Herbert, Salt Lake - SLCBAC Chair
David Ward, Emigration Canyon
Chad Mullins, Holladay
Lisa Fitzgerald, Emigration Canyon
Pete Kuennemann, Salt Lake City
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SPECIFIC ROADWAY IMPROVEMENTS

--Joe Smolka, Core Team Member

35. Trails End west to fire stations fix the drainage and puddle by the big tree.
36. Pink garage? Restrooms ?
37. Trails End east pave to jersey barricade on south side.
38. Jersey barricade east to 5202 pave over the old pavement.
39. 5101 puddle put drain under road.
40. 5121 drainage puts rocks on road.
41. 5202 north-side rocks (state engineer)
42. 5202 to 5222 south side pave up to guardrail.
43. 5222 to 5249 on the south side pave over old pavement.
44. 5249 to 5245 north-side pave to guard rail.
45. 5320 to 5337 north-side move the guard rail in line with other guard rails and pave.
46. 5337 to 5395 north-side pave to guard rail and clean and pave old bus stop.
47. 5395 south rock hill.
48. *5444 on the north-side up to 5557 retain road move guardrail north and shift traffic lanes north.
49. 5557 to 5627 pave north side wider as traffic lanes shift back to the south.
50. From 5627 to 5705 on the north-side move guardrail back and shift road and extend small culvert.
51. 5655 south side big rocks, red mud(state engineer)
52. 5730 south side retain and pave extending large culvert.
53. 5771 to Pioneer Ridge Rd north-side drainage puts rocks on the road.
54. 5820 on the north-side concrete manhole drain into creek plugged.
55. 5820 to 5864 north-side drains on the road and pave wider where possible.

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SPECIFIC ROADWAY IMPROVEMENTS

--Joe Smolka, Core Team Member

56. 5864 north-side clean ditch regularly(negative slope stops most rocks)
57. Redhill to Margarethe north-side clean old pavement at bus stop and repave. South side pave to guardrail and fix sink hole.
58. Margarethe to 6099 north-side fix utility cut and widen.
59. Redhill to 6276 on south side pave wider and move drainage back.
60. 6099 to 6149 new guardrail move back and pave.
61. 6205 move guardrail back and pave.
62. From 6205 north-side widen and pave.
63. 6265 bolt guardrail to concrete wall and pave 2' wider on the north-side.
64. From 6265 to 6277 both side pave wider.
65. 6377 to 6550 pave wider on the south side and shift lanes to the south 1' to 2'.
66. Quarter Mile Ln. west to 6615 north-side move guardrail north 5' to 6' pave and shift lanes.
67. 6615 to 6676 address south side drainage. Rocks on road.
68. 6615 to 6676 north-side pave 1' to 4'.
69. 6676 south side pave 1' to 4'.
70. 6706 on north-side pave and move drainage back.
71. 6606 south side to the east pave.
72. Quarter Mile Ln east to junction of Pinecrest add pavement both sides where possible
73. Junction of Pinecrest restrooms?

PINECREST UP LITTLE MOUNTAIN

74. North-side repair settling at jersey barricade

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SPECIFIC ROADWAY IMPROVEMENTS

--Joe Smolka, Core Team Member

75. South side drain age to keep rocks and mud off the road.
76. Down hill bike lane is rough in spots, repave.
77. Up hill lane has many spots to rough to ride.
78. Hairpin corner on uphill side south and west fix drainage so water will not cross the road
79. Little Mountain Top-pave into parking lot 20' to 30' to keep rocks off of road.

Benches?

Bike Racks on top of Little Mountain?

Limit number of bikes in packs?

ACKNOWLEDGEMENTS

Mayor McAdams

SL County Council

Emigration Canyon Community Council

Abvram J. Martine - Collaborative Process Facilitator Environmental Mitigation and Mediation

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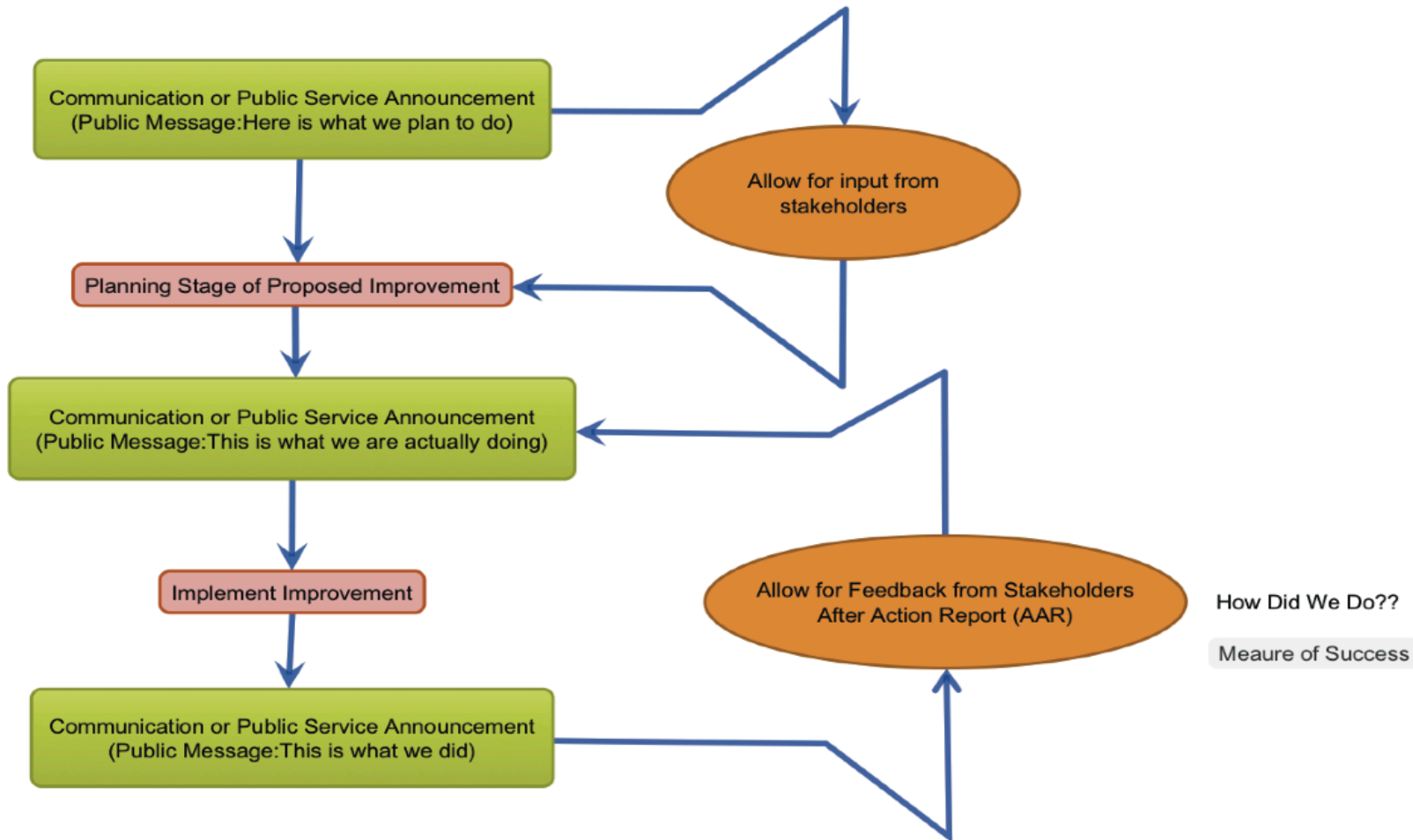
Figure 18 - Scott Winterton, Deseret News, July 2012

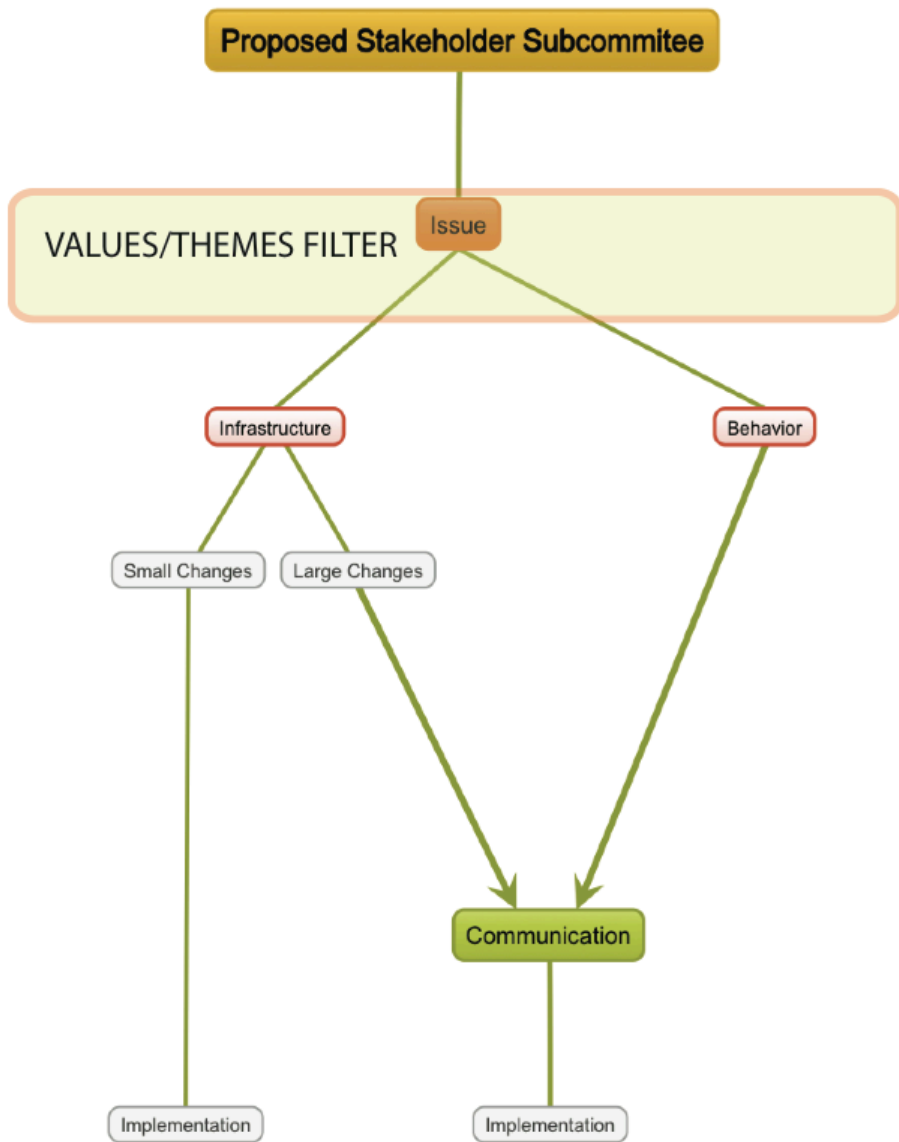
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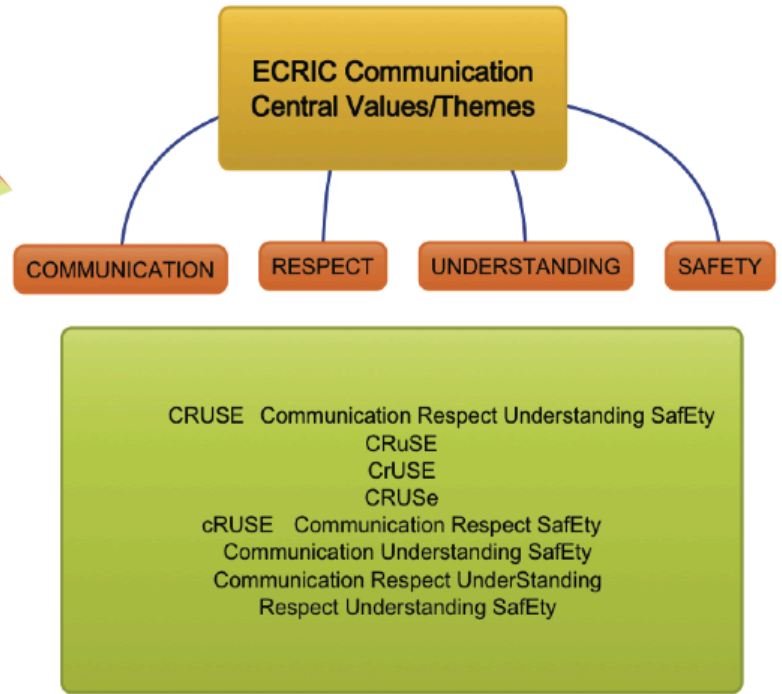
Proposed Project Review and Process Framework

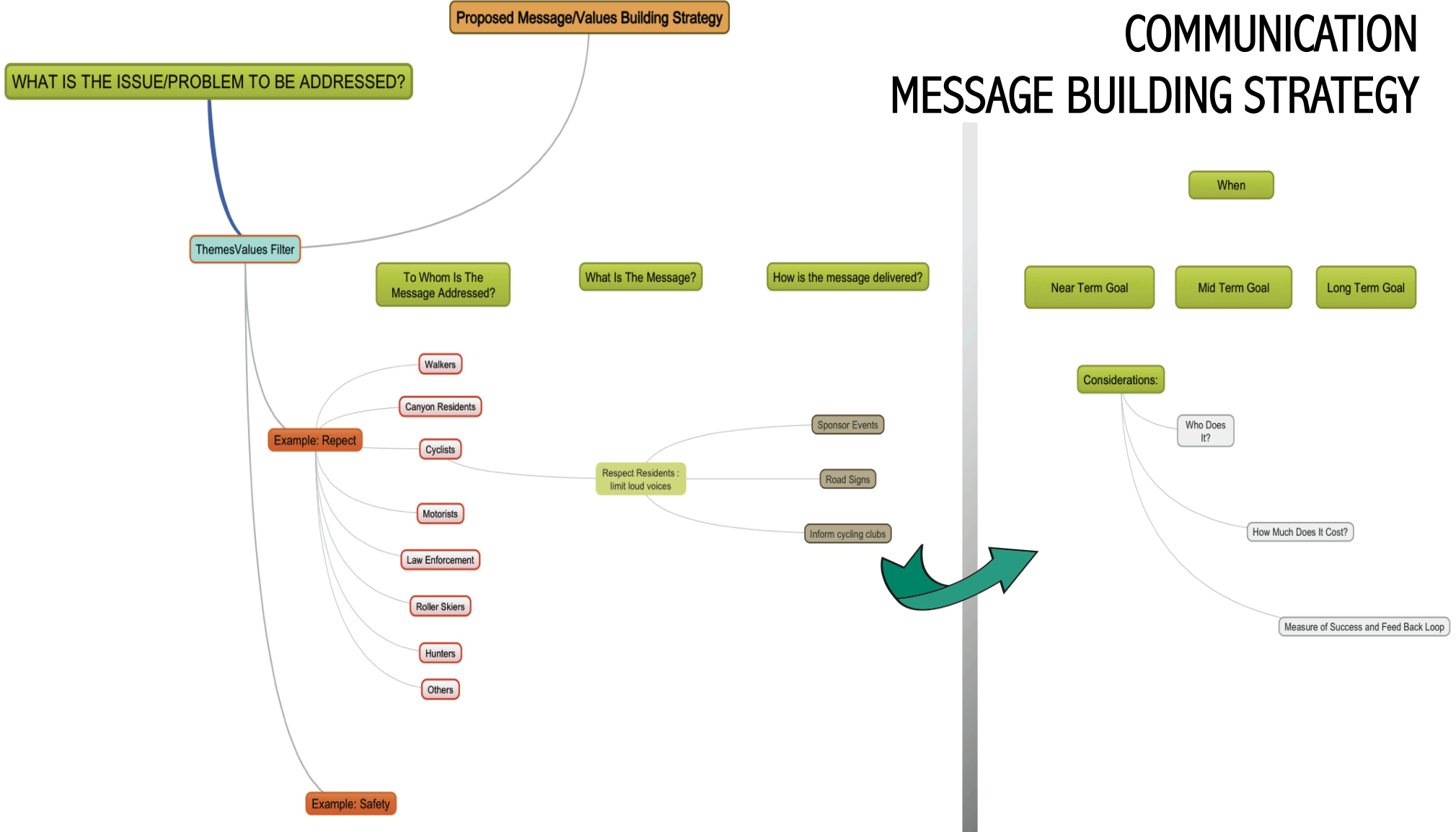
PROJECT REVIEW & PROCESS FRAMEWORK





COMMUNICATION MODEL





Summary of Communications Committee Recommendations

Mission Statement: Create a beneficial flow of information among Emigration Canyon Residents, Canyon Users, and Salt Lake County by seeking to facilitate a culture of good Communication, Respect, Understanding, and Safety (CRUSE).

Facilitate a Culture of **C**ommunication, **R**espect, **U**nderstanding, and **S**afEty (CRUSE) for All Canyon Users

Problem	Strategies	Short-Term Activities	Mid-Term	Long-Term
<ul style="list-style-type: none"> • Canyon Users are often unaware of definitions and laws along the roadway. • Lack of understanding results in disrespect and miscommunication among canyon users. • Some canyon users abuse/ignore the rules. 	<ul style="list-style-type: none"> • Seek a professional media company that will guide a Public Outreach Plan based on CRUSE principles. • Create a Media Plan to inform users of existing laws and definitions. • The Media Plan will promote CRUSE principles for all canyon users. • SLCo will enforce existing laws. 	<ul style="list-style-type: none"> • Submit a list of public information messages that are needed at this time (see <i>Public Outreach Possibilities</i> below) • Determine the target groups for the messages and the means of distribution. • Enforce current laws, including school bus law, single file if impeding traffic, walking on wrong side of road, speeding 	<ul style="list-style-type: none"> • Emigration Community Council will send out messages promoting a CRUSE culture for the next 2 years. • The Community Council will request appropriate signage from SLCo to deal with information, maps, and events 	<ul style="list-style-type: none"> • The Emigration Community Council will continue to determine which messages need to be distributed and how often • Salt Lake County will assist with funding a media program

Facilitate Communication between Emigration Canyon Residents and Salt Lake County

Problem	Strategies	Short-Term Activities	Mid-Term Activities	Long-Term
<ul style="list-style-type: none"> • Emigration Canyon Residents are not consulted about canyon road issues. • Residents are not advised about current projects or programs being conducted in the Canyon. • Residents sometimes don't cooperate with parking/trash rules 	<ul style="list-style-type: none"> • The Community Council will take the lead in maintaining communication between SLCo and the community • Salt Lake County can help the CC by providing updated mailing addresses, and facilitating mailer insertions into utility bills. 	<ul style="list-style-type: none"> • SLCo will hold 2 public meetings this year to provide information about infrastructure projects in the canyon. • The Emigration CC will include bicycle project information in their next newsletter. 	<ul style="list-style-type: none"> • Form a <i>Roadway Improvement Committee</i> within the Emigration Community Council that monitors community needs for input and information from the County • Residents will be included in a public outreach program that promotes a CRUSE culture among all Canyon users (see above). 	<ul style="list-style-type: none"> • The Roadway Improvement Committee will monitor resident satisfaction • Salt Lake County will support the Emigration CC with funding and expertise.

Public Outreach Possibilities

Type of Message	Target Group	Means of Delivery	Timing
<ul style="list-style-type: none"> • Construction in Canyon • Events in Canyon 	Everyone	Portable or Permanent Sign at Mouth of Canyon financed and managed by SLCo.	Every time there is a special event or construction
<ul style="list-style-type: none"> • Obey the Canyon Laws 	Everyone	Visible squad cars, bicycle police, officer training	Every day, but weekends especially
<ul style="list-style-type: none"> • Emigration Canyon is a unique road environment with many different users • A stopped school bus may not be passed, cyclists and cars must stop. • Motorists must give cyclists a 3 ft clearance. • Dumpsters and vehicles in the road are dangerous. • Watch for children, cyclists, walkers, skaters, pets, wildlife • Respect Residents: limit music, loud voices, “show mode”, noisy pipes • Road construction flaggers are obeyed and respected. • No headphones or cell phone use while operating a moving vehicle. • Be predictable: Signal turns and stops. • Noisy, altered mufflers are illegal in Salt Lake County • Use proper sanitation facilities, not private properties. 	Everyone Motor Clubs Cycle Clubs, Driver’s Ed Classes, Motor vehicle manual	Post Cards, PSA announcements, posters, lighted sign at the mouth of the canyon, Utility bill inserts	Message cards every three months for 2 years, plus posters at mouth of the canyon
<ul style="list-style-type: none"> • Cyclists must obey all traffic laws. • Cyclists must ride single-file if riding two-abreast impedes traffic. • Alert others about intentions: passing, stopping. Don’t be a ninja. • Gently mentor less experienced cyclists. Be part of the Solution. • All users must stop at stop signs and lights, but cyclists may proceed cautiously after 90 seconds 	Cyclists Cycle Clubs	Post Cards, PSA announcements, posters, lighted sign at the mouth of the canyon, Utility bill inserts	4 message cards every three months for 2 years, plus posters at clubs and mouth of canyon
<ul style="list-style-type: none"> • Grievance/Problem Outreach 	Everyone	Post Cards, PSA announcements, posters, lighted sign at the mouth of the canyon, utility bill inserts	The Emigration Community Council will be open for public comments when needed.

SCHOOL BUSES

MEETING WITH GRANITE SCHOOL DISTRICT

JULY 18, 2014

- Buses adjust their stops to meet/accommodate the children. Two runs each morning and each afternoon. 1 for elementary and 1 for junior/senior high. Kindergarten bus.
- Run goes through Emigration Oaks sub-division and doesn't stop on the main canyon road in between those turns
- Several "Bus Stop Ahead" signs are way out of place and should be removed.
- Bus drivers often use pullouts to let backed up traffic go around them
- Current guideline is that if left tires of bus are off the roadway, driver does not have to turn lights on BUT Granite will be changing their policy to require drivers to stay in road (partially) and ALWAYS turn the lights on. This will be strictly enforced.

PROPOSED IDEAS

- Evaluate crash data and move adjust stops so they are not in these areas.
- Add crosswalk marking on the road at 2-3 major bus stops. They will add more visual queues for cyclists and motorists that bus stops and pedestrians are nearby.
- Buses should stop in a place that partially blocks the shoulder (bike lane) to make it difficult for cyclists to go around bus on the right.
- Add swing-out STOP signs to the back right of the bus so they extend further to the right of the bus and become even more obvious to cyclists that they must stop.
- Appropriate sign that coordinates with main stops.

QUESTIONS

- What are the fines for passing a school bus with lights flashing? They need to be steep.

UPDATE — SEPT. 2014

- Phone Conversation with Granite School District's Transportation. Bus drivers' are trying to pull over in the shoulder to block cyclist from going through flashing lights. When they do so – vehicles are illegally passing the stopped bus on the left side. Bus drivers' are now only pulling in the shoulder when there is not a vehicle behind them. **As to date, no issues have been resolved regarding motorists and more specific cyclists going through flashing lights when the bus is stopped.**

“Bicycle Safety Enforcement Action” Guidelines

Introduction

People ride bicycles for many different reasons: fitness, recreation, or for transportation. Regardless of the reason for riding, bicyclists young and old are confronted with the dangers that riding in traffic can present. In Utah, each year nearly 900 bicyclists are hit and 6 are killed by motor vehicles. Over the past 10 years (1995-2004), Utah had the 11th highest bicyclist fatality rate in the nation. 93% of bicycle/motor vehicle crashes resulted in an injury to the bicyclist. Most if not all of these bicycle/motor vehicle crashes could be prevented if the motorist or bicyclist had been paying attention and obeyed existing traffic laws.

The purpose of the Bicycle Safety Enforcement Action (BSEA) is to increase safety for bicyclists through education and the enforcement of traffic laws. Law enforcement is a necessary component of bicycle safety. Stricter, more reliable, and consistent enforcement can limit violations and work to create behavior change. As with any law, lack of enforcement leads to a general disregard of the law. Law enforcement officers should be willing to educate about and enforce the traffic laws with motorists and bicyclists. The proper enforcement of laws represents the most immediate opportunity for improving bicycle safety.

This program will raise awareness among law enforcement personnel of the need to actively enforce bicycle safety laws, as well as to reach out and educate motorists and bicyclists of the proper way to share the road. Law enforcement officers should be knowledgeable of laws and of proper bicycle/motor vehicle interactions and then use this knowledge to educate bicyclists and motorists when opportunities arise.

In every state a bicycle is given the same right and responsibility as a motor vehicle. Many motorists and bicyclists do not know that bicycles are legally allowed on the road, and furthermore they were never taught how to safely interact with one another on the road. This presents a great opportunity for law enforcement personnel to educate both motorists and bicyclists that break traffic laws. Traffic laws exist to protect the safety of all those who use the roads regardless of mode of travel. When traffic laws are broken, lives are endangered.

Goal and Objectives

- Make roads safer for bicyclists and other road users.
- Decrease the number of bicyclist killed and injured each year, by reducing bicycle/motor vehicle crashes.
 - Improve compliance with traffic laws relating to bicycle safety through education and enforcement efforts.
 - Identify and correct violator and repeat violator behavior.
 - Raise awareness and educate the public on how motorists and bicyclists can safely share the road, by distributing educational materials, and through the media

How to Conduct the Bicycle Safety Enforcement Action (BSEA)

The BSEA is to be conducted by law enforcement officers to pro-actively enforce traffic laws relating to bicycle safety. Motorists and bicyclists observed violating traffic laws during the enforcement operation should be stopped. Enforcement should emphasize education initiatives.

Law officers are encouraged to take advantage of this special enforcement time to educate as many motorists and bicyclists as possible, as to the mutual duty each has to respectfully share the road.

By targeting specific violations, the law officer is essentially looking for some of the most common violations committed in bicycle/motor vehicle crashes. There are several advantages to this type of selective enforcement:

- Prevents crashes - focus on those violations that most often result in crashes.
- Promotes public support by answering the question, “Why am I being stopped?” The officer can teach that the violation is the type that is likely to result in a crash if it is not corrected. The public will see that safety is the message.
- Encourages officers to learn the bike laws.

Officers participating in the BSEA should understand which traffic violations lead to the greatest number of bicycle/motor vehicle crashes. Efforts throughout the operation will focus primarily on these violations. However, during the enforcement period if other violations are observed they should not be overlooked.

It is also recommended to conduct the BSEA in conjunction with another type of targeted enforcement such as speeding enforcement or red light running enforcement, since these violations are often contributing factors in bicycle/motor vehicle crashes.

Location:

The type of location selected for the BSEA is very important for success. With the help of traffic safety personnel and bicycle safety professionals, identify high-risk locations for bicyclist in your area. Select what street or streets work best for conducting the Bicycle Safety Enforcement Action. Look at streets where bicycling for any or all purposes (recreation, commuting, etc.) is common.

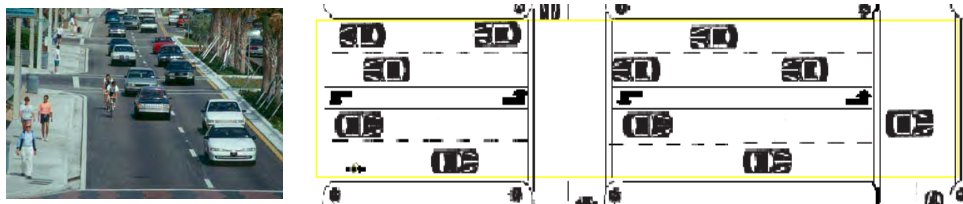
It is recommended that the selected enforcement location be on a road where bicycle/motor vehicle crashes have occurred. Usually, bicycling occurs on roads with less complex conditions such as streets that are no more than five-lanes (2-lanes in each direction plus center turn lane) with speed limits of less than 45 mph. In addition, select a road that has a good amount of traffic volume, but avoid areas and or times when traffic congestion occurs.

It is also recommended that the BSEA be conducted along a stretch of road where the intersections are controlled by an official traffic control device (stop sign or traffic light). Ideally, at least one of the intersections will be controlled by a stop sign.

Location Checklist

- Bicycling is common along the enforcement area
- Speed limit on road is 45 mph or less (preferred 35 mph or less)
- Enforcement area has at least 1 intersection
- Enforcement area has a good amount of traffic volume (avoid times of high traffic congestion)
- Enforcement area is on a road with limited number of traffic lanes (2-lane or 4-lane road recommended)
- Enforcement area is no larger 1 ½ to 2 blocks long
- If conducting multiple BSEA’s choose a variety of locations (residential, commercial, around schools, around parks, etc.)

Below is an example of a suggested area that the Bicycle Safety Enforcement Action could take place in.



To ensure the safety of both the decoy bicyclist and motorist, this operation will follow the listed criteria:

- Operations will only be conducted in daylight hours, with fair weather conditions.
- The decoy bicyclist(s) should be an officer who feels comfortable and has skills and experience riding and handling a bicycle in traffic.
- The decoy bicyclist(s) will use due care to not endanger themselves or motorists.
- The decoy bicyclist(s) will wear clothing that is highly visible and a properly fitted bicycle helmet.
- The bicycle(s) used for the operation should be in good working condition. It is recommended a bike mechanic inspect the bikes used for the operation.
- Spotters, in regular street clothes, will be positioned at intersections or other locations that allow them to observe and document violations and radio chase vehicles.
- The general public will be given notice of the date, time and location of each operation.

Personnel & Equipment:

To conduct the Bicycle Safety Enforcement Action a minimum 4 law enforcement officers are needed. However, more officers may be used. Officers selected as decoy bicyclists and spotters should not be in uniform.

- 1 - 2 decoy bicyclist(s). If more decoy bicyclist decoys are wanted, a spotter can be substituted as a decoy bicyclist. If more than one decoy bicyclist is used for the operation, assign names to the bicyclist such as “Decoy 1” and “Decoy 2”.
- 1 - 2 spotter(s)
- 2 - 4 officers in chase vehicles (motorcycles, cruisers, etc.)

Equipment Checklist

- Radios for each officer involved in the Bicycle Safety Enforcement Action.
 - Head set radio is recommended for the decoy bicyclist.
- Bicycle(s) for the decoy bicyclist(s).
- Rear view mirror for each decoy bicyclist, either attached to helmet or handlebars.
- 2 - 4 chase vehicles (patrol cars and/or motorcycles). A motorcycle cop could be used as a chase vehicle and a spotter, if necessary.
- Computer accessible to run license plates.
- Hand held radar unit for spotter.

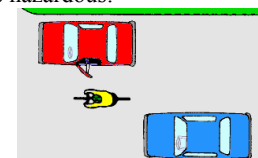
BSEA Procedures

After selecting a location, get the word out to the public about the BSEA by using the media. Inform the public about the purpose of the BSEA and provide tips on how to safely share the road. This should be done a day or so in advance by sending out a press release to the local media.

The operation will require at least one bicyclist decoy. This person should be an officer who is comfortable riding a bicycle in traffic and has the skills and experience to do so safely. Agencies may choose to have more than one decoy bicyclist. Bicyclist decoys will obey all traffic laws.

Lane position is important to ensure the bicyclist’s safety. Utah law requires that a bicyclist ride along the right-hand edge of the “roadway” when moving at less than the normal speed of traffic. Roadway is defined in Utah Code as “*that portion of highway improved, designed, or ordinarily used for vehicular travel, exclusive of the sidewalk, berm, or shoulder*” (Utah Code 41-6-Definitions (41)). A bicyclist should not ride in the gutter, which is more hazardous. The following are reasons why riding in the gutter can be hazardous:

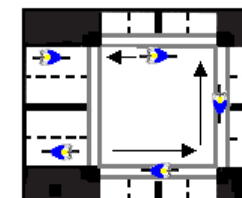
- Debris tends to collect in the gutter.
- A bicyclist riding in the gutter needs to constantly move to the left to avoid parked cars, and cars turning right.
- The bike’s pedals can hit the curb on the down stroke, causing the bicyclist to lose control of his bike.
- A bicyclist riding in the gutter is less visible to other road users.



It is recommended that the bicyclist maintain a minimum of a 2-3 foot distance from the gutter and/or parked cars. Staying away from the gutter and parked cars allow the bicyclist room to operate and will keep the rider away from opening car doors as well as making the rider more visible to other road users.

The decoy bicyclist will ride along the right-hand edge of the travel lane (not the sidewalk) with the flow of traffic, along the selected enforcement area. It is recommended that the decoy bicyclist do different maneuvers while riding to simulate what a bicyclist that is actually going somewhere may do, such as moving into the lane to make left turns. Be creative, but be safe and obey all traffic laws.

The enforcement area should be large enough to allow the decoy bicyclist to pass through at least one intersection. Upon reaching the end of the enforcement area the bicyclist decoy should go to the other side of the street and head back in the other direction. On the right is one suggested way that the bicyclist decoy can legally move to the other side of the street.



While the decoy bicyclist rides along the selected route, the spotter will be on the side of the road to observe traffic. Spotters will have a hand-held radar unit to clock motor vehicle speeds as well as to look for other violations that endanger the bicyclists’ safety.

When a violation is witnessed, the witness (the decoy bicyclist and/or the spotter) will radio the vehicle description, type of violation and lane position of the violator to the chase vehicle.

Good communication between the decoy bicyclist, the spotter, and the chase vehicle is very important. The decoy rider and spotter should communicate clearly over the radio to a chase vehicle when a violation has occurred. This information will allow the chase vehicle to know whom to stop.

A minimum of 2 chase vehicles will be needed for the selected enforcement area. The chase vehicles will use the information provided them by the decoy bicyclist and the spotter to locate and stop the violating motorist or bicyclist.

The direct contact between the officer and the motorist or bicyclist is the most significant part of the operation. It is important that it be an educational experience for the motorist or bicyclist and the officer. Officers will be given bicycle safety law booklets that can easily be used to show and teach motorists and bicyclists what was done improperly.

What Violations to Enforce

Crash studies show that certain errors by motorists and bicyclists lead to the greatest number of bicycle/motor vehicle crashes. These types of crashes result in the greatest number of injuries and deaths. It is these violations that should be targeted during the BSEA.

Motorist Errors -

- Failure to yield right-of-way
 - When turning left or right at intersections or into driveways/parking lots
 - When entering roadway
- Failure to yield at stop signs, yield signs and red lights
- Speeding
- Improper passing – passing too close (passing closer than 3-feet)
- Driving while impaired by alcohol or drugs

Bicyclist Errors -

- Failure to yield at stop sign and yield sign
- Running red lights
- Riding on the wrong side of the road, against the flow of traffic
- Failure to yield right-of-way
 - Riding out at mid-block location (entering the roadway without yielding)
 - Turning right or left
- Improper change of course (usually moving left unexpectedly)

The following is a list of state laws related to the above violations, followed by a brief discussion of issues associated with their enforcement. Although there are many laws affecting bicyclists, certain laws have a greater impact on bicycle safety than others.

41-6a-1102. Bicycle riders subject to chapter.

A bicyclist has all the rights and responsibilities as any operator of a vehicle. Bicyclists have a right to use the road, and should be granted that right by other road users. But with this right comes the inherent responsibility of obeying traffic laws. A traffic violation by a motorist and/or a bicyclist can put a bicyclist's safety at risk, all traffic violations should be enforced.

41-6a-1105. Operation of bicycle or moped on and use of roadway -- Duties.

A person operating a bicycle upon a roadway at less than the normal speed of traffic shall ride as near as practicable to the right-hand edge of the roadway except when: overtaking and passing another bicycle or vehicle proceeding in the same direction; preparing to make a left turn; traveling straight through an intersection that has a right-turn only lane that is in conflict with the straight through movement; or reasonably necessary to avoid conditions that make it unsafe to continue along the right-hand edge of the roadway including fixed or moving objects, parked or moving vehicles, bicycles, pedestrians, animals, surface hazards, or a lane that is too narrow for a bicycle and a vehicle to travel safely side by side within the lane.

A bicyclist traveling at the speed of traffic has a right to take the lane, but if traveling slower must ride to the right as long as it can be done safely. However, instances do exist that require the bicyclist to take the lane. But before doing so, the rider must make sure that the lane is clear and it is safe to do so. A bicyclist must ride in the designated direction of traffic. Riding against the flow of traffic is dangerous and illegal.

41-6a-803. Moving a vehicle -- Safety.

A person may not move a vehicle which is stopped, standing, or parked until the movement may be made with reasonable safety. Motorists pulling out into traffic from parking stalls, parking lots, and driveways, without yielding the right-of-way to bicyclists leads to many bicycle/motor vehicle crashes.

41-6a-304. Obeying devices.

The operator of a vehicle (or bicycle) shall obey the instructions of any official traffic-control device. Many bicycle/motor vehicle crashes are the result of a motorist or bicyclist running a stop sign, stoplight, or a yield sign.

41-6a-601. Speed regulations -- Safe and appropriate speeds at certain locations -- Prima facie speed limits.

A person may not operate a vehicle at a speed greater than is reasonable and prudent under the existing conditions, giving regard to the actual and potential hazards then existing. Motorists may need to reduce their speed when approaching or safely passing a bicyclist.

41-6a-704. Overtaking and passing vehicles proceeding in same direction.

The operator of a vehicle overtaking a bicyclist proceeding in the same direction shall, pass to the left at a distance of no less than 3 feet and may not drive to the right side of the roadway until safely clear of the overtaken vehicle.

A bicyclist like any other road user needs space to maneuver. This is especially important in situations that may require a bicyclist to take the lane to avoid a hazard such as a car door, an animal, glass or other shoulder debris. Many of these situations may not even be perceived by the motorist, which makes it all the more important for a motorist to pass at a safe distance. Large trucks and vehicles traveling at high speeds create a lot of wind and noise that can either pull the bicyclist into their draft or startle the rider causing him/her to lose control of his/her bike. Therefore in these situations, it is recommended that even more passing space be given.

Many bicyclists can easily travel at speeds of 25-30 mph. Motorists, often do not realize this and will pass a bicyclist, then immediately cut the bicyclist off to make a right turn. This will

cause the bicyclist to apply his/her brakes abruptly and possibly to swerve around the vehicle into other traffic. The motorist may also simply hit the bicyclist.

41-6a-804. Turning or changing lanes – Safety

A person may not turn a vehicle or move right or left upon a roadway or change lanes until the movement can be made with reasonable safety and an appropriate signal has been given for 3 seconds. Motorists will often move right, either to make a right turn to or to get into position to make a right turn without checking the right side of their vehicle and blind spot for bikes, cars, pedestrians, etc.

41-6a-903. Vehicle turning left -- Yield right-of-way.

The operator of a vehicle intending to turn left shall yield the right-of-way to any vehicle approaching from the opposite direction which is so close to the turning vehicle as to constitute an immediate hazard.

Crash studies show that a motorist's failing to yield the right-of-way when turning left to an approaching bicyclist is one of the most common types of bicycle/motor vehicle crashes, and results in serious or fatal injuries 25% of the time. Motorists often either do not accurately judge the speed of the bicyclist or do not see the bicyclist. If the approaching vehicle (in this case the bicyclist) has to take any sort of evasive action, the person turning left fails to yield the right-of-way.

41-6a-1008. Vehicle crossing sidewalk -- Operator to yield.

The operator of a vehicle crossing a sidewalk shall yield the right-of-way to all traffic (including bicycles) on the sidewalk. Bicycles in Utah are legally allowed to ride in either direction on the sidewalk. A common type of bicycle/motor vehicle crash occurs when a motorist fails yield the right-of-way to sidewalk traffic before crossing the sidewalk.

Enforcement - an opportunity to educate

Motorists usually are not trained on how to treat and deal with bicyclists, and conversely very few bicyclists ever receive any type of traffic safety training. Because of this lack of education, an officer's contact with a motorist or bicyclist is a perfect opportunity to educate. Receiving a citation or written warning and a little explanation of what was done wrong may be all it takes for a motorist or bicyclist to correct their behavior.

It isn't easy for a law enforcement officer to pull over a motorist or bicyclist when a moving violation is committed, especially if a crash is avoided. However, prevention is the key to reducing the number bicycle/motor vehicle crashes. If an officer does not take action when a moving violation is committed, an opportunity to educate has been lost. When an officer decides to take action, he/she can educate the motorist or bicyclist as to what they did wrong, and be a positive influence for that person to change behavior. This will help prevent bicycle/motor vehicle crashes, which will lead to fewer bicycle injuries and fatalities.