

October 12, 2021
Sent via E-Mail

City of Whitefish
Planning and Building Department
Attn: Wendy Compton-Ring
418 E 2nd Street
Whitefish, MT 59937
E-Mail: wcompton-ring@cityofwhitefish.org

Re: *Proposed Land Use Action: Arim Mountain Gateway PUD & Zoning Map
Amendment/Conditional Zone Change Applications (File Nos. WPUD 21-03 and
WZC 21-03)*

Ms. Compton-Ring and Honorable Members of the Whitefish Planning Board,

This firm, along with David K.W. Wilson, Jr. of Morrison Sherwood Wilson and Deola, PLLP represent Flathead Families for Responsible Growth (“Flathead Families” or “FFRG”), a Montana non-profit organization, in connection with the above referenced WPUD and WZC applications (collectively, the “Applications”) submitted by Arim Mountain Gateway (“Mountain Gateway”).

Flathead Families is composed of a wide array of citizens from the community - from those who live in downtown Whitefish, to the far end of Whitefish Lake to Kalispell and everywhere in between. They are opposed to the Applications. We understand the Whitefish Planning Board (“Board”) will hold a public hearing on the Applications on October 21, 2021 and the Board may forward the Application with the Board’s recommendation to the November 15, 2021 Whitefish City Council (“Council”) meeting for an additional public hearing and final action. Flathead Families offers the following concerns and its legal position regarding the Applications. Attached to this letter, and in support of Flathead Families’ position, is a summary expert report by Dr. Ahmed Al Kaisy, a traffic engineer who has reviewed the Traffic Impact Study (“TIS”) and related traffic issues, and an expert report by David Donohue of HydroSolutions, a hydrologist, who has reviewed the water issues in the Applications. We will provide Dr. Al Kaisy’s detailed report to the Planning Board prior to its October 21, 2021 hearing.

The Applications involve 30.51 net acres of property located at the intersection of Big Mountain Road, an MDT Secondary Highway, and East Lakeshore Drive, an MDT Primary Highway.¹ The property is currently zoned WR-2, WR-3, and County R-4, which the

¹ Montana Department of Transportation, Whitefish Urban Map, available at <https://mdt.mt.gov/other/WebData/external/Planning/maps/urban/WHITEFISH.PDF>

applicant seeks to have annexed into the City as WR-2.² The properties in the surrounding area are currently zoned WRR/WPUD, WLR, WER, WSR, and County R-4.

Overlaying the Whitefish Code requirements, and as a starting point for this discussion, are the fundamental requirements of zoning as set forth under Montana law. Section 76-2-304, MCA, states:

- (1) Zoning regulations must be:
 - (a) *made in accordance with a growth policy*; and
 - (b) designed to:
 - (i) secure safety from fire and other dangers;
 - (ii) *promote public health, public safety, and the general welfare*; and
 - (iii) facilitate the adequate provision of transportation, *water, sewerage*, schools, parks, and other public requirements.

- (2) In the adoption of zoning regulations, the municipal governing body shall consider:
 - (a) reasonable provision of adequate light and air;
 - (b) *the effect on motorized and nonmotorized transportation systems*;
 - (c) *promotion of compatible urban growth*;
 - (d) *the character of the district and its peculiar suitability for particular uses*; and
 - (e) conserving the value of buildings and encouraging the most appropriate use of land throughout the jurisdictional area.

(Emphasis added).

WPUD 21-03 and WZC 21-03: Danger to Public Safety

First and foremost, the applicant has failed to establish that the zoning amendment and planned unit development are designed to “secure safety from fire and other dangers,” “promote public health safety and the general welfare,” and is justified by a “clear community benefit” such as the provision of a public facility. WCC §§ 11-2S-6; 11-7-12; Mont. Code Ann. § 76-2-304(1)(b)(i).

It is Flathead Families’ position that: 1) the development density proposed by the applicant presents a clear danger to public safety due to fire and other dangers related to emergency services; and 2) the zoning amendment is not justified by any clear community benefit. Traffic congestion due to inadequate road infrastructure on Wisconsin Avenue, East Lakeshore Drive, and Big Mountain Road is already a fact of life and is well documented. In the event of a wildfire, this congestion could result in tragic consequences for life and property, more so if several hundred more residential units are built at the intersection of East Lakeshore Drive and Big Mountain Road. The applicant does not address this clear impediment to the proposed development whatsoever.

Further, as the applicant acknowledges, emergency vehicles are already constrained by access issues in the corridor. Purportedly, the applicant seeks to resolve this issue by donating land for a fire station. However, while the Whitefish City Code considers the provision of *public*

² The applicant seeks to annex 9.19 acres into the City of Whitefish.

facilities such as fire stations to fulfill the clear community benefit requirement, the developer is not proposing to build a fire station *facility*. See W.C.C. § 11-2S-6(E). Rather, the applicant is proposing to donate 1.51 acres of land where such a facility may or may not be built depending on a variety of factors that the applicant does not address, including the availability of funding for the building and staffing of the fire station by the City. Further, while a fire station is desirable in this location, there are several other locations in the Whitefish Fire Service Area (“WFSA”) that have a much more critical need for a fire station. The limited resources should be focused on locations in the WFSA that are further than 5 miles from a fire department, unlike this location which is approximately 4 miles from the Big Mountain Fire Department and 3.5 miles from the Whitefish Fire Department.

WPUD 21-03 and WZC 21-03: Inconsistency with the Growth Policy

Montana law requires the City’s zoning regulations, including zoning amendments, to be made in accordance and consistent with the Whitefish Growth Policy. Mont. Code Ann. § 76-2-304(1)(a); WCC § 11-7-12. However, in this case, there are clear inconsistencies between the Growth Policy and the zoning that would be implemented if this application is approved.

First, it is important to note that the Wisconsin Avenue Corridor Plan is inconsistent with the 2007 Growth Policy and thus is not itself in accordance with the Growth Policy as state law requires. The Growth Policy’s land use designation for the subject area is Suburban Residential which allows for WCR, WER, and WSR single-family zoning. However, the 2018 Corridor Plan changed the land use designation to “Suburban Residential – Big Mtn Road Key Development,”³ a designation that does not exist in the Growth Policy and is therefore invalid. Thus, because the Growth Policy and Corridor Plan are internally inconsistent such that it is “impossible to determine appropriate population densities” for the area, the City exceeded its authority in attempting to amend the Growth Policy’s land use designations with the Corridor Plan.

The current zoning of WR-2 and WR-3 on the property is also not consistent with the Growth Policy. The WR-2 zoning district is consistent with the Growth Policy’s Urban land use designation and the WR-3 zoning district is consistent with the High Density Residential land use designation. However, neither the WR-2 or WR-3 zones are consistent with the Suburban Residential land use designation. Therefore, the County R-4 zoned property should not be zoned WR-2 if the annexation is approved after an additional public hearing⁴; rather, the County-R4 property, if annexed, should be zoned WCR, WER, or WSR as designated by the Growth Policy.

³ The change in the Future Land Use map in the Wisconsin Avenue Corridor Plan was contrary to the discussion in the Plan which said “the corridor plan recommends designating this property as “**suburban residential**” on the future land use map with a diagonal hatch pattern and a footnote referencing this section of the document to denote the unique characteristics of this property ... [i]n summary, this property can and should be developed in a manner that will preserve most of its suburban character. At the same time, development of this property can address several of the goals set forth in this plan, including a wider variety of housing types and workforce housing, a degree of self-containment with the support of convenience commercial, shortened and/or eliminated vehicle trips, and access to transit and non-motorized transportation.” 4-10.

⁴ Pursuant to § 76-2-303, MCA, an additional public hearing on the applicant’s petition for municipal annexation is required because the Whitefish zoning regulations: i) do not “authorize land uses comparable to the land uses authorized by county zoning” or “authorize land uses that are consistent with land uses approved by the board of county commissioners or the board of adjustment pursuant to Title 76,

It is a well-established principle of Montana law that land use decisions cannot be based on planning documents that are “internally incongruous and irreconcilable.” *Bridger Canyon Property Owners Assoc. v. Planning and Zoning Comm.*, 270 Mont. 160, 173, 890 P.2d 1268 (1995). In *Bridger Canyon*, in evaluating a PUD approved by the Planning and Zoning Commission the Court noted,

We have previously determined that the General Plan must be followed and the PUD simply does not comply with the General Plan's language. In order for the development patterns and comprehensive (or master) plans to have meaning, they should be followed and must therefore, be consistent enough to be followed.

However, the incongruous language in the planning documents casts confusion upon the appropriate population densities for the various areas of the Canyon. In short, not only do the Zoning Ordinance and the Base Area Plan conflict with the General Plan, when they should harmonize, but they are internally in conflict. To base a decision of conditional approval of a PUD on planning documents which are inherently unreliable is unsatisfactory.

Id. at 174.

Accordingly, because of the inconsistencies among the planning documents, the Montana Supreme Court determined that the Planning and Zoning Commission exceeded its jurisdiction in approving the PUD.

Here, likewise, there are inconsistencies between the proposed PUD and both the Wisconsin Avenue Corridor Plan and the Growth Policy; and the Corridor Plan and the Growth Policy are themselves internally inconsistent.

Similarly, in *Heffernan v. City of Missoula*, 2011 MT 91, 360 Mont. 207, 255 P.3d 80, the Montana Supreme Court again overturned a decision by the City of Missoula, approving a development based on its inconsistency with the Growth Policy: “While it is not necessary for the Sonata Park zoning to be ‘consistent with every goal and objective expressed’ in the Rattlesnake Valley Plan . . . , it is necessary for the zoning to substantially comply with the plan.” *Id.*, ¶ 89. Here, as noted above, the PUD does not substantially comply with the Whitefish Growth Policy, and therefore does not meet the statutory and regulatory requirements.

Spot Zoning

Given the inconsistencies proposed by the WPUD 21-03 and WZC 21-03 applications, approval of the Applications would result in spot zoning because: 1) the proposed high-density and commercial uses are significantly different than the single-family and other low-density residential uses in the area⁵; 2) the changes would only benefit one landowner, Glacier Ranch

chapter 2, part 1.”; and (ii) are not “are consistent with zoning requirements recommended in a growth policy adopted pursuant to Title 76, chapter 1, for the annexed property.”

⁵ See *Wisconsin Ave Corridor Plan* at 64 (“The current zoning on the property is WR-2 and WR-3 (city) and R-4 (county). This is in sharp contrast to the WLR zoning that is located to the west and south, the low-density residential development to the north, and the resort residential zoning

Holdings LLC; and 3) as explained above, the zoning changes would be inconsistent with the 2007 Growth Policy. *See, e.g. Little v. Bd. Of County Commrs.*, 193 Mont. 334, 631 P.2d 1282 (1981).

WPUD 21-03: Community Residential Facility

The WPUD application is requesting a conditional use permit to allow 18.35 acres of WR-2 property to be developed as a Type II Community Residential Facility, which is defined as:

Community Residential Facility: One of the following facilities that may or may not be licensed by a governmental agency and providing care on a twenty four (24) hour a day basis and as defined by state law:

- A. A community group home for developmentally, mentally, or severely disabled persons or the elderly that does not provide skilled or intermediate nursing care.
- B. A youth care facility in which substitute care is provided to youth, including youth foster homes, kinship foster homes, youth group homes, youth shelter care facilities, and transitional living programs, but excluding youth assessment centers.
- C. An adult foster family care home.
- D. A halfway house operated in accordance with regulations of the Montana department of public health and human services for the rehabilitation of alcoholics or drug dependent persons and/or supervised living centers for probationers.
- E. A personal care facility.
- F. A maternity home, including administrative offices, services for childcare, counseling, classroom training, independent living training, and support groups.

WCC § 11-9-2; *see also* Mont. Code Ann. § 76-2-411 (Definition of “community residential facility”). Type II community residential facility serves 9 or more individuals, exclusive of caretakers and administration. *Id.*

According to the applicant, obtaining a Conditional Use Permit for a “community residential facility” will “allow the proposed 270-unit long term rental community” contemplated in the PUD. *PUD Narrative at 2.* The long term rental community will be composed of a multi-family apartment project with 238 market rate rental units and 32 affordable/deed restricted units. *PUD Narrative at 1; Housing Mitigation Plan Narrative at 1.* What the applicant is proposing is, manifestly, not a “Community Residential Facility” contemplated by the Whitefish Code or under statute. *See* above definition. The long term residential apartment complex is not proposed to

(the Iron Horse Golf Club practice range) to the east”).

“provide care on a 24 hour basis.” There is no mention of the home catering to special needs residents or residents as identified in the above definitions. Therefore, under both the Whitefish City Code and Montana Code Annotated, the applicant is not eligible to receive the conditional use permit requested since the applicant is not proposing to build a Community Residential Facility. On that basis alone, the application must be denied. The applicant needs to apply to change the underlying zoning to a kind of zone where this type of apartment building is permitted rather than seek to pass this off as a “community residential facility,” which is clearly not contemplated here. The City cannot approve this PUD with this erroneous definition; that would clearly be an arbitrary, capricious and unlawful decision.

WPUD 21-03: PUD Review Criteria

The applicant has also failed to meet its burden of satisfactorily addressing the PUD criteria codified in WCC §§ 11- 2S-1, *et seq.*

1. Purpose and Intent of a Planned Unit Development (Criteria No. 1)

Under WCC § 11-2S-1, the purpose of the WPUD overlay is to:

- A. Provide a community development tool that encourages creativity and innovation in design and development.
- B. Allow design flexibility so as to enhance the character and quality of development through variety in the type, design, and arrangement of structures and improvements.
- C. Allow the developer and design professionals the flexibility to respond to unique qualities and environmental characteristics of a site.
- D. Ensure that new development respects the character, scale, and qualities of the surrounding neighborhood.
- E. Encourage new development to integrate with existing neighborhoods to result in stronger, livable, sustainable neighborhoods, rather than a series of individual developments.
- F. Allow the developer to incorporate the latest innovations in design and construction techniques to address market demands and housing needs of the Whitefish community.

Flathead Families maintains that the project will not substantially achieve the applicable Purpose and Intent items found in W.C.C. § 11-2S-1. By way of example and not limitation, the development will not “enhance the character and quality of development” in the community or “respect the character, scale, and qualities of the surrounding neighborhoods” given that the surrounding neighborhoods are suburban residential in nature and the applicant is proposing to build a multi-story, high-density 270-unit apartment complex on the western portion of the property and six 4-plex units plus 24 condos on the eastern portion of the property, neither of which are allowed as permitted or conditional uses in the WR-2 zoning district.

Further, the density and type of buildings proposed do not protect the natural resources and environmental qualities associated with the area, do not use any innovative design and construction techniques, and do little to address the affordable housing needs in Whitefish.

2. Clear Community Benefit (Criteria No. 2)

The applicant must also demonstrate that the project provides a clear community benefit and justify why there is proper justification for any proposed deviations from standards of the underlying zoning district and the Public Works Design Manual. W.C.C. § 11-2S-6. However, the applicant has failed to provide a clear community benefit to justify approval of the PUD.

First, the applicant is proposing to provide a 1.51-acre piece of property with road access to Big Mountain Road and East Lakeshore Drive. However, as explained above, the developer is not proposing to build a fire station *facility* but, rather, is just donating a *piece of property* where such a facility may or may not be built depending on a variety of factors (funding being the main obstacle) that the applicant does not address.

Second, the applicant also asserts that the roundabout will provide a clear community benefit; however, the applicant does not explain how the provision of a roundabout complies with W.C.C. § 11-2S-6 and it should be noted that a roundabout was not proposed in the City's road infrastructure planning documents, including the Whitefish Transportation Plan and Wisconsin Avenue Corridor Plan. *Wisconsin Ave. Corridor Plan* at 73. Further, East Lakeshore Drive and Big Mountain Drive are under MDT authority as primary and secondary highways, respectively. Therefore, MDT is the lead agency for the design and funding of roadway improvements at this intersection. While the applicant states that the roundabout has been "discussed" with MDT, it does not state that MDT has approved or agreed to fund a roundabout at this intersection.

Third, the applicant asserts that it will retain the forested character of the land by building "up" versus "out." However, many more trees would be retained if the zoning was consistent with the Suburban Residential land use designation and the property was either left as is or developed with single family residences or townhomes on large lots as allowed under current zoning. Because the developer does not present a comparative analysis in this respect, the applicant has not presented a clear community benefit justification for the proposed development.

Finally, the applicant also states that the development of commercial business will reduce traffic on Wisconsin Avenue. However, it is obvious that any reduction of traffic between the intersection of Big Mountain Road and East Lakeshore Drive will be minimal and more than offset by the number of residential units being proposed. The applicant also fails to take into account the number of vehicle trips that will travel on Wisconsin just to frequent the commercial development.

3. Environmentally Sensitive Areas Criterion (Criteria No. 3)

The applicant also fails to establish that the project site will preserve and protect environmentally sensitive areas, including Whitefish Lake, steep slopes, and mature trees on the property. According to Dave Donohue, Senior Hydrologist with HydroSolutions, Inc., the vortex unit system proposed by the developer to manage stormwater from the development is insufficient to remove nitrogen and phosphates from stormwater runoff and does not provide stormwater treatment. Therefore, anything dissolved in the stormwater from the development, including

nitrogen and phosphates, would discharge into Whitefish Lake because the stormwater plan proposes a connection with the East Whitefish Lake ditch. Mr. Donohue raises additional issues regarding the potential environmental impacts from the project. We urge you to review Mr. Donohue's detailed comments. *Ltr. from D. Donohue*, attached as Exhibit A.

Further, the applicant states that there are areas with steeper slopes which will be "left primarily undeveloped." However, because the applicant does not clarify what it means by "primarily" (as noted by Mr. Donohue), it has not met its burden with regard to this criterion. Given these issues and the issues identified above with respect to the mature trees on the property, the applicant has not adequately explained how the proposed development will preserve and protect the environmentally sensitive areas on and near the site. Therefore, the PUD application should be denied.

4. Wildlife Habitat, Wildlife Corridor, and Open Space (Criteria Nos. 4 and 5)

The applicant has not met its burden to prove that it will be sensitive and respectful to wildlife habitat and/or seasonal migration corridors as verified by a competent wildlife assessment or otherwise verified by empirical evidence. WCC § 11-2S-8 requires the City to take a "hard look" at the proposed PUD's environmental impacts. Further, Article II, Section 3 and Article IX, Section 1 of the Montana Constitution places an affirmative duty on the private parties and the government to proactively protect the environment and public health from impacts that are not just conclusive, but also anticipatory and preventative.

While the applicant submitted a "species snapshot" from the Montana Natural Heritage Program, listing a number of federally endangered and threatened species and Montana Species of Concern ("SOC") in the area, the applicant did not address with any specificity what impact the development would have on these species through a wildlife assessment. The applicant also did not include any baseline data on Montana Potential Species of Concern ("PSOC") in the area and the migratory patterns of elk and other ungulates in the area. The applicant also failed to address how the development would ensure the protection of those species federally protected under the Endangered Species Act, Bald and Golden Eagle Protection Act, Migratory Bird Treaty Act, and the Lacey Act.

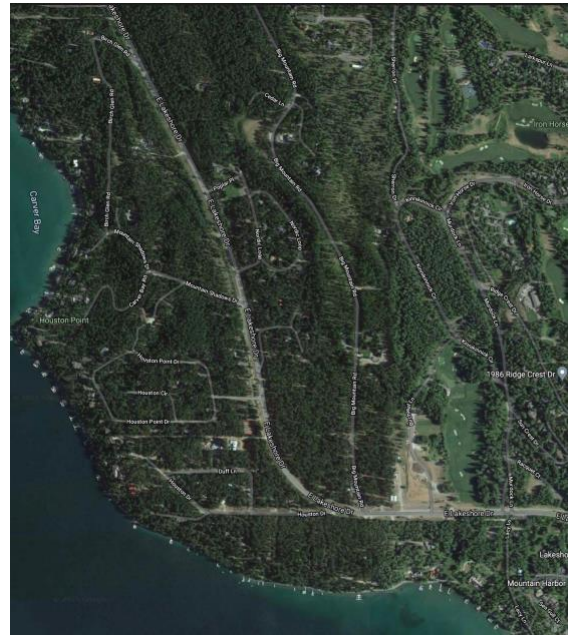
It is important to note that habitat loss, including as a result of habitat destruction and fragmentation due to land development, remains the largest threat to wildlife survivability in the United States.⁶ However, the applicant misrepresents the FWP's Crucial Habitat Rank and Habitat for Species of Concern for the area and also does not address those migratory birds that use the forested areas for nesting and/or foraging habitat. Thus, the applicant's assertion that "migratory bird species habitat is focused around areas close to standing water, ponds, or lakes" is incorrect. To that end, Flathead Families has retained an avian expert to speak to this issue and who is currently preparing an expert report in advance of the October 21, 2021 Planning Board hearing.

⁶ National Wildlife Federation, *Habitat Loss*, available at <https://www.nwf.org/Educational-Resources/Wildlife-Guide/Threats-to-Wildlife/Habitat-Loss>

With respect to the increased risk of black and grizzly bear-human conflicts associated with this development, the applicant does not guarantee that bear proof dumpsters⁷ will be utilized on the property which lack thereof clearly poses a danger to both the local bear population and public safety.

5. Preservation and Protection of Existing Neighborhoods (Criteria No. 6)

The applicant has not met its burden on this criteria given that the proposed high-density and commercial uses are significantly different from the single-family and dispersed low-density residential uses in the area. As such, the character and qualities of the existing neighborhoods would be negatively impacted rather than preserved and protected. The surrounding area as shown in the map is composed entirely of low density dwellings and open space. There is no commercial or high-density residential in or near the project area. This project will significantly change the existing neighborhoods by exacerbating the already dire traffic issues, dislocating wildlife who use the area, and changing the character of the area from a quiet, peaceful low-density area to a high-density, commercial one.



6. Street Continuity, Streetscapes, and Transportation Alternatives (Criteria Nos. 7, 8, and 9)

According to Dr. Ahmed Al Kaisy, Transportation Engineer, the Traffic Impact Study submitted by the applicant contains limitations that do not accurately reflect the true traffic impacts of this project. *Ltr. from A. Al Kaisy*, attached as Exhibit B. First, because Big Mountain Road is a major access road to Whitefish Mountain Resort, WGM Group should have conducted additional traffic counts during peak winter season in order to accurately calculate existing traffic volumes and, additionally, should have adjusted the 2020 traffic volumes to reflect the decline in travel due to COVID-19. Additionally, there are major traffic implications of this project associated with the six unrestricted access points being proposed, which are very likely to lead to an increase in vehicle collisions on the Big Mountain Road and East Lakeshore Road due to the increase in conflict points.

The applicant also states that parking would be allowed in this area for people wanting to use the path system or use the SNOW bus, but the application does not state that the Big Mountain Commercial Association (which funds the SNOW Bus) even wants or can accommodate an additional stop on its route. The developer is not proposing to fund any alternative transportation systems or even the current SNOW Bus shuttle. The applicant has proposed one SNOW bus stop

⁷ Bear Guardian, *IGBC Certified Bear Proof Dumpsters*, available at <https://www.bearguardian.com/product-category/bear-proof-dumpsters/>

on the east side of the development. There is no proposed SNOW bus stop on the west side of the development where the high-density housing would be located. Therefore, hundreds of people would potentially be crossing the street during the winter to use the SNOW bus if one was even actually built. The parking also seems to be inadequate to truly allow non-residents of the PUD to utilize the SNOW bus stop.

In addition, the applicant asserts that this development will benefit the trail system and trail users, when, in reality, the bikers and hikers that frequent the trail will have two additional busy intersections to stop at, as well as a roundabout to contend with. This is a well-loved and well-used trail system for road bikers in particular and road bikers do not want to stop in a store - as the applicant contends - during their bike ride. They seek continuity and few intersections which the trail currently provides, but which will change if this development is approved.

The Applications will also likely lead to increased wildlife-vehicle collisions, especially considering this is a prime forested area that large mammals use and is identified by the applicant as an essential wildlife corridor for big game such as elk and deer. The applicant does not address this concern or plan for any mitigation.⁸

7. Provision of Affordable/Workforce Housing (Criteria No. 10)

The applicant is proposing to build a 270-unit multi-family apartment project with 238 market rate rental units and, purportedly, 32 affordable and/or deed restricted units. *PUD Narrative* at 1; *Housing Mitigation Plan Narrative* at 1.

There was a wide dissemination of misinformation with respect to the project addressing affordable housing and workforce housing needs of Whitefish. The public was under the impression after several meetings with the developer and its proponents (which included Planning Board member Toby Scott), that the project was a workforce housing project. As proposed, however, the Applications would provide only 32 affordable units; the rest would be at market rate which is not affordable for our workforce. The units proposed for affordable housing are apartments for rent that range in size from studios at 500 square feet to 2-bedrooms at 975 square feet.⁹ Although small apartments are necessary to address the workforce housing shortage, they do not address the needs of the broader community as summarized in the 2017 Whitefish Strategic Housing Plan. For example, this project does not provide housing for families who need at least three bedrooms, and it contributes to the downward trend in home ownership. In addition, by developing Mountain Gateway, the developers are displacing eight affordable single-family homes. Thus, the applicant is actually only providing 24 affordable units (without yards, garages or storage). The applicant's "voluntary inclusionary zoning" will have little impact and should not be approved under this guise.

Included with the PUD application is a conditional annexation application. The conditional annexation application does not address the housing needs in Whitefish whatsoever. Despite the 2017 Whitefish Strategic Housing Plan's recommendation to require 75%-80% of homes developed on properties to be annexed into Whitefish be deed restricted for Whitefish local

⁸ See Maintained Wildlife Corridor Map submitted by applicant.

⁹ See *Housing Mitigation Plan*, 1.

residents, the applicant proposes to build 24 “high end” condos on the annexed land that will be sold to the highest bidder and likely end up as second homes for non-locals.

8. Avoidance or Mitigation of Adverse Impacts (Criteria No. 12)

As stated above (*supra*, 1-10), this development will have several adverse impacts on neighboring properties and the community as a whole. These are primarily due to traffic and safety issues associated with the development, but also extend to wildlife displacement and overburdening City resources such as water, sewer and schools. In addition, the development will change the character of the neighborhood as “pastoral” and convert it to a high-density, commercial area. The project will also displace at least eight affordable homes and replace them with small apartments that lack the yard, garage and storage facilities currently provided.

Lastly, it is important to note the capacity issues at both Muldown Elementary and Whitefish High School which would be exacerbated by the number of residential units being proposed here.

WPUD 21-03: Adequacy of preliminary designs for necessary public facilities, infrastructure, and services including but not limited to water, sewer, and stormwater.

As Mr. Donohue’s report (Ex. B) notes, there are significant issues concerning the adequacy and viability of the developer’s stormwater management plan. Mr. Donohue’s report also questions whether there is sufficient information in the application to demonstrate there is sufficient water legally available, and sufficient pressure, to address new domestic needs arising from the development, as well as fire suppression needs.

WZC 21-03: Zoning Map Application

The WZC Application proposes to change the zoning for about approximately 4-acres¹⁰ from WR-2 to WB-1-SC. This parcel will *not* be considered as part of the PUD, as the PUD is not allowed to have commercial uses since it is a “residential” PUD. The purpose of the Residential PUD is to “facilitate creatively designed, livable neighborhoods in Residential Zoning Districts where the proposed product type, density, scale and character are appropriate and complement adjacent development.” W.C.C. § 11-2S-1. The proposed zone change - from WR-2 to WB-1 - is not appropriate and does not complement adjacent development, which is only low-density residential.

As an initial matter, the applicant has only requested a zoning map amendment on one 3.96-acre tract¹¹ to WB-1. However, it is clear from the applicant’s own materials that the commercial development will occur on more than this tract. It appears that the commercial development will spill over onto the adjacent parcel¹² currently zoned WR-2. Therefore, the applicant must amend their zoning application to include *all* of the property which it proposes to

¹⁰ Although the applicant characterizes this zone change as 3 acres, it is closer to 4 at 3.966.

¹¹ Assessor’s Tract No. 0906030.

¹² Assessor’s Tract No. 0456452.

develop with business/commercial uses under the WB-1 zone. (Compare the existing zoning map with the preliminary water and sewer layout, which clearly shows business/commercial development spilling over onto the eastern parcel zoned WR-2 and not included in this zone change application).



Commercial uses on adjacent WR-2 parcel not included in zone change application

WZC 21-03: Conditional Zoning Statement

Further, if approved, the conditional zoning request would allow all of the permitted and conditional uses of the WR-2 zone by right, all of the permitted uses of the WB-1 zone by right, and the ability to apply for about half of the conditional uses allowed in the WB-1 zone such as mini storage, multi-family dwellings with 9 or more dwelling units, bars and lounges. For non-residential uses, the request would change the side and rear setback requirements for the WR-2 to 0 feet unless the property “abuts a residential district or public right of way.”

While conditional zoning may be valid where it is in the “best interest of the city” and “if certain more restrictive conditions” are considered, that is not the case with the applicant’s conditional zoning request. Rather than imposing more restrictive conditions, the request would allow the developer to avoid side or rear setback requirements under certain circumstances and would allow the property to be developed with more uses under both the WR-2 and WB-1 zoning districts, not less. The City cannot bargain away its police power in this manner because this agreement between the City and a private interest which leads to the rezoning classification of land in order to accommodate the applicant’s private interests is not in furtherance of the public health, safety, or general welfare.

Additionally, since this request is contingent on PUD approval, it is important to note that the flexibility in a floating zone stems from the council’s ability to impose *greater* restrictions or requirements on the property that would otherwise be required. The approval of the PUD in addition to conditional zoning requirements would grant the council the power to vary or waive existing restrictions, such a minimum setback requirements, applicable to all other properties within the district in contravention of the uniformity rule.

WZC 21-03: Zoning Map Amendment Criteria

The applicant has also failed to meet its burden of satisfactorily addressing the zoning criteria codified in WCC §§ 11-2S-6; 11-7-12 and Mont. Code Ann. § 76-2-304

1. Made in accordance with the Growth Policy (Criteria No. 1); Secure safety from fire and other dangers (Criteria No. 2); Promote public health, safety and general welfare (Criteria No. 3)

As thoroughly discussed above, the zone change application does not meet these criteria. The Application does not evaluate the Growth Policy whatsoever but solely analyzes the inconsistent “Key Development Area” policies. The application further mischaracterizes some of these policies as not applicable. For example, in its Findings Narrative, the applicant states that “Items 6.8, 6.9, and 6.10 seem to be specific to areas in the south end of the corridor...” *Findings Narrative*, 1-2. However, 6.8 and 6.9 specifically address either the north side of the corridor or mixed use development, which is proposed here:

6.8 Concentrate more compact, mixed use development in the south half of the corridor where there is already more intense development

6.9 Plan for low-impact, lower intensity development on the north half of the corridor to reflect the more open, pastoral, character of the area.

Allowing mixed-use development that is high-density in the north half of the corridor is therefore inconsistent with even the purportedly supportive “Key Development Area” policies.

The applicant asserts that allowing for commercial uses on this property will “reduce vehicle trips [and help] reduce congestion along the Wisconsin Avenue corridor” but fails to account for the extra vehicular trips that will be added due to the commercial - and potentially residential - uses that could be developed under this zone change.

2. Facilitation of transportation, water, sewerage, schools, parks and other public requirements (Criteria No. 4)

The applicant has not met its burden under this criterion. The applicant is not proposing to fund any alternative transportation systems or even the current SNOW Bus shuttle. Without evidence, the applicant also states that commercial uses have less of an impact than residential uses. The application suggests that daycare or schools may be a commercial use with this zone change, but a daycare would not need a zone change as it is allowed in WR-2 as a conditional use.

3. Effect on Transportation Systems (Criteria No. 6)

As thoroughly explained above, the transportation analysis conducted by the applicant was woefully insufficient and failed to adequately provide a realistic picture of the traffic situation in this intersection. It erroneously found that development of 20,000 square foot mixed use commercial will not impact traffic. Instead, the mixed use commercial proposed to be developed here will exacerbate the already congested traffic and create more accidents due to the unrestricted

access points from this property. A single roundabout will not sufficiently mitigate the creation of high density traffic as alleged by the applicant.

4. Consideration of the Character of the District (Criteria No. 8)

The character of this area is “characterized as [a] more rural, pastoral setting.” *See Wisconsin Avenue Corridor Plan*, 2-8. The proposed high-density and commercial uses are significantly different from the single-family, open space, and resort uses in the area, and hardly “pastoral.” As such, the proposed use as mixed-use commercial would negatively impact rather than preserve and protect the character of the area.

Type text here

5. Conservation of Building Value (Criteria No. 9)

The applicant states, without evidence, that “buildings in the greater area will not have values affected by the change in zoning of this property.” It is obvious that, at the very least, the associated increase in traffic could negatively affect the area’s home values to varying degrees.

The application calls the existing buildings “rundown” which may be true, but they also provide affordable housing to several families. These families will be displaced with this development. The applicant refers to Wisconsin as a “state highway” multiple times, which is also true, but suggests that Wisconsin/East Lakeshore is a big road that would actually buffer noise and light, when in reality, this is not the case. It is a two-lane road.

6. Appropriate Land Use, Historical Uses, Established Use Patterns, and Change in Use Trends (Criteria No. 10 and 11)

The Growth Policy and the Wisconsin Avenue Corridor Plan identify this 4-acre tract as Suburban Residential, yet the applicant proposes this tract should be re-zoned as a limited business district. The applicant asserts that the uses contemplated here (which are both WR-2 and WB-1 under the conditional zoning statement) “correspond well with the Wisconsin Avenue Corridor Plan.” However, the Wisconsin Avenue Corridor Plan notes that “mixed use development [should be concentrated] in the south half of the corridor where there is already more intense development.” *Corridor Plan*, 4-2. It also states that the north half of the corridor should have “low-impact, lower intensity development.” The applicant does not address these goals and policies as set forth in the Wisconsin Avenue Corridor Plan. Further, the Wisconsin Avenue Corridor Plan notes that this particular area is “sufficiently unique within the corridor planning area that it merits some special consideration.” It states the site could be used as workforce housing (which is not proposed here), that a commercial development may be appropriate as part of a PUD (also not proposed here), and that a satellite fire station would be appropriate here (also not proposed to be built), but nonetheless, designates the property as Suburban Residential:

To address the above issues [workforce housing and supporting convenience commercial and satellite fire station], acknowledge the vision for this property from the 2007 growth policy, reflect the existing land use/character of the surrounding area, and in recognition of the existing zoning, the corridor plan recommends designating this property as “suburban residential”

...

Suburban residential character does not necessarily mean large single-family homes on acreage lots. Suburban character can be at least partially achieved by clustering townhomes, modest and attainable single-family detached, 2 and 4-unit residential buildings, or semi-attached products around open space where the mature tree canopy has mostly been preserved.

Wisconsin Avenue Corridor Plan, 4-9 - 4-10.

The Plan envisions this area with low-density residential or neighborhood commercial. However, as submitted, the applicant would be entitled to the following incompatible uses:

- all uses within the WPUD overlay
- fraternity and sorority houses
- colleges, businesses, trade schools
- public utility buildings and facilities
- ministorage
- multi-family dwellings (nine or more dwelling units)
- etc.

The historical uses of the property are “single residence currently used as a rental,” which is low-density residential. *Findings Narrative, 8.* The established use patterns are likewise low-density residential. The established use patterns are also a busy and frequently backed up intersection, especially during the winter months and on weekends. Converting these 4 acres to commercial uses will only exacerbate the established use patterns of an inadequate traffic system. There has been no change in use patterns, except for local families who have lost housing due to second home owners who can afford the exceptional rise in housing costs. This development will contribute to that trend if approved.

Right to Participate: Deadline for Public Comment

Finally, while Flathead Families has worked diligently to review and provide public comments on this matter, the Mountain Gateway PUD application (particularly WPUD 21-03) is nonetheless massive with several hundred pages of information, including an Open Space Management Plan, draft Declaration of Covenants, Conditions and Restrictions, a Housing Mitigation Plan, a Phasing Plan, a Traffic Impact Study, conditional annexation documents, and many other complex documents.

Due to the complexity, amount of information and desire for Flathead Families to meaningfully participate in this matter, on October 1, 2021, our clients formally requested the City extend the deadline by which to comment on the application, and thereby move the application hearing to the November Planning Board meeting. This request was made pursuant to W.C.C. § 11-2S-8(F), which acknowledges the complexity of PUD applications and therefore waives any time limit by which the City Council must act.

According to the Planning Department, in order for Flathead Families’ public comments to be included in the Planning Board’s packet (rather than just summarized to the Board), FFRG

must submit its comments by today, nine (9) days prior to the Planning Board meeting. This arbitrary deadline, which is inconsistent with the public comment procedures for other land use decisions, means that our clients have had less than 30 days to review and comment on the application to be included in the packet, since the application materials were not available to the public until September 17, 2021.

Conclusion

Thank you for your consideration and volunteer time. Flathead Families for Responsible Growth urges the Planning Board to recommend denial to the City Council, and for the City Council to deny the Applications.

All the best,

WEINBERG & HROMADKA, PLLC

Michelle T. Weinberg
Michelle T. Weinberg

Lindsey W. Hromadka
Lindsey W. Hromadka

MORRISON, SHERWOOD, WILSON & DEOLA PLLP


David K.W. Wilson, Jr.



MEMORANDUM

Date: October 12, 2021

To: David Kim Wilson, Morrison, Sherwood, Wilson & Deola, PLLP

From: David Donohue, P.G., HydroSolutions Inc
Luke Osborne, P.E., HydroSolutions Inc

Subject: **Comments on Water, Stormwater, and Environmental Information, Mountain Gateway Planned Unit Development Application, Whitefish, Montana**

As you requested, HydroSolutions Inc (HydroSolutions) completed a preliminary review of applicable portions of selected reports and documents associated with the Mountain Gateway Planned Unit Development (PUD) Application, Whitefish, Montana. HydroSolutions review was completed on behalf of the Flathead Families for Responsible Growth.

This review focused on aspects of water quality and quantity, stormwater drainage and management, environmental issues, and proposed mitigation outlined in the documents. This review also notes specific areas where information in the application was insufficient to perform a detailed review and identifies additional information that the City of Whitefish should obtain and evaluate prior to approval of the PUD.

In general, the application lacked analysis and reports which specifically describe details regarding the development, including an environmental assessment, stormwater management plan, drainage plan, and water quality impact controls and mitigation to effectively prevent impacts to Whitefish Lake. The PUD Narrative provided general descriptions regarding water and stormwater plans and lacked the details needed for completion of an effective review of the PUD application. Comments on information found in the PUD Narrative or associated drawings are provided below.

I. Water

1. We understand that the PUD will be annexed into the City of Whitefish and connected to City water and sewer. However, there is no information provided in the application to confirm that the City water rights includes this property as a Place of Use and the water rights provide sufficient additional capacity for the new use. This information needs to be evaluated and confirmed by the City.

2. The PUD needs to provide information regarding planned water use and needs analysis to verify that the City has sufficient water rights to meet the demands of this additional use.
3. The City must require that the development have sufficient water pressure for all domestic and fire suppression needs. No analysis or documents are provided to evaluate water pressure requirements to meet domestic and fire suppression demands and if booster pumps will be necessary. This information and analysis must be included in this application as part of approval for the development.

II. Stormwater

1. The depth to shallow groundwater will regulate the effectiveness of a stormwater infiltration as part of stormwater runoff control system. Has depth to first groundwater been evaluated? Would seasonal fluctuations in groundwater affect effective use of storm water infiltration ponds? Infiltration rates in surface soils must be determined as well so that an effective infiltration rate can be guaranteed.
2. Stormwater captured on site will discharge directly into the East Lake Shore Ditch. Does the Ditch have the capacity to handle this additional stormwater flow from the increase of impermeable areas in the new development (buildings, parking lots, walkways, etc.)? Evidence that the Ditch has the capacity to contain post-development 100-year storm events or other storm events per City code must be provided.
3. The vortex unit will help to capture and retain trash, debris, sediment, and hydrocarbons from stormwater runoff. It will not prevent an increase of nutrient loading from dissolved contaminants into Whitefish Lake. How many vortex units will be included to control stormwater runoff and where will they be located? What manufacturer will be used? Who will be responsible for maintenance and cleanout of the units to assure proper function?
4. As shown on Figure 3 of 3 of the preliminary storm layout drawing, there is one storm water retention pond located on the south side of the west development parking. Several smaller retention ponds are included on the eastern side of the development. The PUD does not provide specifics on design of the stormwater system so that a technical evaluation of the stormwater management system can be made.
5. The City of Whitefish Engineering Standards (2019) requires that the NRCS Type I 24-hour distribution for the 10- and 100-year storm events must be used for sizing stormwater control systems. Please provide all data and analysis used in your application to size stormwater facilities. At present, no data were provided to support the stormwater management system for this PUD. Verify that pre- and post-development storm water runoff volumes are consistent and proposed storm water facilities sufficiently manage storm water impacts.

6. What are developed mitigation plans if proposed stormwater management is insufficient to ensure that post-development runoff matches the pre-development runoff in timing and volume?
7. Since the East Lake Shore Ditch discharges into Whitefish Lake, how will dissolved nutrients from fertilizer use and other contaminants at the PUD be controlled? Water quality from runoff cannot degrade the water quality of Whitefish Lake, and specifically Monk's Bay, which according to the City's Wisconsin Avenue Corridor Plan (2018) "is very sensitive to run-off and land development".

III. Environmental

1. The PUD narrative describes steeper slopes on the NE portion of the site and states that these areas will be left "primarily undeveloped". No assessment is provided which will assist the City in evaluating this area. What are soil types, building designs, slope steepness, and slope limitations for building at this location?

IV. Other

1. A park and ride use option is included in the development. Will sufficient parking spaces be available for public use to make this an effective traffic management tool?



October 12, 2021

Michelle Tafoya Weinberg
Weinberg & Hromadka, PLLC
P.O. Box 652 | Whitefish, MT 59937
michelle@whlawmt.com

Ms. Weinberg,

Thank you for sending me the Traffic Impact Study associated with the proposed Mountain Gateway development. I have reviewed 2020 traffic data as well as the Traffic Impact Study, including the schematic site layout and traffic counts conducted by WGM Group.

Briefly, the proposed Mountain Gateway mixed-use development is anticipated to consist of 318 multi-family residential units, including 270 apartments, 24 multi-family owner occupied residential units, and 24 townhomes. The development is also expected to include approximately 40,000 square feet of mixed-use commercial space.

In reviewing this proposed development, it is my opinion that based on the existing facts known and considered at this point, the Traffic Impact Study contains limitations that do not accurately reflect the true traffic impacts of this project. Specifically, WGM Group treated the Big Mountain Road as a commuter route, which it is not. Rather, because Big Mountain Road is the major access road to Whitefish Mountain Resort, WGM Group should have also collected AM and PM traffic counts on at least two or three Saturdays during the peak winter ski season (late December, January, and February).

Additionally, it is important to note that the Traffic Impact Study used traffic counts from 2020. However, 2020 was not a normal year for traffic data collection due to the COVID-19 impact on travel and the associated decline in traffic volumes. The Traffic Impact Study should have considered this issue and adjusted the 2020 traffic volumes to reflect the decline in travel.

Finally, I am very concerned about the safety implications resulting from the design of this development. The schematic site layout shows six unrestricted access points, including four on Big Mountain Road and two on East Lakeshore Drive. The design of these access points is very likely to lead to an increase in vehicle collisions on the Big Mountain Road and East Lakeshore Road due to the increase in conflict points.

The above opinion is based on my initial review of the information contained in WGM Group's Traffic Impact Study. I will provide a more detailed report to you on or before October 21, 2021.

Sincerely,

Dr. Ahmed Al Kaisy

Enclosure: Curriculum Vitae

Ahmed Al-Kaisy, PhD, PE, Professor

Department of Civil Engineering

Montana State University

Bozeman, Montana 59717

Phone: (406) 994-6116

Email: alkaisy@montana.edu

ACADEMIC PREPARATION

Post-Doctoral Fellow, McMaster University, Hamilton, Ontario, Canada	1999-2000
PhD Transportation Engineering, Queen's University, Kingston, Ontario, Canada	1999
BSc, MSc Civil Engineering, University of Baghdad, Iraq	1985

ACADEMIC EMPLOYMENT

Professor, Department of Civil Engineering, Montana State University, Bozeman, Montana, July 2012-present.

Program Manager, Safety & Operations, Western Transportation Institute, Montana State University, Bozeman, Montana, June 2008-present

Visiting Professor, Department of Civil Engineering, American University of Sharjah, UAE, September 2011-June 2013

Associate Professor, Department of Civil Engineering, Montana State University, Bozeman, Montana, July 2007-July 2012.

Assistant Professor, Department of Civil Engineering, Montana State University, Bozeman, Montana, 2003-2007

Assistant Professor, Civil Engineering Department, Bradley University, Peoria, IL 2001-2003

Post-Doctoral Research Associate, McMaster University, Hamilton, Ontario, Canada 1999-2000

Lecturer, McMaster University, Hamilton, Ontario, Canada 1999-2000

Research Associate, Royal Military College of Canada, Kingston, Ontario, Canada 1996-1999

Research Assistant, Queen's University, Kingston, Ontario, Canada 1996-1999

Teaching Assistant, Queen's University, Kingston, Ontario, Canada 1996-1999

PRINCIPAL AREAS OF TEACHING & RESEARCH

Highway geometric design, Traffic operations and management, traffic safety, intelligent transportation systems, sustainable Transportation Systems, traffic simulation and modeling, traffic flow theories, infrastructure planning and management

RESEARCH GRANTS

- *Use of Fluorescent Orange Delineators in Temporary Traffic Control Work Zones*, Montana Department of Transportation and SURTCOM (Principal Investigator), \$204,000 (in contract). Information at: <https://rip.trb.org/View/1530033>

- *Developing a Methodology for Safety Improvements on Low-Volume Roads in Montana*, Montana Department of Transportation and SURTCOM (Principal Investigator), \$127,000 (ongoing).
- *Downtown Bozeman Parking Inventory and Occupancy Study*, City of Bozeman (Principal Investigator), \$30,000 (Completed)
- *Improved Analysis of Two-Lane Highway Capacity and Operational Performance*, National Cooperative Highway Research Program (NCHRP), \$550,000 (Investigator, PI: Scott Washburn, University of Florida), (completed)
- *Developing Interdisciplinary Research Initiatives on Smart Cities*, COE Thorson Excellence in Engineering (TEER) Grants program & WTI SURTCOM (Co-PI), \$56,000 (completed)
- *Feasibility of Electric, Autonomous Paratransit Service in Rural Areas - Smart Cities Initiative*, Small Urban, Rural and Tribal Center on Mobility (SURTCOM), Western Transportation Institute (PI), \$77,241 (ongoing)
- *Assessment of Montana Road Weather Information System (RWIS)*, Montana Department of Transportation (Principal Investigator), \$152,000 (completed)
- *Traffic Records and Performance Measure Support*, National Highway Traffic Safety Administration (NHTSA), \$182,000 (Co-Principal Investigator, PI: Eric Li from Virginia Tech, prime institution) (completed)
- *Innovative Safety Solutions with Pavement Markings and Delineation*, American Traffic Safety Services Association (ATSSA), (Principal Investigator), \$30,000 (completed)
- *Risk Factors Associated with High Potential for Serious Crashes*, Oregon Department of Transportation and FHWA, \$160,000 (Principal Investigator), (completed)
- *Evaluation of Variable Speed Limit/Variable Advisory Speed Systems*, Oregon Department of Transportation and FHWA, \$165,000 (MSU PI, in partnership with Portland State University, PSU PI: Dr. Robert Bertini) (completed)
- *Montana Weigh-in-Motion (WIM) and Automatic Traffic Recorder (ATR) Strategy*, Montana Department of Transportation and FHWA (Investigator), \$205,000 (completed)
- *Traffic Calming for Rural 2-Lane Roads*, Central Federal Land Highway Division, FHWA (Principal Investigator), \$80,000 (completed)
- *Evaluation of a Variable Speed Limit System for Wet and Extreme Weather Conditions*, Oregon Department of Transportation and FHWA, (Principal Investigator), \$170,000 (phase I completed)
- *Cost Effective Local Road Safety Planning and Implementation*, American Traffic Safety Services Association (ATSSA), (Co-Principal Investigator), \$35,000 (completed)
- *Montana Rest Area Usage: Data Acquisition and Usage Estimation*, Montana Department of Transportation, (Principal Investigator), \$160,000 (completed)
- *Explore ITS Technologies for Work Zones and Work Zone Impact Areas*, Western Federal Land Highway Division, FHWA (Principal Investigator), \$120,000 (completed)
- *Effect of Speed, Alignment and Roadside Features on Crash Experience along a Rural Corridor*, Western Transportation Institute, NSF REU Program, \$12,000 (completed)
- *City of Bozeman Parking Study*, City of Bozeman, (Principal Investigator), \$28,000 (completed)
- *Effect of Alignment and Sight Distance on Drivers' Speed Selection in the Gallatin Canyon*, Western Transportation Institute, NSF REU Program, \$12,000 (completed)

- *Channelized Right-Turn Lanes at Signalized Intersections: Traffic Control Empirical Investigation*, US Department of Transportation through Western Transportation Institute, Bozeman, MT, (Principal Investigator), \$25,000 (completed)
- *FWS Traffic Monitoring Assessment and Demonstration Project – Phase I*, Central Federal Lands Highway Division, FHWA, (Principal Investigator), \$100,000 (completed)
- *Operational Effectiveness of Passing lanes on Two-Lane Highways*, Western Transportation Institute, UTC Graduate Transportation Award, Bozeman, MT, \$69,500 (completed)
- *Use of Rural Transportation Infrastructure in Evacuation Operation for the North Gulf Coastal Region*, Center for Urban Rural Interface Studies, Mississippi State University, National Oceanic and Atmospheric Administration (NOAA), (Co-Principal Investigator), \$75,000 (completed)
- *Bozeman Pass Wildlife Channelization ITS Project*, Federal Highway Administration and Montana Department of Transportation, (Co-Investigator), \$82,498 (completed)
- *Indicators of Performance on Two-Lane Highways*, Western Transportation Institute, UTC Graduate Transportation Award, \$69,500 (completed)
- *Effectiveness of Yield-to-Pedestrian Channelizing Devices*, Pennsylvania Department of Transportation, (Co-Investigator), \$50,000 (completed)
- *Development of New Analysis Procedures for Two-Lane Highways*, Western Transportation Institute, UTC Graduate Transportation Award, \$47,000 (completed)
- *Static Warning Signs for Occasional Hazards: Survey of Practice*, University Transportation Center, US Department of Transportation through the Western Transportation Institute, Bozeman, MT, (Principal Investigator), \$25,000 (completed)
- *The Intelligent Transportation System Lab*, Econolite and MSU, \$156,000 (completed)
- *Weather Responsive Signal Control: Practical Guidelines*, Western Transportation Institute, NSF REU Program (completed)
- *Single-Lane Two-Way Traffic Control at Maintenance & Reconstruction Zones*, Western Transportation Institute, NSF REU Program, \$12,000 (completed)
- *A New Approach for Developing Passenger Car Equivalency Factors for Heavy Vehicles on Congested Freeways*, Graduate Research Assistant Sponsored Project Award (GRASP), \$35,000 (completed)
- *Nighttime Construction: Evaluation of Construction Operations*, Illinois Transportation Research Center (ITRC), Springfield, Illinois, (Co-Principal Investigator), \$150,000 (completed)
- *Nighttime Construction: Evaluation of Lighting for Highway Construction*, Illinois Transportation Research Center (ITRC), Springfield, Illinois, (Co-Principal Investigator), \$150,000 (completed)
- *Assessing the Occlusion Effect of Heavy Vehicles on the Visibility of Freeway Guide Signs*, Graduate Research Assistant Sponsored Project Award (GRASP), \$35,000 (completed)
- *Assessing the Effect of Peak Hour Factor Approximation on Intersection Delay*, Bradley University Caterpillar Faculty Fellowship, \$25,000 (completed)
- *Freeway Capacity at Long-Term Reconstruction Zones*, Natural Sciences and Engineering Research Council of Canada (NSERC), (Investigator), (completed)
- *Quality of Service on Freeway facilities*, Natural Sciences and Engineering Research Council of Canada (NSERC), (Investigator), (completed)

PUBLICATIONS (Last 10 years only)

Book Chapters

The Highway Capacity Manual (HCM) Two-Lane Highway Analysis Methodology – New chapter in the upcoming HCM update – NCHRP project 17-65.

Refereed Journal Articles

1. Al-Kaisy, A., Ewan, L., and **Hossain, F**¹. (2019) “Development of Crash Risk Index on Low-Volume Rural Roads,” *Transportation Research Records, Journal of the Transportation Research Board*, <https://doi.org/10.1177/0361198119853549>.
2. **Jafari, A.**, Al-Kaisy, A., and Washburn, S. (2019) “Evaluation of passing lane effective length on two-lane highways,” *Transportation Letters*, DOI: 10.1080/19427867.2019.1586329.
3. **Jafari, A.**, Al-Kaisy, A., and Washburn, S. (2019) “Passing Lane Optimum Length on Two-Lane Highways,” *Canadian Journal of Civil Engineering (CJCE)*, 46 (6), pp. 261-269.
4. Al-Kaisy, A., **Jafari, A.**, and Washburn, S. (2019) “Following Status and Percent Followers on Two-Lane Two-Way Highways: Empirical Investigation,” *Civil Engineering Research Journal, Juniper Publishers*, 2019; 7(3): 555711. DOI: 10.19080/CERJ.2019.07.555711.
5. **Jafari, A.**² and Al-Kaisy, A. (2018) “Investigation of Side-by-Side Passing Lane Length and Spacing on Two-Lane Highways” *Journal of Advances in Transportation Studies*, XLVI (November 2018), pp. 31-42, DOI: 10.4399/9788255186413.
6. Al-Kaisy, A., **Jafari, A.**, Washburn, S., Luttinen, T. and Dowling, R. (2018) “Performance Measures on Two-Lane Highways: Survey of Practice,” *Research in Transportation Economics*, Elsevier, Volume 71, pp. 61-67.
7. Al-Kaisy, A., **Jafari, A.**, and Washburn, S., Luttinen, T. and Dowling, R. (2018) “Traffic Operations on Rural Two-Lane Highways: a Review on Performance Measures and Indicators,” *Transportation Research Records, Journal of the Transportation Research Board*, Sage Publications, Volume 2672, Issue 15, pp. 66-74.
8. Al-Kaisy, A., and Ewan, L. (2017) “Prioritization Scheme for Proposed RWIS Sites: Montana Case Study,” *Transportation and Transit Systems: Frontiers in Built Environment*, 3:45. doi: 10.3389/fbuil.2017.00045.
9. Al-Kaisy, A., **Jafari, A.**, and Washburn, S. (2017) “Measuring Performance on Two-Lane Highways: Empirical Investigation,” *in Transportation Research Record 2615*, *Journal of the Transportation Research Board*, DOI is 10.3141/2615-08.
10. Al-Kaisy, A., **Miyake, G.**³, Staszuk, J., and Scharf, D. (2016) “Motorists’ Voluntary Yielding of Right of Way at Uncontrolled Mid-Block Crosswalks with Rectangular Rapid Flashing Beacons” *Journal of Transportation Safety and Security*, ISSN: 1943-9962 (Print) DOI: 10.1080/19439962.2016.12- -67827.
11. Al-Kaisy, A., Ewan, L., and **Hossain, F.** (2016) “Economic Feasibility of Safety Improvements: Oregon’s Low-Volume Roads Case Study,” *Journal of Transportation Safety and Security*, Taylor & Francis, ISSN: 1943-9962 (Print) 1943-9970 (Online), DOI: 10.1080/19439962.2016.1212446, pp. 1-14.
12. Ewan, L., Al-Kaisy, A., and **Hossain, F.** (2016) “Safety Effects of Road Geometry and Roadside Features on Low-Volume Roads,” *Transportation Research Record 2580*, *Journal of the Transportation Research Board*, pp. 47-55.

¹ Names in bold indicate supervised graduate students.

² Names in bold indicate supervised graduate students.

³ Names in bold italic indicates supervised undergraduate students.

13. Wang, Y., Veneziano, D., Russel, S. and Al-Kaisy, A. (2016) "Traffic Safety along Tourist Routes in Rural Areas," *Transportation Research Record 2568*, Journal of The Transportation Research Board, pp.55-63.
14. Ismeik, M., Al-Kaisy, A. and Al-Ansari, K. (2015) "Perceived Risk of Phoning while Driving: a Case Study from Jordan," *Journal of Safety Science*, Elsevier, volume 78, pp. 1-10.
15. **Watson, D.**, Al-Kaisy, A. and **Anderson, N.** (2014) "Examining the Effect of Speed and Roadway Geometry on Crash Experience along a Rural Corridor," *Journal of Modern Transportation*, Springer, Vol. 22, Issue 2, pp. 84-95.
16. Al-Kaisy, A., **Krieder, T and Pothering, R.** (2013) "Speed Selection at Sites with Restrictive Alignment: The US-191 Case Study," *Journal of Advances in Transportation Studies*, Issue 29. pp. 71-82.
17. **Ewan, L.**, Al-Kaisy, A. and Veneziano, D. (2013) "Weather Sensing and Road Surface Conditions: Is Technology Mature for Reliable ITS Applications?" *TRB Transportation Research Record 2329*, Journal of the Transportation Research Board, pp. 8-16.
18. **Freedman, Z.** and Al-Kaisy, A. (2013) "Investigation of Performance and Lane Utilization within a Passing Lane on a Two-Lane Rural Highway" *The International journal for Traffic and Transport Engineering*, Vol. 3, issue 3, pp. 279-290.
19. Al-Kaisy, A., Veneziano, D. Dorrington, C., and **Kirkemo, Z.** (2012) "Practical Guidelines for Estimation of Rest Area Use on Rural Interstates and Arterial Highways" *Transportation Research Record 2303*, Journal of the Transportation Research Board, pp. 117-124.
20. Al-Kaisy, A. and **Roefaro, S.** (2012) "Channelized Right-Turn Lanes at Signalized Intersections: The U.S. Experience," *Advances in Transportation Studies*, Vol. 26, pp.57-68.
21. Al-Kaisy, A., **Roefaro, S.** and Veneziano, D. (2012) "Effectiveness of Signal Control at Channelized Right Turning Lanes: An Empirical Study" *Journal of Transportation Safety and Security*, Vol. 4, Issue 1, pp. 19-34.
22. Al-Kaisy, A., **Church, B.**, Veneziano, D. and Dorrington, C. (2011) "Investigation of Parking Dwell Time at Rest Areas on Rural Highways," *Transportation Research Record 2255*, Journal of the Transportation Research Board, pp. 156-164.
23. Al-Kaisy, A., **Kirkemo, Z.**, Veneziano, D. and Dorrington, C. (2011) "Traffic Usage of Rest Areas on Rural Highways: A Recent Empirical Study" *Transportation Research Record 2255*, Journal of the Transportation Research Board, pp. 146-155.
24. Al-Kaisy, A. and **Freedman, Z.** (2011) "Estimating Performance on Two-Lane Highways: Case Study Validation of a New Methodology," *Transportation Research Record 2173*, Journal of the Transportation Research Board, pp. 72-79.
25. **Freedman, Z.** and Al-Kaisy, A (2010) "Empirical Examination of Passing Lane Operational Benefits on Rural Two-Lane Highways," *Journal of Transportation Research Forum*, Vol. 49, No. 3, pp. 53-68.
26. Al-Kaisy, A. and **Karjala, S.** (2010) "Car-Following Interaction and the Definition of Free-Moving Vehicles on Two-Lane Rural Highways." *Journal of Transportation Engineering*, ASCE Publications, Vol.136, Issue 10, pp. 925-931.
27. Ismeik, M. and Al-Kaisy, A. (2010) "Characterization of Cell Phone Use while Driving: The Jordan Experience," *Transport*, Taylor & Francis, Vol. 25, Issue 3, pp. 252-261.
28. Al-Kaisy, A., and Nassar, K. (2009) "Developing a Decision Support Tool for Nighttime Construction in Highway Projects" *ASCE Journal of Construction Engineering & Management*, Volume 135, Issue 2, pp. 119-125.
29. Al-Kaisy, A. and **Durbin, C.** (2009) "Platooning on Two-Lane Two-Way Highways: An Empirical Investigation" *Journal of Advanced Transportation*, Volume 43, Number 1, pp. 71-88.
30. **Jafari, A.**, Al-Kaisy, A., and Washburn, S. (2019) "Investigation of Passing Segment Optimal Length on 2+1 Highways," *Transportation Research Records*, TRB, Washington, DC, in review.

31. **Bell, M.**, Wang, Y., and Al-Kaisy, A. (2019) "Risk Mapping Wildlife-Vehicle Collisions across the State of Montana," *Transportation Research Records*, TRB, Washington, DC, in review.
32. Al-Kaisy, A. and **Huda, K. T.** (2019) "Identifying Sites for Safety Improvements on Low-Volume Rural Roads: A Review," *Transport Reviews*, Taylor & Francis, in review.

Peer-Reviewed Articles in Conference Proceedings

33. **Relph, D.**, Al-Kaisy, A. and Gleason, R. (2019) "Drivers' Behavior When Passing Bicyclists along Rural Recreational Routes," Presented at the 99th Transportation Research Board Annual Meeting, Washington, DC, 12-16 January 2020.
34. Al-Kaisy, A., Ewan, L., and **Hossain, F.** (2019) "Identifying candidate locations for safety improvements on low-volume rural roads: the Oregon experience," *Transportation Research Circular E-C248: 12th International Conference on Low-Volume Roads*, Kalispell, Montana, September 15-18.
35. **Jafari, A.**, Al-Kaisy, A., and Washburn, S. "Investigation of Passing Segment Optimal Length on 2+1 Highways," Presented at the 98th Transportation Research Board Annual Meeting, Washington, DC, 12-16 January 2019.
36. **Jafari, A.**, Al-Kaisy, A., and Washburn, S. "Passing Lane Optimum Length on Two-Lane Highways," Presented at the 98th Transportation Research Board Annual Meeting, Washington, DC, 12-16 January 2019.
37. **Bell, M.**, Wang, Y., and Al-Kaisy, A. "Risk Mapping Wildlife-Vehicle Collisions across the State of Montana," Presented at the 98th Transportation Research Board Annual Meeting, Washington, DC, 12-16 January 2019.
38. **Jafari, A.**, Al-Kaisy, A., and Washburn, S. (2018) "Investigation of Passing Lane Effective Length on Two-Lane Two-Way Highways," Presented at the 97th TRB Annual Meeting, January 7-11, 2018.
39. **Jafari, A.**, Al-Kaisy, A., and Washburn, S. (2018) "Evaluation of Passing Lane Design Configurations on Two-Lane Highways," Presented at the 97th TRB Annual Meeting, January 7-11, 2018.
40. Al-Kaisy, A., **Jafari, A.**, and Washburn, S. (2018) "Traffic Operations on Rural Two-Lane Highways: a Review on Performance Measures and Indicators," Presented at the 97th TRB Annual Meeting, January 7-11, 2018.
41. Al-Kaisy, A., and **Siddiqui, S.** (2017) "Drivers' Compliance with a Variable Advisory Speed System along an Urban Freeway Corridor," Presented at the 96th TRB Annual Meeting, January 8-12, 2017.
42. **Siddiqui, S.**, and Al-Kaisy, A. (2017) "Assessing the Safety Effects of an Advisory Variable Speed Limit System along an Urban Freeway Corridor," Presented at the 96th TRB Annual Meeting, January 8-12, 2017.
43. **Siddiqui, S.**, and Al-Kaisy, A. (2017) "Effect of Advisory Variable Speed Limit on The Fundamental Flow Diagrams along Urban Freeway," Presented at the 96th TRB Annual Meeting, January 8-12, 2017.
44. Al-Kaisy, A., and Ewan, L. (2017) "Prioritization Scheme for Proposed RWIS Sites: Montana Case Study," Presented at the 96th TRB Annual Meeting, January 8-12, 2017.
45. Al-Kaisy, A., **Jafari, A.**, and Washburn, S. (2017) "Following Status and Percent Followers on Two-Lane Two-Way Highways: Empirical Investigation," Presented at the 96th TRB Annual Meeting, January 8-12, 2017.

46. Al-Kaisy, A., **Jafari, A.**, and Washburn, S. (2017) "Measuring Performance on Two-Lane Highways: Empirical Investigation," Presented at the 96th TRB Annual Meeting, January 8-12, 2017.
47. Al-Kaisy, A., **Jafari, A.**, Washburn, S., Luttinen, T and Dowling, R. (2016) "Performance Measures on Two-Lane Highways: Survey of Practice," Presented at the Transportation Research Board 95th Annual Meeting, January 10-14, 2016.
48. Al-Kaisy, A., Ewan, L., and **Hossain, F.** (2016) "Economic Feasibility of Safety Improvements: Oregon's Low-Volume Roads Case Study," Presented at the Transportation Research Board 95th Annual Meeting, January 10-14, 2016.
49. Ewan, L., Al-Kaisy, A., and **Hossain, F.** (2016) "Safety Effects of Road Geometry and Roadside Features on Low-Volume Roads," Presented at the Transportation Research Board 95th Annual Meeting, January 10-14, 2016.
50. Wang, Y., Veneziano, D., Russel, S. and Al-Kaisy, A. (2016) "Traffic Safety along Tourist Routes in Rural Areas," Presented at the committee meeting for the Transportation Needs of National Parks and Public Lands Committee (ADA40) during the TRB 95th Annual Meeting, January 10-14, 2016.
51. Sangster, J, Rakha, H., and Al-Kaisy, A. (2015) "Comparative Analysis of the Through-about, Roundabout, and Conventional Signalized Intersection Designs" Presented at the TRB 94th Annual Meeting, January 2015.
52. **Ewan, L.**, Al-Kaisy, A. and Veneziano, D. (2013) "Weather Sensing and Road Surface Conditions: Is Technology Mature for Reliable ITS Applications?" Presented at the Transportation Research Board 92nd Annual meeting in Washington DC, January 13-17.
53. Al-Kaisy, A., Veneziano, D. Dorrington, C., and **Kirkemo, Z.** (2012) "Usage Estimation at Rest Areas on Rural Interstate and Arterial Highways: Practical Guidelines" Presented at the Transportation Research Board 91st Annual Meeting in Washington, D.C., January 22-26.
54. Al-Kaisy, A. and **Durbin, C.** (2011) "Platooning on Two-Lane Two-Way Highways: An Empirical Investigation" Proceedings of the 6th International Symposium on Highway Capacity and Quality of Service, Stockholm, Sweden, June 28-July 1, Elsevier, Volume 16.
55. Al-Kaisy, A. and **Freedman, Z.** (2011) "Empirical Examination of Passing Lane Operational Benefits on Rural Two-Lane Highways," Proceedings of the 6th International Symposium on Highway Capacity and Quality of Service, Stockholm, Sweden, June 28-July 1, Elsevier, Vol. 16.
56. Al-Kaisy, A., **Roefaro, S.** and Veneziano, D. (2011) "Effectiveness of Signal Control at Channelized Right Turning Lanes: An Empirical Study" Presented at the 90th TRB Annual meeting, Jan. 23-27.
57. Al-Kaisy, A., **Church, B.** Veneziano, D. and Dorrington, C. (2011) "Investigation of Parking Dwell Time at Rest Areas on Rural Highways," Presented at the 90th TRB Annual meeting, Jan. 23-27.
58. Ismeik, M. and Al-Kaisy, A. (2011) "Characterization of Cell Phone Use while Driving: The Jordan Experience," Presented at the 90th TRB Annual meeting, January 23-27.
59. Al-Kaisy, A., **Kirkemo, Z.**, Veneziano, D. and Dorrington, C. (2011) "Traffic Usage of Rest Areas on Rural Highways: A Recent Empirical Study" Presented at the 90th TRB Annual meeting, January 23-27.
60. Al-Kaisy, A. and **Roefaro, S.** (2010) "Channelized Right-Turn Lanes at Signalized Intersections: A Review of Practice," The Fourth International Symposium on Highway Geometric Design, Valencia, Spain, June 1-5.
61. Al-Kaisy, A., **Kreider, T.** and **Pothering, R.** (2010) "Speed Selection at Sites with Restrictive Geometries: A Case Study," The 20th Canadian Multidisciplinary Road Safety Conference, Niagara Falls, Canada, June 6-9.

62. Al-Kaisy, A. and **Freedman, Z.** (2010) "Estimating Performance on Two-Lane Highways: Case Study Validation of a New Methodology," Presented at the Transportation Research Board 89th Annual Meeting, January 10-14.
63. Al-Kaisy, A., Hardy, A., and **Nemfakos, C.** (2009) "Static Warning Signs of Occasional Hazards: Do They Work?" The Canadian Multidisciplinary Road Safety Conference, Saskatoon, Canada, June 7-10.

Abstract Peer Reviewed Articles Presented at Professional Meetings

64. Bertini, R., Downey, M., Al-Kaisy, A., Ewan, L., and Veneziano, D. (2015) Effects of Adverse Weather on Freeway Performance and Potential Performance Benefits From Variable Advisory Speed System, Portland State University Research Symposium, Portland, Oregon.
65. Bertini, R., Downey, M., Al-Kaisy, A., Ewan, L., and Veneziano, D. (2014) "Evaluation of Weather Responsive Variable Advisory Speed System in Portland, Oregon," Proceedings of the 21st World Congress on Intelligent Transport Systems, Detroit, Michigan, September 2014.
66. **Freedman, Z.** and Al-Kaisy, A. (2014) "Investigation of Performance and Lane Utilization within a Passing Lane on a Two-Lane Rural Highway" Presented at the TRB Symposium Celebrating 50 Years of Traffic Flow Theory, Portland, Oregon, August 11-13, 2014.
67. **Ewan L.**, Al-Kaisy, A. and Veneziano, D. (2013) Development of Weather-Responsive Variable Speed Limit System, National Rural ITS Conference, St. Cloud, Minnesota, August 25-28, 2013.
68. Al-Kaisy, A., Veneziano, D. and **Ewan, L.** (2012) "Weather Based Variable Speed Limits" Presented at the Northwest Transportation Conference, Kiewit Center for Infrastructure and Transportation, Oregon State University, Corvallis, Oregon, February 7-9, 2012.
69. **Watson, D.**, Al-Kaisy, A., and **Anderson, N.** (2012) "Examining the Effect of Speed, Roadside Features and Roadway Geometry on Crash Experience along a Rural Corridor," Presented at the Southeastern Transportation Center Student Poster Session held in conjunction with the Transportation Research Board (TRB) 91st Annual Meeting, January 22-26, 2012.
70. Al-Kaisy, A. and Ye, J. (2010) "Explore ITS Technologies for Work Zones and Work Zone Impact Areas" Presented at the National Rural ITS (NRITS) conference 2010, Huntington, West Virginia, August 1-4.
71. Al-Kaisy, A. and Veneziano, D. (2009) "Weather Adaptive Traffic Control: Practice, Technology, and Future Outlook," Presented at the National Rural ITS (NRITS) conference 2009, Seaside, Oregon, August 23-27.

Professional Publications

72. Al-Kaisy, A., Ewan, L. (2016) "Innovative Safety Solutions with Pavement Markings and Delineation" The American Traffic Safety Services Association (ATSSA), available at: <https://www.atssa.com/cvweb/cgi-bin/msascartdll.dll/ProductInfo?productcd=ISSPMD>
73. Ewan, L., Al-Kaisy, A., and Veneziano, D. (2013) "Help from above: Noninvasive Sensors Assist with Pavement Condition" Roads and Bridges Magazine, March, 2013. Available at: http://www.roadsbridges.com/sites/default/files/44_non-invasive%20road%20sensors_R&B0313.pdf
74. Veneziano, D., Villwock-Witte, N. and Al-Kaisy, A. (2011) "Cost Effective Local Road Safety Planning and Implementation" The American Traffic Safety Services Association (ATSSA), available at: <http://www.countyengineers.org/ResourcesEdu/PublishingImages/Local%20%20Roads%20NACE%20ATSSA.pdf>

Selected Research Reports

Improved Analysis of Two-Lane Highway Capacity and Operational Performance, Final Report, NCHRP project 17-65. Available at: <http://www.trb.org/Main/Blurbs/177835.aspx>

Assessment of Montana Road Weather Information System (RWIS), Montana Department of Transportation, Final Report, January 2017. Available at: http://www.mdt.mt.gov/other/webdata/external/research/DOCS/RESEARCH_PROJ/RWIS_ASSESS/Final_Report.PDF

Montana Weigh-In-Motion and Automatic Traffic Recorder Strategy, Montana Department of Transportation, Final Report, March 2017. Available at: http://www.mdt.mt.gov/other/webdata/external/research/docs/research_proj/wim/FINAL_REPORT.pdf

Site Prioritization Model for Montana RWIS, Montana Department of Transportation, Interim Report, October 2016. Available at: http://www.mdt.mt.gov/other/webdata/external/research/DOCS/RESEARCH_PROJ/RWIS_ASSESS/Task_7.PDF

Risk Factors Associated with High Potential for Serious Crashes, Oregon Department of Transportation, Final Report, SPR 771, September 2015. Available at: https://www.oregon.gov/ODOT/TD/TP_RES/ResearchReports/SPR771_RiskFactors_092115.pdf

Evaluation of a Variable Speed Limit System for Wet and Extreme Weather Conditions, Oregon Department of Transportation, Phase One Report, SPR 743, June 2012. Available at: http://ntl.bts.gov/lib/45000/45500/45584/SPR743_VSL_System.pdf

City of Bozeman Parking Study, A Project Completed for the City of Bozeman Parking Commission and Downtown Bozeman Partnership, February 2018. Available at: <https://www.bozeman.net/Home/ShowDocument?id=5335>

Rest Area Use: Data Acquisition and Usage Estimation, Final Report, Report FHWA/MT-10-009/8202, FHWA and Montana Department of Transportation, February 2011. Available at: http://www.mdt.mt.gov/other/research/external/docs/research_proj/rest_area/final_report.pdf

COURSES TAUGHT

At Montana State University

- Traffic Flow Theory & fundamentals
- Transportation Safety
- Traffic Engineering & ITS
- Highway Geometric Design
- Transportation Planning
- Transportation Engineering

At the American University of Sharjah

- Highway Geometric Design
- Transportation Engineering and Planning
- Traffic Engineering
- Elementary Surveying

- Introduction to Statistical Analysis

At Bradley University

- Airport Engineering
- Advanced Traffic Engineering
- Introduction to Transportation Engineering
- Civil Engineering Materials
- Geotechnical Engineering

At McMaster University

- Land Use and Transportation
- Highway Materials and Pavement Design

HONORS AND AWARDS

- Recipient of the *College of Engineering Excellence in Research Award 2018*
- Nominee for the *College of Engineering Excellence in Research Award 2017*
- Recipient of the Albert Nelson Marquis Lifetime Achievement Award 2017
- Editorial Board Member, Transportation and Transit Systems, Frontiers in Built Environment
- Editorial Board Member, International journal for Traffic and Transport Engineering (IJTTE)
- Recipient of the Iraqi Talent Award, Iraqi Academic Conference, The National Academies, Washington, DC, March 14-15 2009.
- Member, Iraqi American Academic and Professional Community (IAAPC) – Civil Engineering Committee
- MSU DEAL Program, 2017-2018.
- Leadership MSU Program 2008-2009
- Recipient of Caterpillar Fellowship, Bradley University 2003
- GRASP Award, Bradley University, 2001 and 2002
- Queen's Graduate Fellowship; 1998-1999
- Queen's Graduate Awards; 1998-1999, 1997-1998, 1996-1997
- Samuel McLaughlin Fellowship; 1997-1998
- Carleton University Graduate Award and Fellowship; 1996-1997
- Sabbatical leave, 2011-2012

PROFESSIONAL AND UNIVERSITY SERVICE

Committees and Assignments (Montana State University)

- Member, Planning Task Force, Vice President for Research and Economic Development (VPRGEED) – Graduate Education, summer 2019.
- Chair, University Graduate Council (Fall 2017, Fall 18- present)
- Search Committee Chair, CE transportation faculty position 2019.
- Vice Chair, University Graduate Council (Spring 2017, Spring 18)
- Member, University Graduate Council (Fall 2014 – Spring 2016)
- Assistant to the Provost Search Committee 2014
- Department head search committee member 2018.
- Transportation faculty Search Committee member (2005 & 2013)
- MSU Strategic Planning Committee, 2008-2011

- MSU Space Management Committee, 2008-2011
- University Appeals Committee – summer 2006
- Civil Engineering Curriculum Committee, 2003-present
- Spring Engineering Festival Organizing Committee, 2003-2008
- Graduate Coordinator – Transportation Program, 2003-present
- Civil Engineering Scholarship Committee 2006-present
- Institute of Transportation Engineers (ITE) faculty advisor, 2004-present
- Director, Transportation Lab 2004-present
- Committee member – Western Transportation Institute (WTI) Graduate Fellowships, 2003-2010
- Committee member for WTI-UTC student of the year award, 2003-2010
- Interview Committee – MDT Design Unit internship program, 2003-2008
- Undergraduate student advising
- Graduate student advising
- Member – Study Abroad Interview Committee - Office of the International Programs (2004-2005)
- Student Conduct Board member – academic year 03-04, 04-05
- CE-101 Lecture on Transportation Engineering (Fall 05, Spring 06, Fall 06)

Committees and Assignments (Bradley University)

- Ph.D. program task force committee member (2002-2003)
- Midwest Traffic Conference committee member - Center for Emerging Technologies in Infrastructures CETI, Civil Engineering Department, Bradley University, (2002-2003)
- Director of Civil Engineering and Construction Library (2002-2003)
- Director of Geotechnical Lab (2001-2003)
- Civil Engineering Program Committee member (2001-2003)
- Co-advisor for the Associated General Contractors (AGC) student organization (2001-2002)
- Research Excellence Committee member (2001-2002)
- Teaching Excellence Committee member (2001-2002)
- Graduate Program Committee member (2001-2002)
- Tenure and promotion task force (2001)

Professional Affiliations

- Professional Engineer: State of Montana, License # 18377
- Member, Institute of Transportation Engineers, 2003-present
- Member, American Society for Engineering Education (ASEE), 2008-2010, 2016-present
- Member, TRB Joint Sub-Committee ABG10(1) “Ahead of the Curve: Mastering the Management of Transportation Research”
- TRB University Representative 2004-present
- Canadian Association of Road Safety Professionals, 2004 and 2009-2011
- Member, ROI subcommittee, TRB Visualization in Transportation Committee (ABJ95), 2009
- Transportation Research Board (TRB) individual affiliate 1998-2006
- American Society of Civil Engineers 2001-2003
- Canadian Society of Civil Engineering 1999-2000, 2004-2005
- Member, Council on Undergraduate Research (CUR) 2009-present
- Iraqi Society for Higher Education Abroad 2005-present
- International Society of Iraqi Scientists 2001-2016
- Order of the Engineers 2007-present

Other Professional Service

- Technical panel member, NCHRP project 15-75 (2019-present)

- Panelist, TRB webinar “Improved Analysis of Two-Lane Highway Capacity and Operational Performance,” March 25, 2019. <http://www.trb.org/Main/Blurbs/178779.aspx>
- Technical panel member, NCHRP project 03-132 (2017 – present)
- Invited speaker, Kittelson & Associates, Portland, Oregon, July 17, 2019.
- Invited speaker and panelist, TRB session 786 “Beyond 3D: Progressive Visualization for Geometric Design” TRB 2009 Annual Meeting, Washington, D.C., January 15, 2009. Workshop sponsored by Visualization in Transportation Committee (ABJ95), Geometric Design Committee (AFB10), Project Delivery Methods (AFH15), Operational Effects of Geometrics Committee (AHB65), and Simulation and Measurement of Vehicle and Operator Performance committee (AND30).
- Proposal expert reviewer, SUNY 4E Network of Excellence, 2013
- Reviewer of documents for the year 2010 Highway Capacity Manual (HCM)
- Proposal expert reviewer, City University of Hong Kong, 2009
- Proposal expert reviewer, Pacific Northwest Transportation Consortium, 2014
- Invited Speaker, World Usability Day, Walking as a Transportation Mode, Western Transportation Institute, Bozeman, Montana, November 13, 2008
- Invited Speaker, Summer Transportation Institute, WTI, Bozeman, Montana, 2007, 2008, 2009 & 2010.
- Invited Speaker, CE-101 Introduction to Civil Engineering 2006, 2007 and 2008.
- Reviewer of the Institute of Transportation Engineers (ITE) Manual of Transportation Engineering Studies, 2nd Edition, 2010
- Reviewer of the Institute of Transportation Engineers (ITE) Traffic Engineering Handbook, 6th Edition, 2009
- Chair: Intelligent Transportation Systems session, Canadian Society of Civil Engineering Annual Meeting, Saskatoon June 2-4, 2004.
- Program Committee Member and coordinator, the Midwest Traffic Conference, Bradley University, Peoria, Illinois, 4-5 March 2003.
- Reviewer of the PEO (Professional Engineers-Ontario) traffic engineering examination (fall 2000)
- Journal Reviewer
 - *Transportation Research Records*, Journal of the Transportation Research Board
 - *Transportation Research – Parts B & F*, Elsevier Science
 - *ASCE Journal of Transportation Engineering*
 - *Canadian Journal of Civil Engineering*
 - *Computer-Aided Civil and Infrastructure Engineering*
 - *Journal of Advanced Transportation*
 - *Journal of Transportation Safety and Security*
 - *Transportation Research Forum*
 - *Advances in Transportation Studies*
 - *Case Studies on Transport Policy*, Elsevier Science
 - *Frontiers in Built Environment – Transportation and Transit Systems*