General Business Items

TAB 1

High Valley Transit

Bus Stop Planning and Design

Jamie Dansie, Planner

September 19, 2023

Stakeholders

1. UDOT
2. Heber City
3. Wasatch County
4. Property Owners
5. Business Owners
6. HVT

Timeline

1. Identify
2. BlueStakes
3. Install or Construct
4. One week to a year or more!

Costs

1. Design and Engineering
2. Relocations/Utilities
3. Shelter and Amenities
4. Accessibility

5. $200 - $30,000 and up

Funding

1. Local
2. Grants and Awards
3. Sponsorships (depending on code) and naming

Bad Stop Designs - ADA

High Valley TRANSIT

Stop Designs - Safety

High Valley TRANSIT

- Accessibility and Waiting
- Safety and Security
- Location and Compliance
- Bus Ease of Access
- Rider Ease of Access
- Shelter/Seating/Lighting/Trash
- Bike Lanes
- Snow Removal and Maintenance
- Other modes (micro)

Thank you.

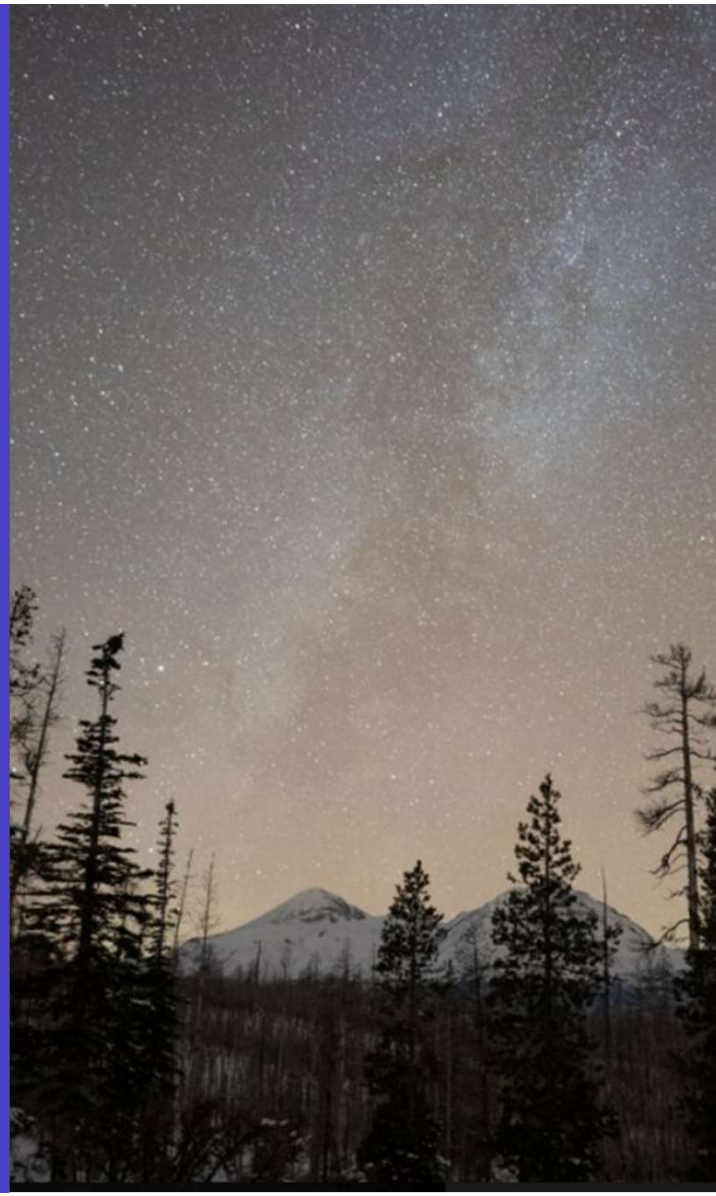
High Valley
TRANSIT

TAB 2

Heber City
Council Meeting
September 19, 2023

Co-Founders
Lisa Bahash
Alissa Haynes

Save Wasatch Back Dark Skies,
a Group of Concerned Residents

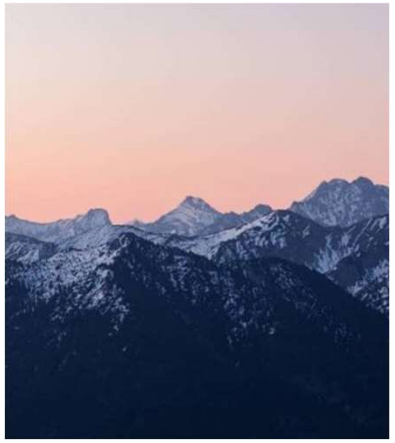


Our Mission

Our mission is to protect the night skies of the Wasatch Back for current and future generations. We believe everyone should have the opportunity to experience the beauty and wonder of the night sky, and we are committed to taking steps to preserve this important resource.

We will work to educate our community about the effects of light pollution and the steps they can take to reduce it. We will also advocate for policies that protect our night skies, such as zoning laws that restrict the use of artificial light.

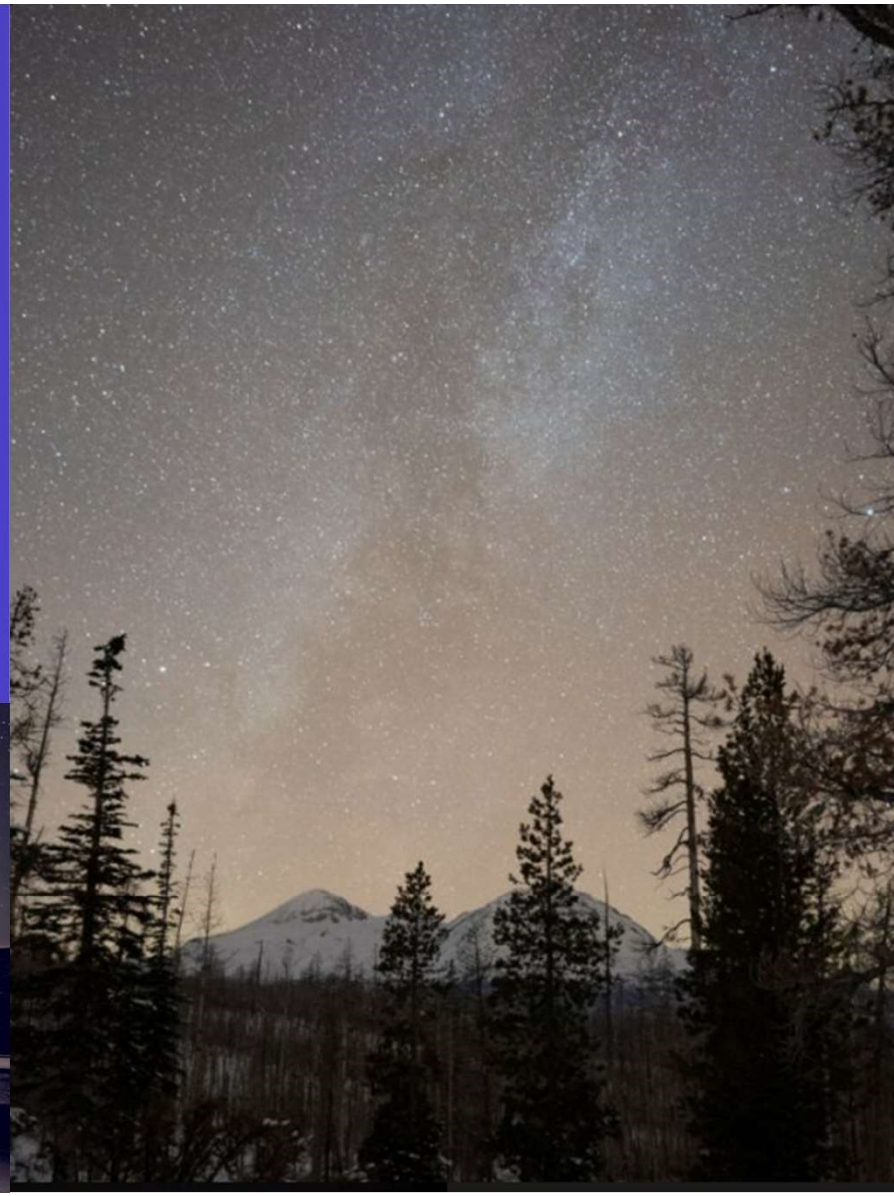
We believe that by working together, we can make a difference and preserve the night skies for future generations.



Agenda

- We should be a Dark Sky community
- Heber and Midway Have Taken Good First Steps
- Wasatch County Has Taken a Step Back
- Declare
  - Adopt a code eligible for DarkSky International certification, such as
  - Our proposed County amendment, Key Features aligned with Outdoor Lighting Authorities and Consultant's Original Recommendation
  - Take the Subjective Nature Out of the Term "Dark Skies"

We Should be a Dark Sky Community



Wasatch County General Plan Dictates

Goals & Policies

"The general plan is a mandatory document, and we have to follow the General Plan." – Doug Smith

-GENERAL PLAN RECOMMENDATIONS (mandatory document)–

Chapter 1: Introduction: Purpose, Intent, and Use of the General Plan: The purpose, intent, and use of this general plan is to provide a comprehensive approach to the coordination of development, natural resources and open space in such a way as to provide a harmonious relationship that meets the needs of present and future residents and also promotes the health, safety and general welfare of the residents of the County.

Policy 1.1.7 of the General Plan is the most directly applicable to the proposal being considered at this time. It establishes a policy to "Preserve the views of the night sky and reduce the health impacts of artificial light by requiring all development to have dark sky compliant lighting."

Chapter 4: Environmental: Light Pollution: In order to prevent the night skies from being dulled by pollution from street lights, homes, commercial and industrial establishments, the Development Code established lighting standards that would reduce light pollution.

Heber City Priority

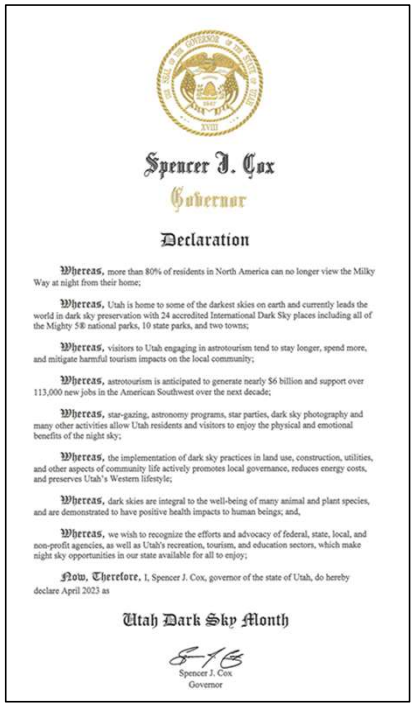
Heber City Strategic Annual Retreat

FY 23/24 Council Policy & Budget Priorities

Priorities Established January 11, 2023

Policy/Budget Priorities					
Priorities	**Description/Strategy**	**Operationalizing Strategy**	**Target**	**Responsible**	**Status**
Dark Sky	Heber City is committed to embody an exceptional dedication to the preservation of the night sky	1-Enforce adopted dark sky policies. 2-Transition all City facilities to dark sky compliant. 3-Transition street lights to dark sky compliant. A) Convert Main Street lights to dark sky compliant. 4-Work with local governments in Wasatch County to incorporate dark sky strategies and investments. 5-Develop a dark sky awareness campaign for private property owners.	1-Ongoing 2-Qtr 2, '23 3A) Qtr 3, '23 4-Ongoing 5-Ongoing	MS/MB/RF/ MK	1)Ongoing 2)Underway 3)Underway 4)Ongoing 5)Completed

Utah State Driving Dark Skies



Spencer J. Cox
Governor

Declaration

Whereas, more than 80% of residents in North America can no longer view the Milky Way at night from their home;

Whereas, Utah is home to some of the darkest skies on earth and currently leads the world in dark sky preservation with 24 accredited International Dark Sky places including all of the Mighty 5® national parks, 10 state parks, and two towns;

Whereas, visitors to Utah engaging in astrotourism tend to stay longer, spend more, and mitigate harmful tourism impacts on the local community;

Whereas, astrotourism is anticipated to generate nearly $6 billion and support over 113,000 new jobs in the American Southwest over the next decade;

Whereas, star-gazing, astronomy programs, star parties, dark sky photography and many other activities allow Utah residents and visitors to enjoy the physical and emotional benefits of the night sky;

Whereas, the implementation of dark sky practices in land use, construction, utilities, and other aspects of community life actively promotes local governance, reduces energy costs, and preserves Utah's Western lifestyle;

Whereas, dark skies are integral to the well-being of many animal and plant species, and are demonstrated to have positive health impacts to human beings; and,

Whereas, we wish to recognize the efforts and advocacy of federal, state, local, and non-profit agencies, as well as Utah's recreation, tourism, and education sectors, which make night sky opportunities in our state available for all to enjoy;

Now, Therefore, I, Spencer J. Cox, governor of the state of Utah, do hereby declare April 2023 as

Utah Dark Sky Month

Spencer J. Cox
Governor

OPERATIONS

Dark Sky Designations
The IDA's International Dark Sky Places conservation program recognizes and promotes excellent stewardship of the night sky in communities, parks, and protected areas around the world. There are currently six types of designations offered by the program. Click here to find more information about the types of designations and distinctions.

Local Government Ordinances
IDA compliant outdoor lighting ordinances regulate the type of lighting installations that may be used in order to direct light and prevent spillover, frequently known as light pollution or skyglow. Outdoor lighting ordinances preserve the clarity and novelty of dark skies. These ordinances can help protect and preserve the night sky product and provide guidance to local attractions interested in making astrotourism a part of their experience.

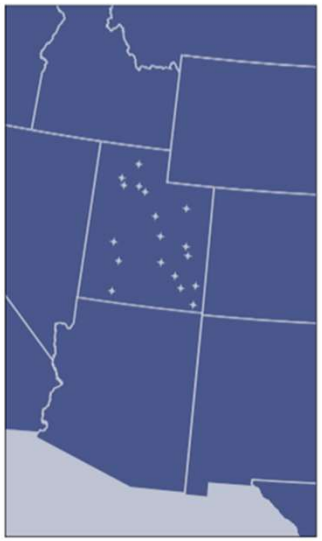
More information on municipal lighting ordinances from the International Dark-Sky Association can be found here.

RESOURCES

Funding Sources
There are few, if any, resources that exclusively fund dark sky activities. Because dark sky compliant lighting practices frequently lead to electricity cost saving savings, many electric utilities offer rebates, discounts, or other types of assistance. Check with your local utility to see what resources may be available.

Parner Organizations
In addition to local counties, municipalities, state governments and non-profits, the following is a list of top partners:

- Dark Sky Planning Guidance & Best Practices: An introduction to dark sky planning for local communities.
- Dark Sky Assessment Guide: A simple self-assessment on a community's dark sky practices, along with instruction for improvement.
- Utah Community Development Office: The State of Utah Community Development Office can provide training, tools, and technical assistance.
- International Dark-Sky Association (IDA): The recognized authority on light pollution and coordinating program of the International Dark Sky Places Program. IDA establishes dark sky guidelines, provides consultation, offers tools and resources, and certifies Dark Sky places.
- The Colorado Plateau Dark Sky Cooperative: A non-profit group that can assist with outreach, education, and dark sky events.
- The Consortium for Dark Sky Studies: The Consortium is dedicated to the discovery, development, communication, and application of dark sky knowledge across a wide range of disciplines and professional fields.
- Timpanogos Storytelling Institute: A non-profit organization dedicated to sharing and expanding the art of storytelling. The Institute hosts training, a marketplace for professional storytellers, and an annual festival.



UtahStateUniversity | Colorado Plateau Dark Sky Cooperative
Institute of Outdoor Recreation and Tourism

- America's first Dark Sky Cooperative
- Geographic region where communities, public land partners, tribal nations, academic institutions, businesses, clubs, nonprofits, and citizens join to support a set of principles resulting in mutual benefits and the long-term conservation of our natural night skies.
- Primary concern - the negative effects of light pollution, caused by inappropriate or unnecessary use of artificial outdoor lighting.
- Guidelines and conducting educational outreach in support of night sky viability and natural nocturnal environments
- Colorado Plateau leads the way with the highest concentration of accredited dark sky places than anywhere in the world.
  - Celebrate the view of the cosmos.
  - Minimize the impact of outdoor lighting.
  - Protect natural nighttime skies.
  - Restore natural darkness in areas where it has been degraded.
  - Promote astronomy-based recreation and tourism.

COLORADO PLATEAU
DARK SKY COOPERATIVE

Utah Dark Sky Committed Areas

Dark Sky Places of Utah

NATIONAL PARKS

Arches NP
Bryce Canyon NP
Canyonlands NP
Capitol Reef NP
Zion NP

NATIONAL MONUMENTS

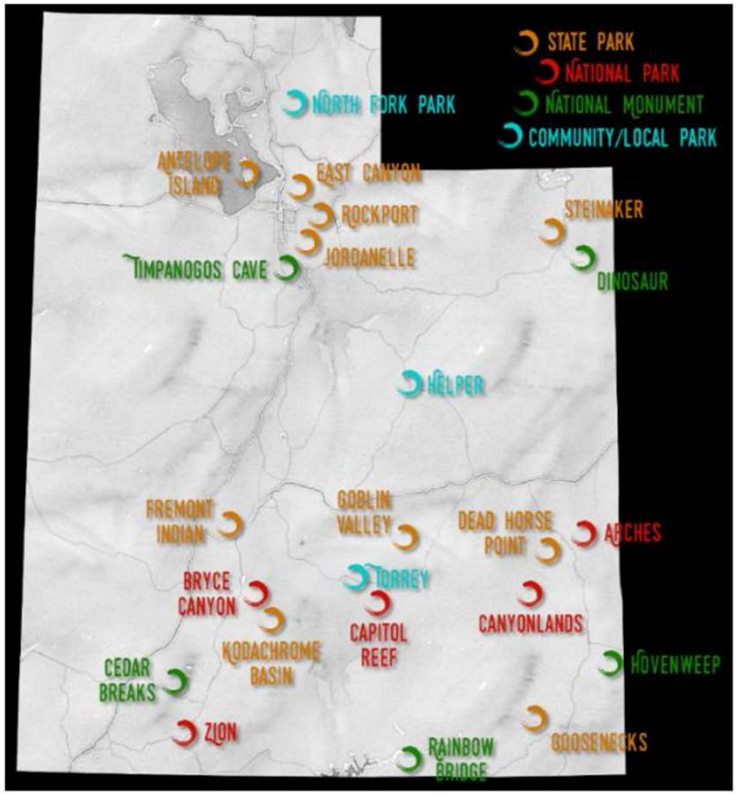
★ Timpanogos Cave NM
Dinosaur NM
Hovenweep NM
Cedar Breaks NM
Rainbow Bridge NM
Natural Bridges NM

STATE PARKS

Antelope Island SP
★ East Canyon SP
★ Rockport SP
★ Jordanelle SP
Steinaker SP
Goblin Valley SP
Dead Horse Point SP
Fremont Indian SP
Kodachrome Basin SP
Goosenecks SP

COMMUNITIES & LOCAL PARKS

Helper, UT
Torrey, UT
North Fork Park



Additionally, Wasatch Mountain State Park has a stated goal of becoming Dark Sky certified

Source: https://extension.usu.edu/iort/cp-darkskies/dark-sky-passport

saltlake

These 7 International **Dark Sky destinations** are not only perfect for solitude and stargazing with close proximity to Salt Lake City, but they're also vital to protecting the state's wildlife from light pollution, and as a bonus, offer stargazing opportunities to locals and visitors:

1. **Timpanogos Cave National Monument**
2. **Jordanelle State Park**
3. **Rockport State Park**
4. **East Canyon State Park**
5. **Antelope Island State Park**
6. **North Fork Park**
7. **Helper City**

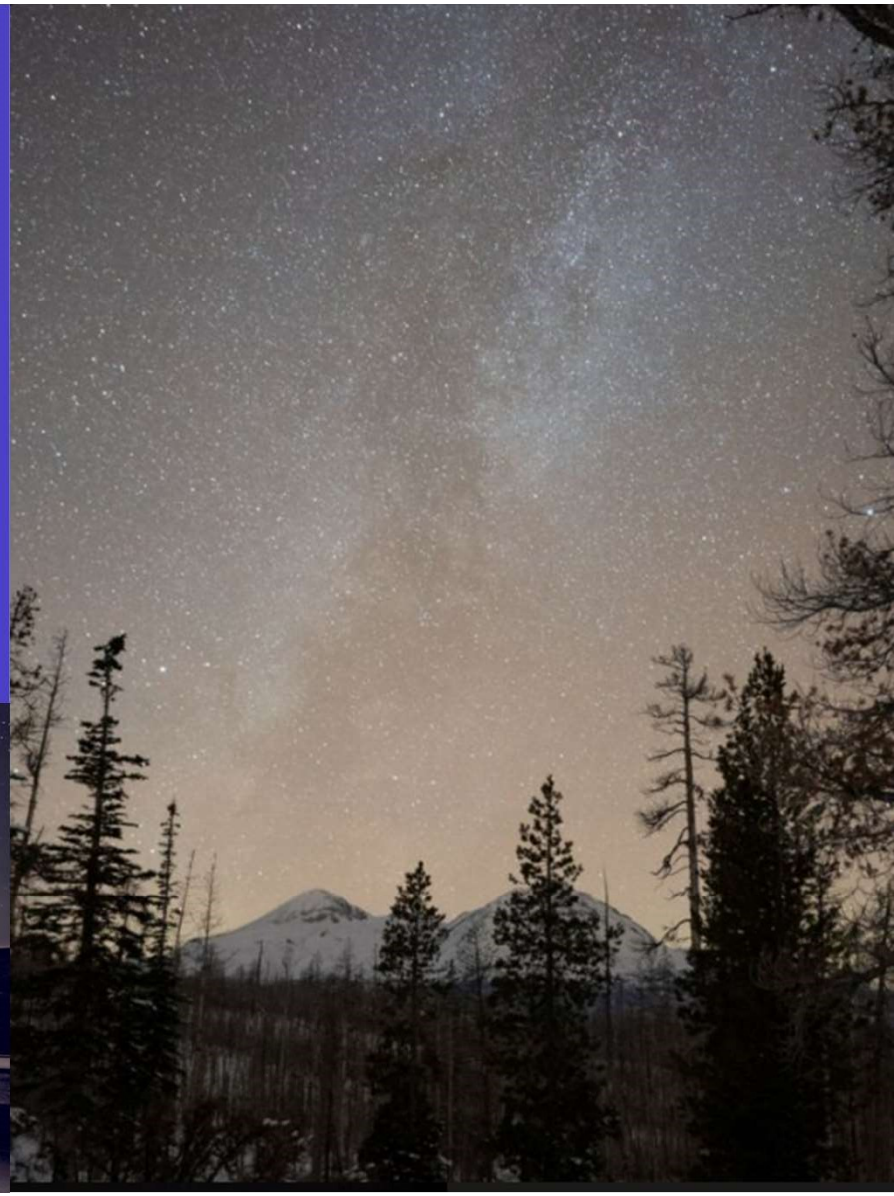
In addition to these seven great IDA-designated places, **Wasatch Mountain State Park** and **Camp Floyd State Park** offer outstanding Dark Sky experiences. Travelers on the hunt for inspiring urban observatories, planetariums, clubs, star parties and educational exhibits will find they abound in the Beehive State, including:

Astronomy Clubs and Other Entities that Hold Dark Sky Events and Star Parties in Utah

- **Cache Valley Astronomical Society** (Logan region): https://cvas-utahskies.org/
- **Ogden Astronomical Society** (Ogden region): http://ogdenastronomy.org/ or https://www.facebook.com/Ogdenastronomy
- **Salt Lake Astronomical Society** (Stansbury Park and SLC region): http://slas.us/ or https://www.facebook.com/UtahStarParty
- **Utah Astronomy Club** (northern Utah region): https://www.facebook.com/groups/638816972950322
- **University of Utah – Dept. of Physics & Astronomy / South Physics Observatory** (Salt Lake City): https://observatory.astro.utah.edu/
  - Besides In-Person Events, Also Offers Virtual Dark Sky Events: https://www.facebook.com/SouthPhysicsObservatory
- **Clark Planetarium** (SLC region): https://slco.org/clark-planetarium/ or https://www.facebook.com/ClarkPlanetarium
- **Utah Women Astronomical Society** (SLC region): Utah Women Astronomical Society Webpage or https://www.facebook.com/groups/utahwomenastronomicalsociety
- **Utah Valley Astronomy Club** (Utah County region): http://www.uvac.us/ or https://www.facebook.com/groups/utahvalleyastronomyclub/
- **BYU Astronomical Society** (Provo area): https://physics.byu.edu/clubs/astrosoc/home or https://www.facebook.com/byuastro
  Carbon County Star Parties (Carbon County region): https://www.go-astronomy.com/astronomy-club.php?ID=772 or https://www.facebook.com/groups/CarbonCountyStarParties
- **RedRock Astronomy** (Private business – Moab region): http://moab-astronomy.com/
- **Moab Astronomy Tours** (Private business – Moab) region): https://www.moabastronomytours.com/ or https://www.facebook.com/moabastronomytours
- **Dark Ranger Telescope Tours** (Private business – Bryce Canyon/southern Utah region): https://www.darkrangertelescopetours.com/ or https://www.facebook.com/darkrangertelescopetours
- **Stellar Vista Observatory** (Kanab region): https://stellarvistaobservatory.org/ or https://www.facebook.com/stellarvistaobservatory
- **St. George Astronomy Group** (St. George region): https://sgag.club/ or https://www.facebook.com/groups/533176590209756

New Utah License Plate in 2022

The Dark Sky Benefits are Clear

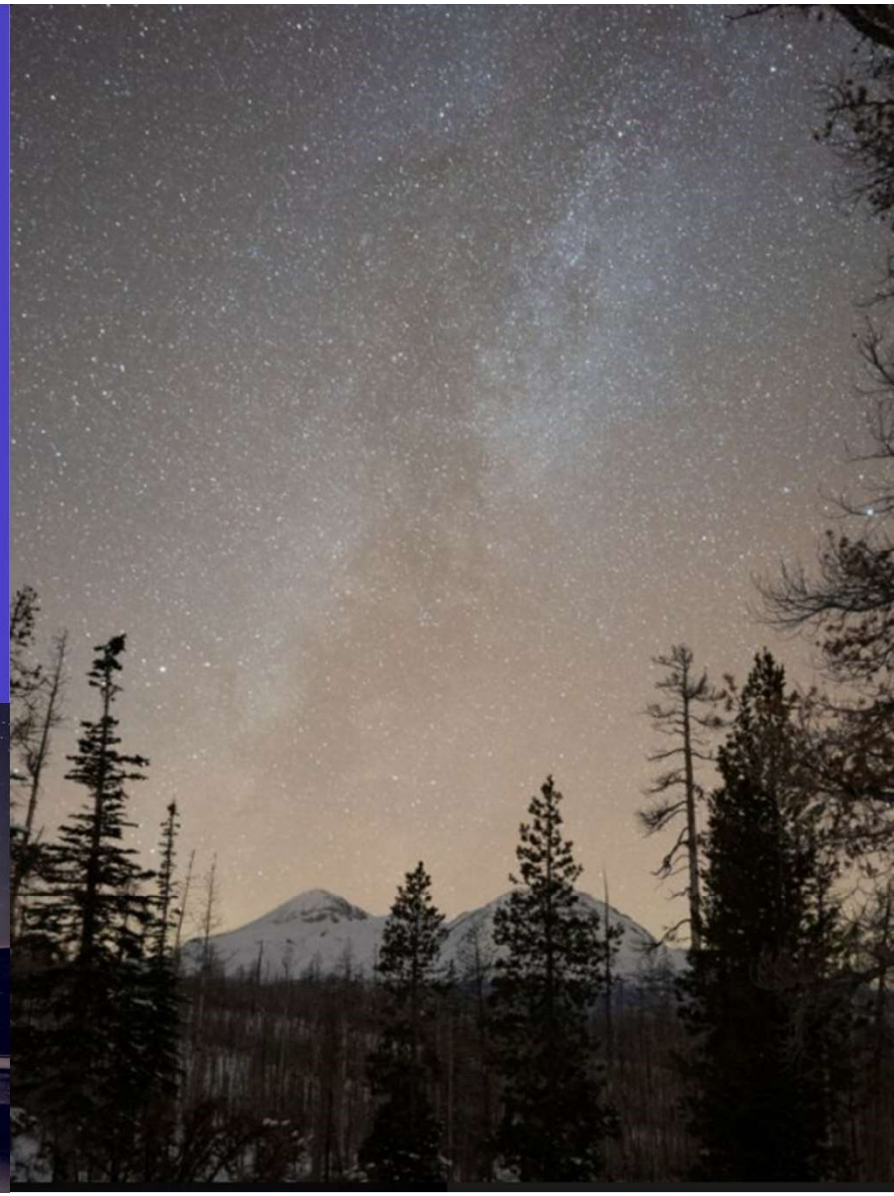


Clear Benefits of Dark Sky Friendly Lighting

- **Energy savings**: The most persuasive arguments for dark sky lighting control are economic. In the U.S., approximately one-third of all lighting is wasted. It's even worse for night lighting. For every $100 spent operating a dusk-to-dawn light fixture, $45 is wasted on light that never reaches the ground.
- **Heritage and rural character:** Night skies were important to early settlers. That connection is an important part of our pioneer heritage and rural character in Ivins. Light pollution diminishes our ability to view and enjoy the night sky. This has subtle but significant cultural impacts, especially for future generations.
- **Quality of life:** Nearly 80 percent of North Americans cannot see the Milky Way due to light pollution. We're lucky. We can still see stars, galaxies, and more in the night sky over Ivins. A goal of our City's General Plan is to protect our quality of life by preserving and enhancing the natural beauty of the landscape and the spiritual quality of the environment. Surely that includes the night sky above Ivins.
- **Health:** Scientists are just beginning to understand the negative impacts that excessive nighttime light exposure has on health. The circadian clock, or 24-hour day/night cycle, affects important physiologic processes. Disruption of these processes are associated with sleep disorders, psychiatric disorders, cardiovascular diseases, immunological disorders, metabolic disorders, obesity and cancer progression.
- **Safety:** Bright lighting does not mean safer lighting. Bright, glaring lights contract the eye's pupils and create sharp contrast between light and darkness, making the area outside of the illuminated area difficult to see and creates deep shadows that offer concealment. Dark sky friendly lighting will improve overall safety. Lower lighting levels, warmer light temperatures, and better coverage are safer lighting methods.
- **Nature:** Humans are not the only ones who are adversely affected by light pollution. Both wildlife and domestic animals are similarly impacted. Prolonged exposure to artificial lighting creates disorientation, alters behaviors, and changes breeding cycles. It disrupts natural processes in both plants and animals.
- **Property values:** Light trespass, the unwanted invasion of light, is an issue because it interferes with a property owner's private enjoyment and use of his or her own land. Dark sky friendly lighting can enhance property values by eliminating light trespass. Due to the scarcity of dark, starry skies all around the county, improving the quality of our night sky helps maintain or even increase property values.
- **Tourism:** Places where night skies are free from artificial light pollution have become increasingly popular tourist destinations. Not everyone considers tourism a benefit. It has its downsides for those who live here year-round. But tourism provides local businesses with a steadier source of income, allows for a more efficient use of community resources, and creates jobs for us, our children, and grandchildren.

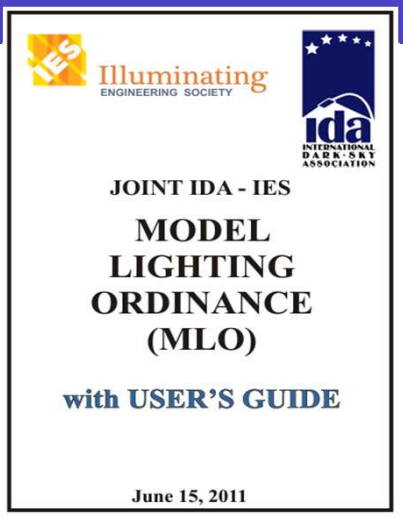
Source: International Dark Sky Association

Adopt a Code that supports and enables DarkSky Certification



Outdoor Lighting Authorities

DarkSky International (formerly IDA) was established in 1988 as the authority on light pollution.



IES was Established in 1906 as the educational and technical authority on illumination

NAILD (1977) and The Lighting and Darkness Foundation (2023) are action-based organizations driving lighting educating through networking, education and support.

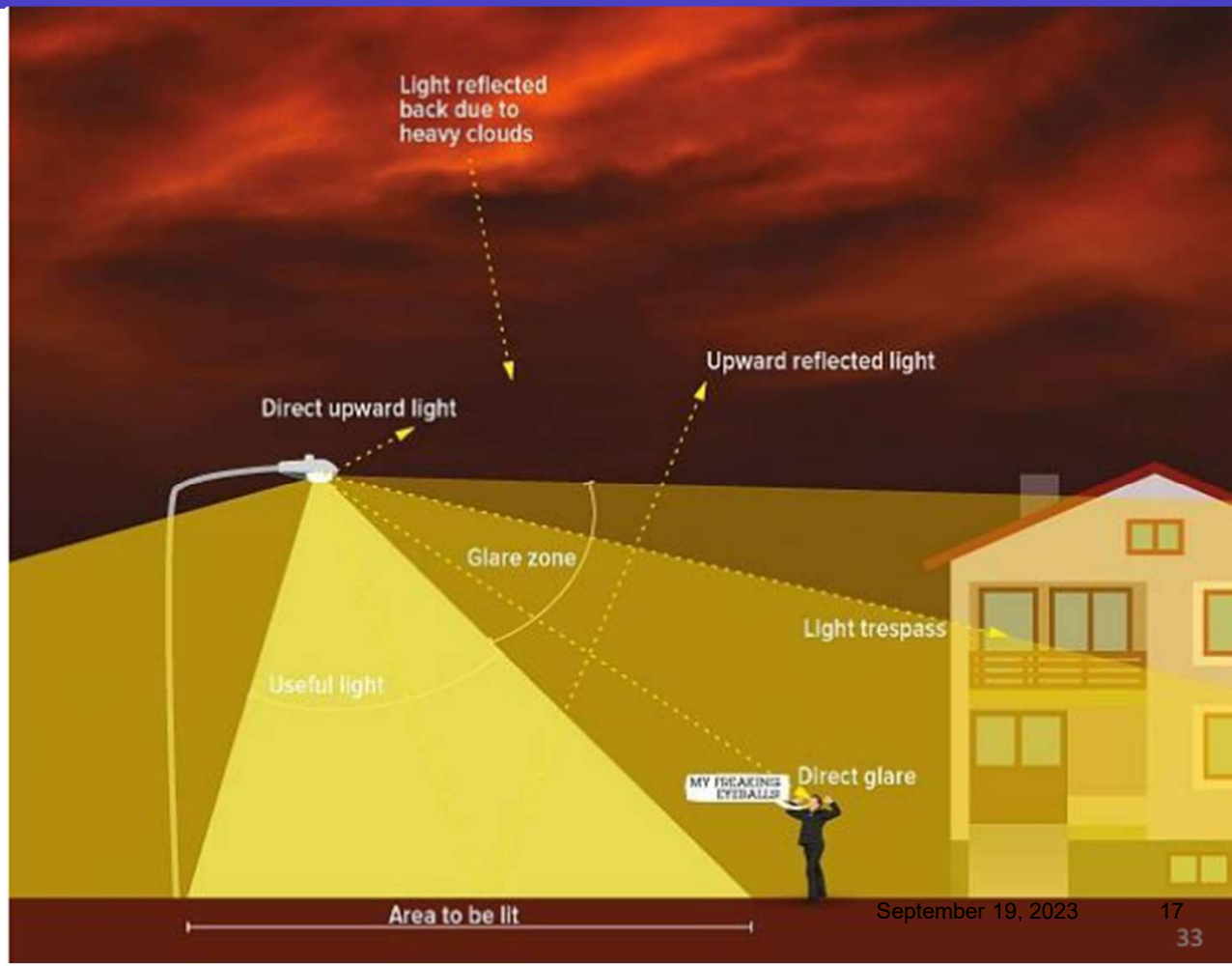
Jointly developed in 2011 by the IES and DarkSky to provide communities with an outdoor lighting template to reduce light pollution.

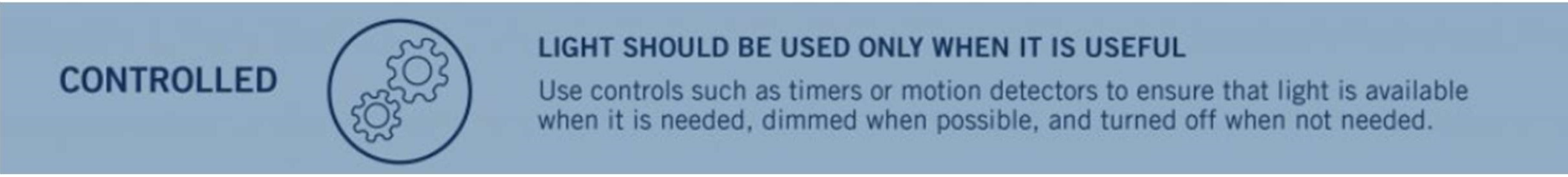
Five Principles of Responsible Lighting

- Joint effort between IES and DarkSky (IDA)
- Technical for Lighting
- Governing Five Principles

Light Pollution is Pollution

- The introduction of artificial light, either directly or indirectly, into the natural environment.
  - Intensity
  - Direction
  - Color





Wasatch Exterior Lighting Regulation on Location & Control ✗	No lighting zones, residential exempt and anything allowed until as late as 1 hour after normal business hours.
SWBDS Proposal *(Consultant Recommendation)* ✓	Creating lighting zones, residential not exempt and only necessary lighting determined by zone.
IES & DarkSky International ✓	“Using Lighting Zones allows a great deal of flexibility and customization without the burden of excessive regulation. It is recommended to assign lighting zones to established land use zoning.
Examples of Communities with Lighting Zones ✓	Midway City, UT; Cottonwood Heights, UT; Kanab, UT; Torrey, UT; Tucson, AZ; Coconino, AZ; Caledonia Township, MI; Ft. Collins, CO; and the entire state of California

USEFUL

ALL LIGHT SHOULD HAVE A CLEAR PURPOSE

Before installing or replacing a light, determine if light is needed. Consider how the use of light will impact the area, including wildlife and the environment. Consider using reflective paints or self-luminous markers for signs, curbs, and steps to reduce the need for permanently installed outdoor lighting.

TARGETED

LIGHT SHOULD BE DIRECTED ONLY TO WHERE NEEDED

Use shielding and careful aiming to target the direction of the light beam so that it points downward and does not spill beyond where it is needed.

Wasatch Exterior Lighting Regulation on Direction & Focus	Unshielded/Uplighting Permitted if Directed.
SWBDS Proposal *(Consultant Recommendation)*	Not Permitted.
IES & DarkSky International	"…requires downlight only with low glare in lighting zones 0, 1, & 2…".
Examples of UT Communities that Prevent Uplighting	Heber City, Midway City, Hideout, Eagle Mountain, and Cottonwood Heights, Helper City

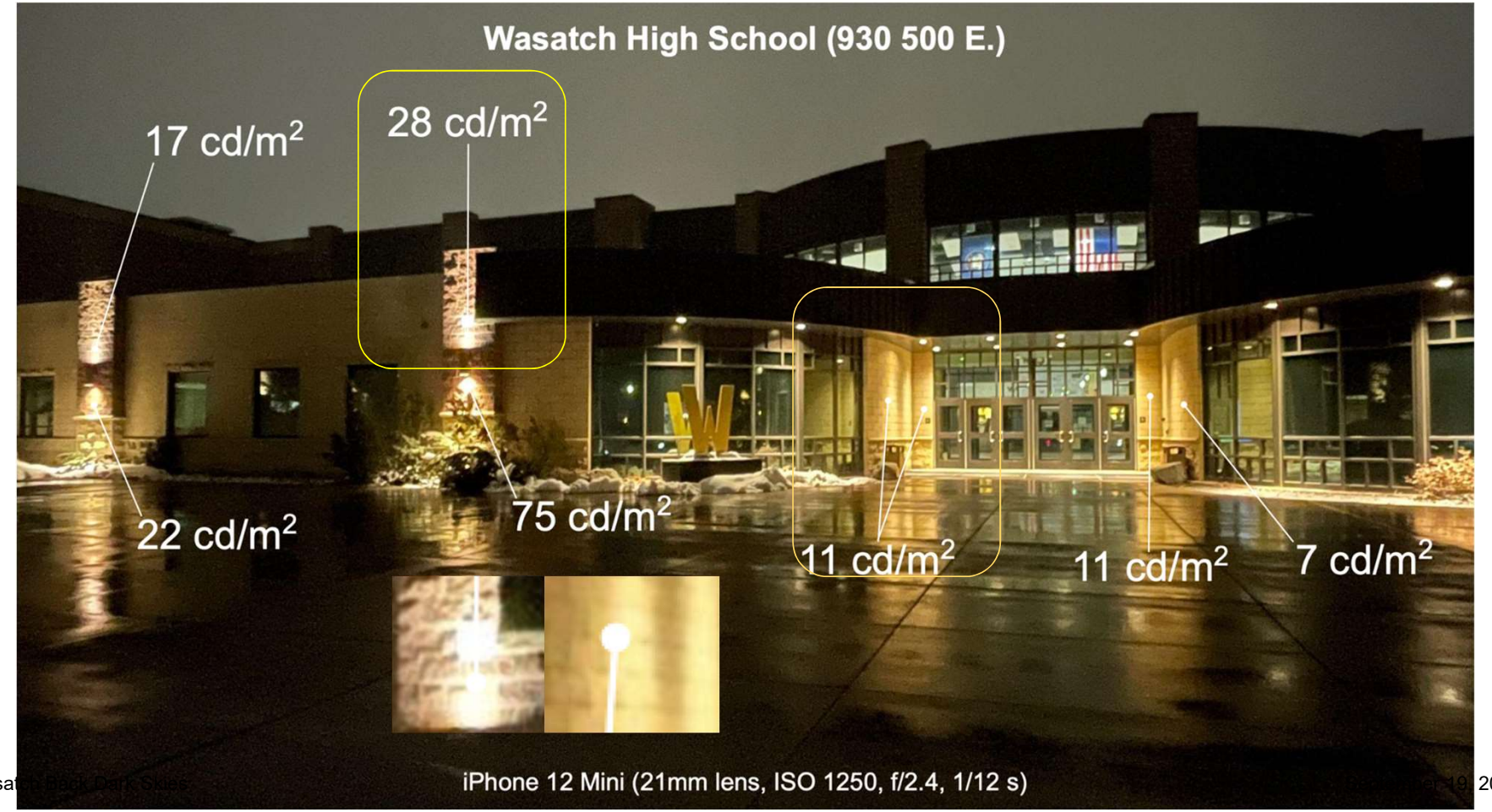
LOW LIGHT LEVELS

LIGHT SHOULD BE NO BRIGHTER THAN NECESSARY

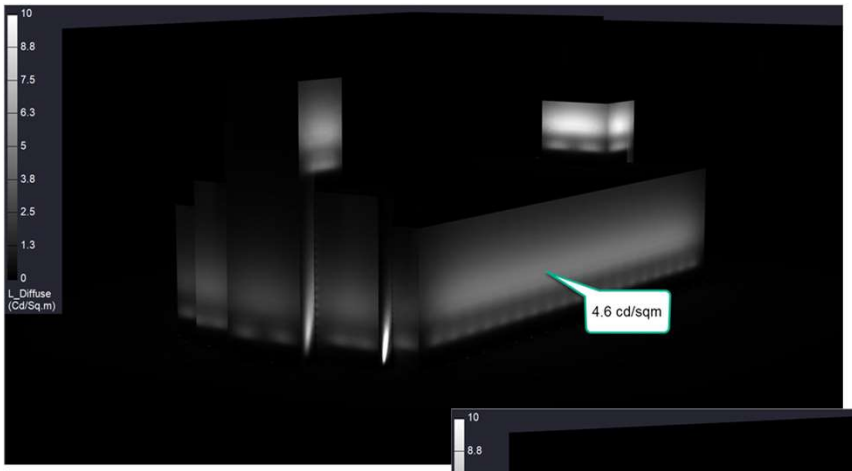
Use the lowest light level required. Be mindful of surface conditions as some surfaces may reflect more light into the night sky than intended.

Wasatch Exterior Lighting Regulation on Light Levels ✗	Candela Limit Per Sq Meter of 27 Lumens per improved acre of 25,000
SWBDS Proposal *(Consultant Recommendation)* ✓	Candela Limit Per Sq Meter of 10 (LZ2 per IES or E3 per CIE 150 or EN12464) Lumens per improved acre of 10,000 *"We recommend a zone-based approach that maxes out at 10,000 lumens per developed acre in the highest development zone."*
IES & DarkSky International ✓	"Lumen cap" recommendations for areas to be illuminated should not exceed: … for projects in residential and LBO zones = 10,000 lumens per acre."
Examples of Communities with Lower Allowable Levels ✓	Torrey, UT (5,000 per improved acre residential); Helper City, UT; Flagstaff, AZ

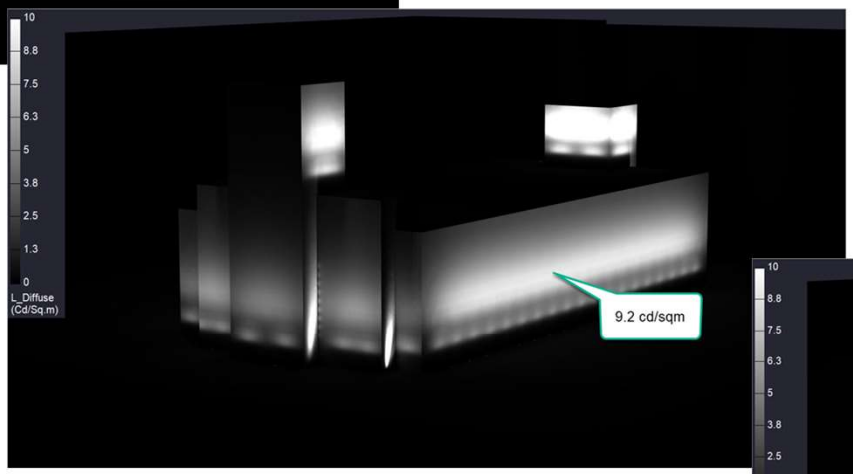
Visible difference between 11cd/m2 and 28 cd/m2



Computer simulations to illustrate the comparison of three luminance levels with a scale of 10cd/m^2

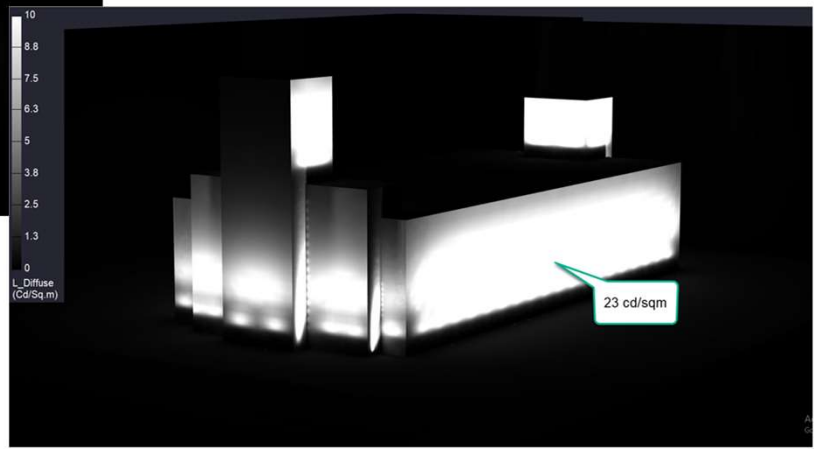


4.6 cd/m^2



9.2 cd/m^2

23 cd/m^2



COLOR

USE WARMER COLOR LIGHTS WHERE POSSIBLE

Limit the amount of shorter wavelength (blue-violet) light to the least amount needed.

Wasatch Exterior Lighting Regulation on Light Levels ✗	Color Limit of 3000 Kelvin Allowed
SWBDS Proposal *(Consultant Recommendation)* ✓	Color Limit of 2700 Kelvin Allowed *"…would push for 2700K as a best management practice."*
IES & DarkSky International ✓	*"To minimize negative environmental impacts, IDA [DarkSky Int.] recommends using lamps rated at 2200K[2] CCT"*
Examples of Communities with Lower Allowable Levels ✓	Blanco, TX; Reeves County, TX; Davis, CA;

Heber City Comparison

Topic	Current Heber City Exterior Lighting Regulation	Wasatch County Dark Sky Consultant's Original Recommendation/ SWBDS Action	Current Wasatch County Exterior Lighting Regulation
Lighting Zones	None	Recommended / Added	None
Color Limit	3000 Kelvin, or less	2700 Kelvin / 2700 Kelvin	3000 Kelvin
Residential Exemptions	Not Exempt	Not recommended / Removed exemption	Exempt
Candela Limit Per Square Meter	Not Noted	10	27
Unshielded Lighting / Uplighting	Full cut-off and directed downward	Not recommended / Not permitted	Permitted if directed
Height Limit of Fixtures	Not to exceed 16 feet from ground level.	20' LZ-3, 15' LZ-2 and 8' in LZ-1 and LZ-0 Building mounted limited to 16' or less.	20' commercial & industrial zones for pole mounted luminaires and no height limit of lights attached to buildings.
Curfew	Non-residential lighting to be shut off during non-business hours. 24 Hour businesses – 50% dimming	Only necessary lighting and zone specific / Adjusted to sunset and Zone based	One hour after the close of normal business hours and one hour prior to sunrise
Lumens Recommended Per Improved Acre	100,000 lumens per net acre (Non-Res & Multi-Family)	10,000 per acre in commercial zones/ 10,000 per acre in residential zones	25,000 county wide EXCLUDING parking lots (including rural areas) – Example i.e.Temple could be 250,000

What does the County code ultimately allow?

Save Wasatch Back Dark

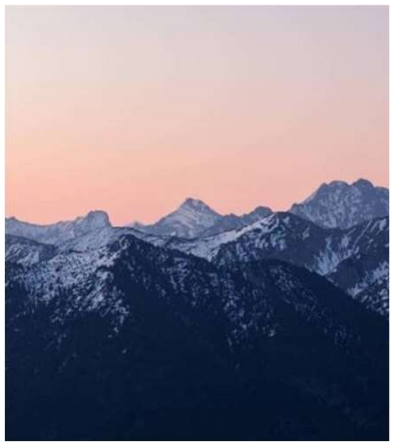
Red Cliffs, UT

Make Wasatch the Night Preservation Example

Ft. Collins

Recommendations

1. Declare desire to become a Dark Sky community
2. Commit to forming Wasatch Back Dark Skies Alliance
3. Commit to an initiative to better the City's codes towards Dark Skies certification
4. Support the SWBDS County Code Amendment



Thank you and Questions?

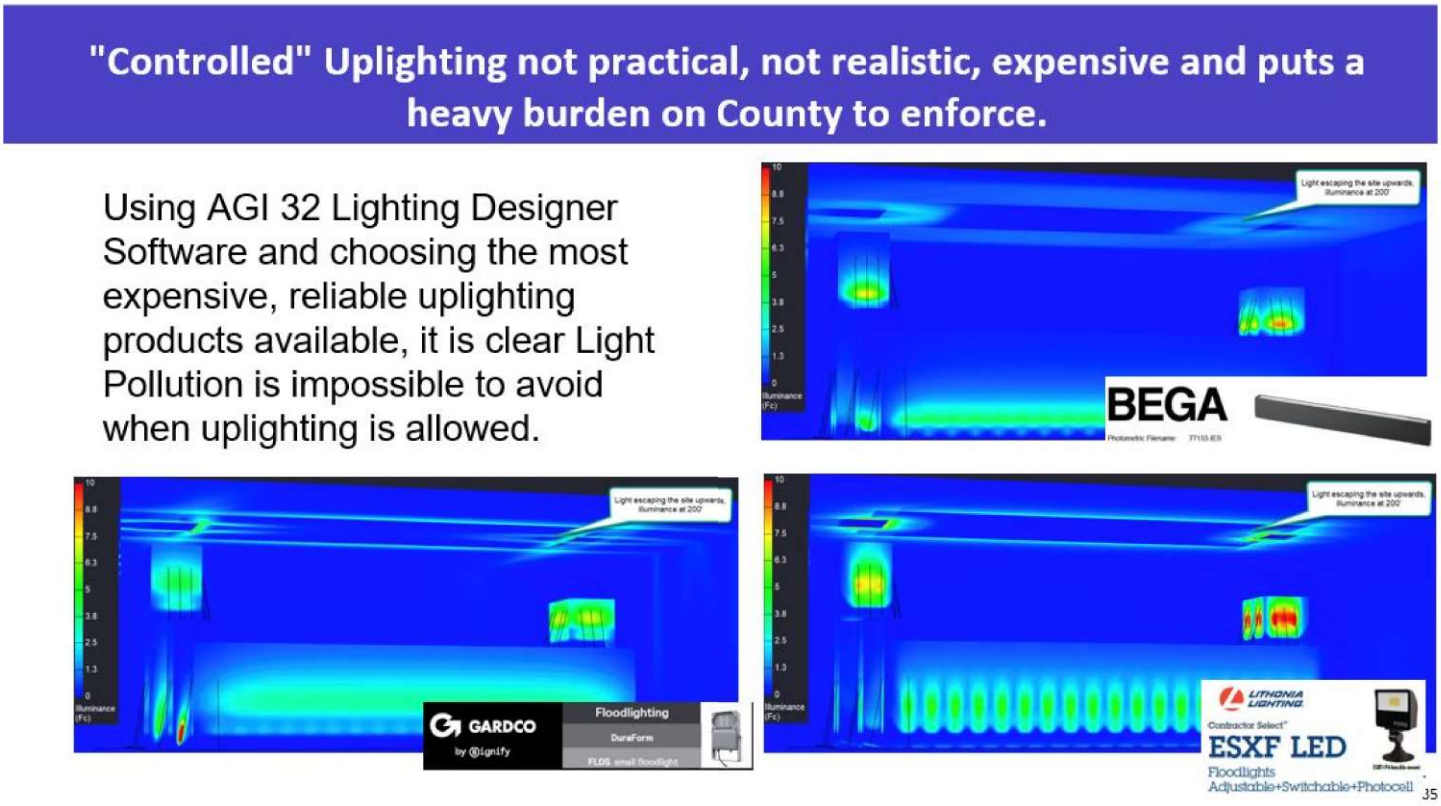
Save Wasatch Back Dark Skies

Matt Brower

From: lbahash
Sent: Tuesday, September 19, 2023 8:25 PM
To: CC Public Comments; Heidi Franco; Matt Brower; Planning Commission; Ryan Stack; City Council; Yvonne Barney; Scott Phillips; Mike Johnston; Rachel Kahler
Cc:
Subject: (EXTERNAL) Sep 19 City Council Mtg Follow-Up

Hello all,

Thank you for your time this evening. As I said in the meeting, I am following up on the slide I mentioned that demonstrates that it is not possible to capture all the "directed" or "controlled" light on the façade of a building. Dave Speer, a 40-year illumination engineer, sent the email below and also created this slide. You see here the proposed temple lighting modelled with the sky glow or escaping light above it. Please let us know if you have any questions.



Thank you,
Lisa

Public Comments

HEBER CITY EXPANSION AREA MOU

MEMORANDUM OF UNDERSTANDING
BETWEEN WASATCH COUNTY
AND HEBER CITY

1. **Parties.** This Memorandum of Understanding (hereinafter referred to as "MOU") is made and entered into by and between Wasatch County, whose address is 25 North Main Street, Heber City, Utah 84032, and Heber City Corporation, whose address is 75 North Main Street, Heber City, Utah 84032.

2. **Purpose.** The purpose of this MOU is to establish the terms and conditions under which Wasatch County and Heber City will implement multi-jurisdictional annexation, land use and utility service policies.

3. **Term of MOU.** This MOU is effective upon the day and date last signed and executed by the duly authorized representatives of the parties to this MOU and the governing bodies of the parties' respective counties or municipalities and shall remain in full force and effect for not longer than 30 years. This MOU may be terminated, without cause, by either party upon 60 days written notice, which notice shall be delivered by hand or by certified mail to the address listed above.

4. **Responsibilities of Wasatch County.**

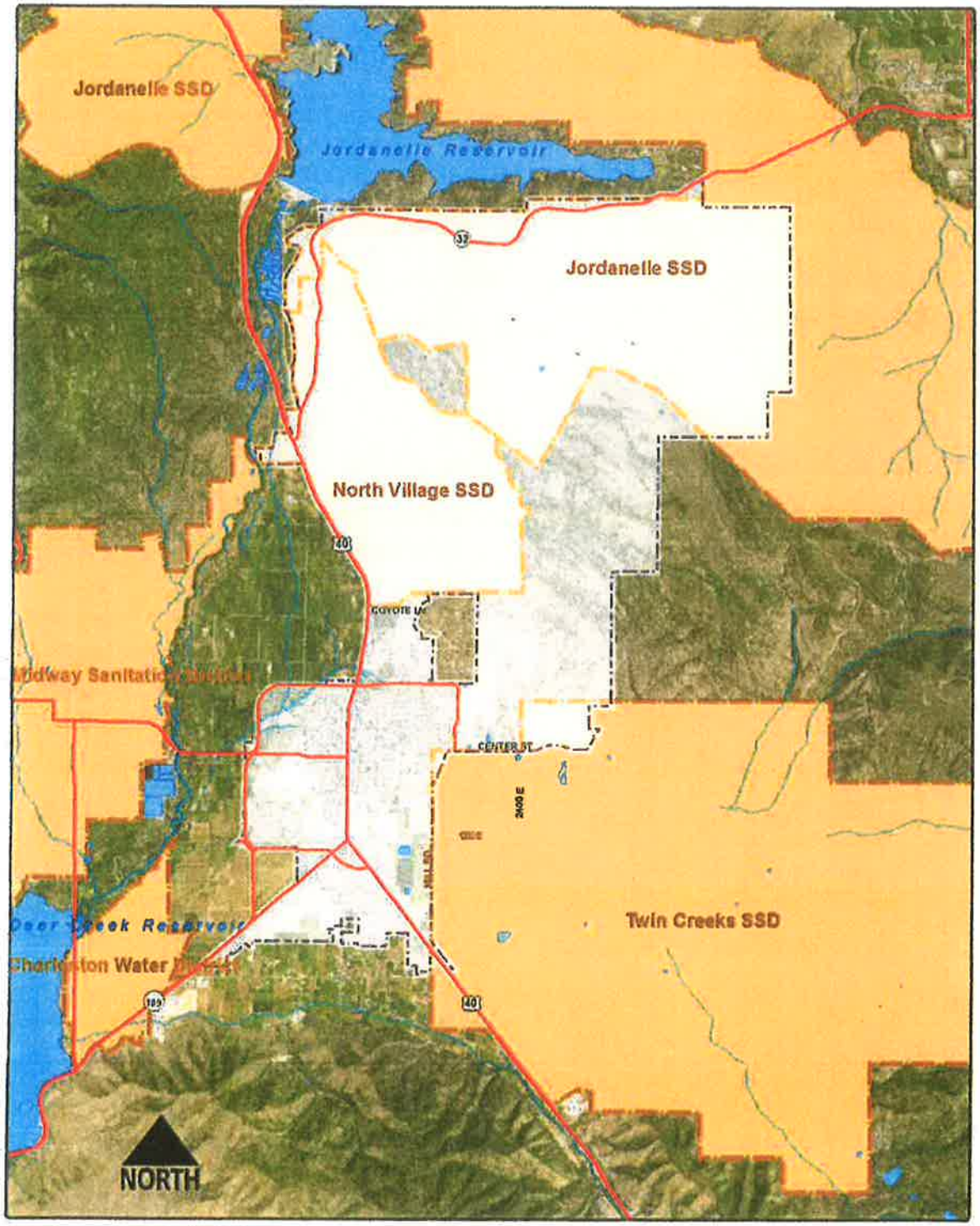
   a. Invite Heber City Planning to Development Review Committee Meetings when urban development is proposed within the City's Expansion Area as shown in Exhibit A.

   b. Invite Heber City Planning Department to Public Hearings involved in amendments to zones, ordinances and standards affecting properties within the City's Expansion Area.

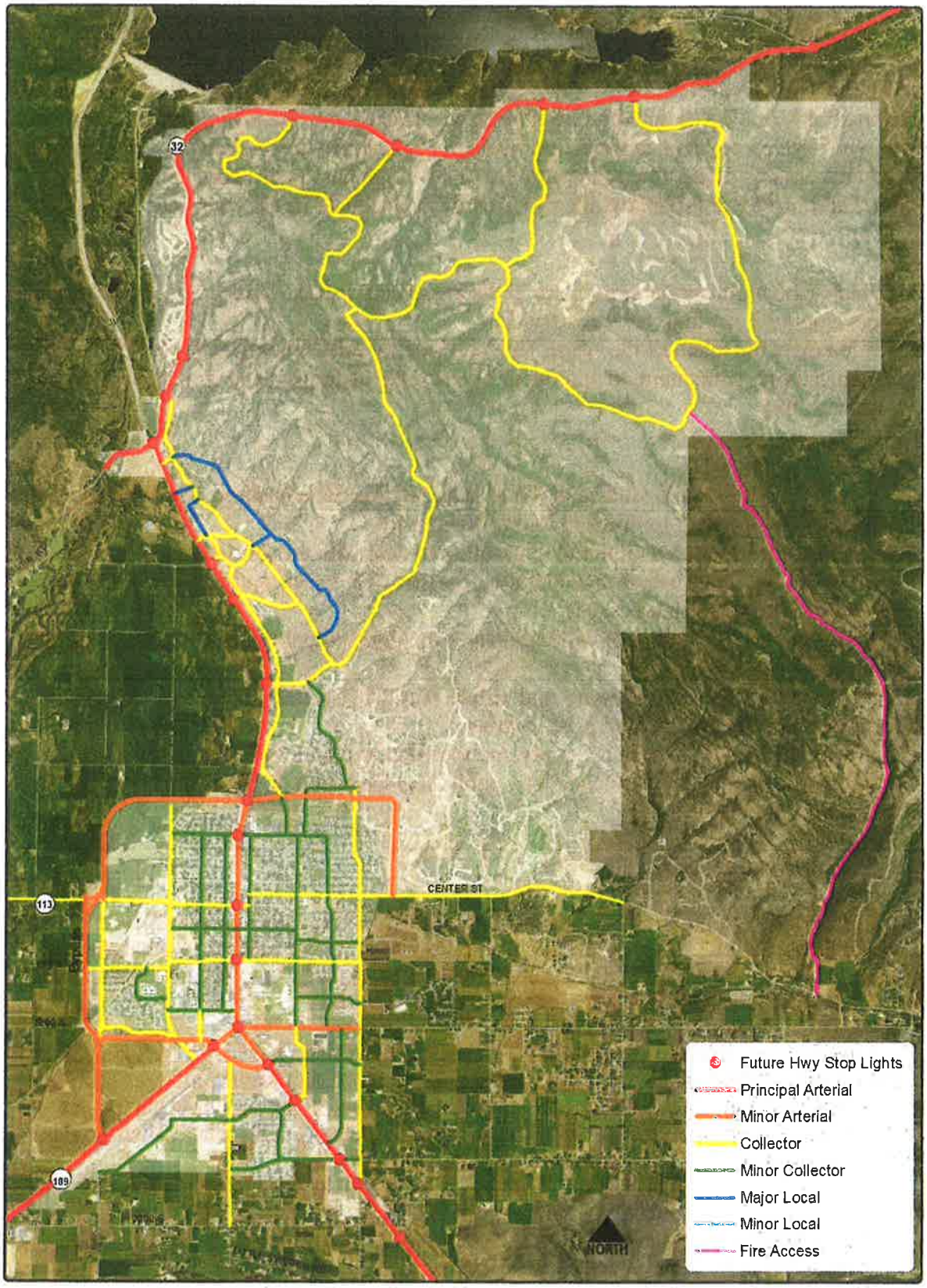
   c. The North Village Special Service District (NVSSD), Twin Creeks Special Service District (TCSSD) and Jordanelle Special Service District (JSSD) agree to provide and maintain all water, secondary water, and sewer service within their respective service areas, unless those districts and Heber City mutually agree at the time of development that these services should be provided in another manner.

   d. Ask property owners proposing urban development within the City's Expansion Area to first talk with Heber City regarding development in the City

EXHIBIT B: SPECIAL SERVICE DISTRICT AREAS



Transportation Plan



Development Agreement. Applicant will not change the elevation of the flood plain area. The language of the Development Agreement will confirm Applicant's obligation to comply with FEMA regulations.

11. [C-PLN-App-16] The County is in the process of hiring a lighting Engineer to review the plans. The intent is to ensure that all lighting is at the minimum levels allowed by code for IBC and lowest recommended levels for the IES regulated lighting and that all aspects of the code are complied with.16.21.19, 16.21.16, 16.26, 16.33.10. This review will come at a later date.

    Response: We are waiting for the County to provide further comments.

12. [C-PLN-App-17] Traffic on public roads to the site and the improvements to Center Street are in Heber City. There will need to be a formal approval letter from Heber City regarding traffic and improvements including pedestrian access to the site. The draft Development Agreement helps address these issues. However for future public meetings a formal letter needs to be provided.

    Response: Heber City has provided comments which we are in the process of responding to. The comments for the traffic study came from an independent professional traffic engineering company, Horrocks Engineers. The comments for the traffic study were minor and have been adjusted in the traffic study report. We have attached both the redline comments and the updated report.

    Attachment: Other I - Traffic Study - FINAL_Heber Valley Special Use Site_Stamped

    Attachment: Other J - RP Temple TrafficStudy 230607 C - Redlines

13. [C-PLN-App-18] Some issues are intended to be resolved through the development agreement. If the development agreement is not approved some items regarding the site plan, process and other aspects of the project may need to be changed.

    Response: KM: The parties anticipate that the County will approve the Development Agreement in the same manner as a land use regulation (i.e. the County Council will adopt the document after a public hearing and recommendation from the planning commission). If the County declines to approve the Development Agreement, then the Applicant and the County will discuss the best way to address issues which would have been dealt with in the Development Agreement.

14. [C-PLN-App-19] The RA-1 zone only allows for signs typically found in residential zones like home occupation uses. See 16.08.14(A)

    Response: KM: The parties expect that the Development Agreement will explicitly identify and provide approval for the signage for the Temple site.

15. [C-PLN-App-20] 16.27.12 requires a 10' PUE to be around the periphery of the parcel.

    Response: Meridian: The 10-foot PUE has been added along the parcel. The easement along Center Street will also be part of the 20-foot TCSSD waterline

INFORMATIONAL REPORT

Trip Generation

By ITE Technical Council Committee 6A6

The primary objective of Committee 6A6's report, here summarized, is to provide traffic and transportation engineers with a single document and guide on trip generation rates for all land uses and building types. It is intended that the full report, soon to be published by the Institute, will be updated periodically.

Members of Committee 6A6 were: Dan Cherepacha (M); Juergen A. Fehr (M); Christopher R. Fleet (A); Lawrence Gassman (M); Lawrence V. Hammel (M); Herman A. J. Kuhn (M); Clinton L. Lefler (M); Gary D. Long (M); and James B. Saag (M). Special thanks are given to the U.S. Department of Transportation, Federal Highway Administration for its assistance in computer programming and analysis.

Carl H. Buttke (M)
Chairman

Trip generation rates have been developed for the average weekday, Saturday and Sunday for the peak hours of the generator and of the adjacent street traffic. However, in some cases, only limited data could be obtained and thus may not be too indicative of a particular building type. This report is intended as a guide in estimating the number of trips which may be generated by a specific building or land use.

Variations in generation rates for the same building or land use type exist and have been identified in the report. Because of these variations, sample size and special characteristics of a site being analyzed, extreme care must be made in the use of the rates. The data in this report represents weighted averages of those collected throughout the United States since 1966. At specific sites, the traffic and transportation engineer may wish to modify the generation rate presented in this report because of public transportation service, proximity to other developments which may reduce vehicle trip making through walking or combining trips or because of special characteristics of the site or the surrounding area.

Definition of Terms. The following definitions of terms are presented to clarify the terminology used throughout the text and tables:

Trip: A single or one-direction vehicle movement with either the origin or destination (exiting or entering) inside the study site.

Trip End: The origin or destination of a trip. Each trip has two ends. On a daily basis, each end has two trips: one entering and one exiting for an attractor of trips, and one exiting and one entering for a producer of trips. In this report, trip end refers to a two-direction vehicle movement at the origin or destination of a trip.

Average Trip Rate: A weighted average of the number of trips or trip ends per unit of related independent variable, i.e., trip ends per dwelling unit, employee, etc. The average rate was calculated by summing all trips or trip ends and all independent variables where paired data was available and then dividing the trip sum by the sum of the independent variable to obtain a weighted average.

Average Weekday Vehicle Trip Ends (AWDVTE): The weighted 24-hour total of all vehicle trips counted to and from a study site from Monday through Friday.

Average Trip Rate for Peak Hour of Adjacent Street Traffic: The weighted average trip rate during the hour of the highest volume of traffic passing the site on adjacent streets between 7 and 9 A.M. or between 4 and 6 P.M.

Average Trip Rate for Peak Hour of Generator: The weighted trip rate during the hour of highest volume of traffic entering and exiting the study site in the A.M. or in the P.M. It may or may not coincide in time or volume with the trip rate for the peak hour of the adjacent street traffic.

Independent Variable: A physical measureable and predictable unit quantifying the study site or generator, i.e., building area, employees, seats, acres, dwelling units, etc.

Regression Equation: An expression of the optimal mathematical relationship between two or more related items (variables) according to a specified criterion, as: $Y = a + bX$.

The objective in developing the relationship between X (independent variable) and Y (dependent variable) is to determine values of the parameters "a" and "b" so that the expected error involved in estimating the dependent variable given estimates of the independent variable will be a minimum.

Correlation Coefficient (R): A measure of the degree of linear association between two variables. The correlation coefficient indicates the degree of which the model estimated values account for the deviations in the individual observed values of the dependent variable from their mean value. Numerical magnitudes for "least squares" models range from -1 to $+1$ with larger absolute values representing higher degrees of linear association. The correlation coefficient for rate models is undefined when the use of a constant of trips is better than the use of the rate model (this does not occur with least square models) (Figure 1).

Data Collection Procedure

The data analyzed in this report was obtained from various local governmental agencies, consulting engineers, universities and colleges and technical reports from sections of the Institute of Transportation Engineers. No attempt was made to conduct original field surveys for this initial report.

Field Data Collection. Generally, the data has been collected with automatic counters varying from one weekday to seven days, by counting vehicular traffic entering and exiting a site. These counts cordoned the site and did not include through traffic. They were made on driveways of sufficient length to avoid double counts of turning vehicles. In some cases, counts were nondirectional and therefore did not separate entering from exiting vehicles. Manual counts supplemented some of the automatic counts to obtain vehicle occupancy and classification, to check the reliability of

Table 1. Average Weekday Vehicle Trip Ends Generation Rate Summary.

ITE Land Use Code	Land Use of Building Type	Vehicle Trip Ends Rate
021	Commercial Airport	11.8/Employee
022	General Aviation Airport	6.5/Employee
110	General Light Industrial	3.2/Employee
130	Industrial Park	4.1/Employee
140	Manufacturing	2.2/Employee
150	Warehousing	4.3/Employee
210	Single Family Detached Unit	10.0/Unit
220	Apartment	6.1/Unit
230	Condominium	5.6/Unit
240	Mobile Home	5.4/Unit
310	Hotel	10.5/Occupied Room
320	Motel	9.6/Occupied Room
330	Resort Hotel	10.2/Occupied Room
411	City Park	60.0/Acre
412	County Park	5.1/Acre
413	State Park	0.6/Acre
420	Marina	3.8/Boat Berth
430	Golf Course	9.1/Acre
501	Military Base	1.8/Employee
520	Elementary School	0.5/Student
530	High School	1.2/Student
540	Junior/Community College	1.6/Student
550	University	2.4/Student
590	Library	41.8/1,000 gross square feet
610	Hospital	12.2/Bed
620	Nursing Home	2.7/Bed
630	Clinic	5.9/Employee
710	General Office Building	11.7/1,000 Gross Square Feet
720	Medical Office	75.0/1,000 Gross Square Feet
820	Shopping Center	116.0 to 26.5/1,000 Gross Square Feet
831	Quality Restaurant	56.3/1,000 Gross Square Feet
832	High Turnover Restaurant	164.4/1,000 Gross Square Feet
833	Drive-in Restaurant	553.0/1,000 Gross Square Feet
844	Auto Service Station	748.0/Station
850	Supermarket	125.0/1,000 Gross Square Feet
851	Convenience Market	578.0/1,000 Gross Square Feet

Table 2. Summarization of Rate Tables of Different Types of Dwelling Units.

Type of Dwelling Unit	Average Weekday Average	Vehicle Trip Maximum	Ends per Unit Minimum
210—Single Family Detached Unit	10.0	21.9	4.3
220—General Apartment	6.1	12.3	0.5
221—Low-Rise Apartment	5.4	5.5	4.7
222—High-Rise Apartment	4.3	6.4	3.1
230—Condominium	5.6	5.6	5.6
240—Mobile Home	5.4	6.8	2.8
250—Retirement Community	3.3	4.9	2.8
270—Planned Unit Development	7.9	10.0	6.2

Table 3. Correlation Between Average Weekday Vehicle Trip Ends and Independent Variables for Single Family Detached Houses.

Independent Variable	Correlation Coefficient (R)
Persons	0.995
Number of Units	0.937
Number of Vehicles Owned	0.999
Units per Acre	0.999
Acres	0.339

gether with the trip characteristics, trip generation rate tables and data limitations. The following is an example of the detail provided for each building type, taken from the section concerning residential land uses (200) and, more specifically, single family detached housing (210).

Residential 200. This section summarizes trip generation for all types of residential dwellings. Each category of residential housing, particularly single-family detached housing and apartments, used data from a wide range of units with varying sizes, price ranges, locations and ages. Consequently, there could be as wide a variation in trips generated within each category as there is between different categories. As expected, dwelling units that were larger in size, more expensive or farther away from the Central Business District (CBD) had a higher trip generation rate per unit than those smaller in size, less expensive or closer to the CBD. However, other factors such as geographic location within the country and type of adjacent and nearby development also had an effect on the generation rate. Thus, only the above general statement (instead of some linear relationship) concerning size, cost and location of dwelling unit and the income of the occupant could be made.

Table 2 summarizes the rate tables of the different types of dwelling units. As expected, the single family detached unit has the highest generation rate of all residential uses. This is followed by apartments, with retirement communities having the lowest rate. The rate for planned unit developments which have a mix of single family, detached units and apartments is in between these two types. The single family detached unit has the highest rate because: they are the largest units in size and have more people and more vehicles per unit than the other types of units; they are generally located farther away from shopping centers, employment areas and other attractors than are other types; and they have fewer alternate modes available because they are not as concentrated as other types of units.

Single Family Detached Housing 210. Any single family detached home on an individual lot is included in this category. A typical example is a home in a modern subdivision.

Slightly over 200 different studies were made of subdivisions containing single family homes. The average size subdivision contained 506 dwelling units for a total of more than 105,000 dwellings studied. These subdivisions were located primarily in suburban areas throughout the United States.

The average development density was 3.5 units per acre with 3.7 persons per

Table 4.

SUMMARY OF TRIP GENERATION RATES

Land Use/Building Type Single Family Detached House ITE Land Use Code 210

Independent Variable—Trips per Dwelling Unit

			Average Trip Rate	Maximum Rate	Minimum Rate	Correlation Coefficient	Number of Studies	Average Size of Independent Variable/Study
Average Weekday Vehicle Trip Ends			10.0	21.9	4.3		208	506
Peak Hour of Adjacent Street Traffic	A.M. Between 7 and 9	Enter	0.3	0.6	0.1		37	248
		Exit	0.6	1.7	0.2		38	258
		Total	0.8	2.3	0.4		173	269
	P.M. Between 4 and 6	Enter	0.7	1.8	0.3		38	245
		Exit	0.4	1.2	0.1		38	245
		Total	1.0	3.0	0.4		196	292
Peak Hour of Generator	A.M.	Enter	0.3	0.6	0.1		38	245
		Exit	0.6	1.7	0.2		38	245
		Total	0.8	2.3	0.4		175	271
	P.M.	Enter	0.7	1.8	0.3		40	252
		Exit	0.4	1.2	0.1		38	245
		Total	1.0	3.0	0.4		193	261
Saturday Vehicle Trip Ends			10.1	14.7	6.3		43	292
Peak Hour of Generator		Enter	0.5	1.0	0.4		21	273
		Exit	0.5	0.7	0.3		21	273
		Total	1.0	1.7	0.7		35	296
Sunday Vehicle Trip Ends			8.8	11.7	0.5		38	301
Peak Hour of Generator		Enter	0.5	0.8	0.3		19	252
		Exit	0.5	1.2	0.4		19	252
		Total	1.0	2.0	0.7		34	284

Source Numbers 1, 4, 5, 6, 7, 8, 11, 12, 13, 14, 16, 19, 20, 21, 24, 26, 34, 35, 36, 38, 40, 71, 72 (references appear in the committee's full report, available from ITE).

ITE Technical Committee 6A-6—Trip Generation Rates

Date:

unit. The average automobile ownership measured was 1.6 vehicles per unit.

Trip Characteristics. The analysis of correlation between average weekday vehicle trip ends and all measured independent variables is shown in Table 3.

Although the number of vehicles and number of residents have the highest correlations with average weekday trip ends, these variables have limited use. This is because the number of vehicles and residents is difficult to obtain and very few of the studies contained this data, and because the data is also difficult to predict. The number of units has a high correlation with average weekday vehicle trip ends. This variable is best because it is contained in most studies, it is easy to project and convenient to use.

As indicated in Table 4, single family dwellings generate on the average 10 vehicle trip ends per weekday per dwelling unit. Saturday vehicle trip generation is slightly higher; on Sunday, it is lower.

The regression equations developed for calculating the average weekday vehicle trip ends (AWDVTE) are as follows:

$$\begin{aligned} \text{AWDVTE} &= 138 + 8.17 \times \text{Units} \\ &\qquad R = 0.937 \\ &= -100 + 2.55 \times \text{Persons} \\ &\qquad R = 0.995 \\ &= -185 + 6.76 \times \text{Vehicles} \\ &\qquad R = 0.999 \end{aligned}$$

Some data is from studies conducted in the late 1960s and therefore should be updated. Additional data concerning auto occupancy and other modes of transportation is necessary.

Data Limitations

As indicated in the trip generation table, the data presented has limitations. The basic limitation, and one reason for variations in rates, is the sample size of counts at some generators and for peak hours for most generators. Additional data is needed for most generators to state more accurately the peak hour entering and exiting rates.

Another reason for variation in the generation rates is caused by different lengths of count periods and the time of the year the traffic volumes were counted. There exist daily and seasonal variations for most generators. In some cases, full week counts were made to define the average weekday and in other cases, a single day's count was obtained. In almost no case was the generation measurement adjusted for seasonal variations. This is especially true for shopping centers.

Variations in generation rates may also exist because of the location of the generator studied either within a metropolitan area or within the U.S. These locations have been identified in the data sets but no separate analyses have been made to determine if a difference exists because of location.

In all cases, the generation rates presented in this report represent driveway volumes of vehicles entering and exiting the site. For some building types, such as retail establishments, the generation rate could overstate the volume of traffic when assigned to the adjacent street system because some traffic is attracted to the site from the passing stream of traffic. That portion of the total generated traffic attracted to the site would pass on the adjacent street system whether or not the site were developed. It is essential that heavy effort be focused on defining how much of the total generated traffic to all building types would be attracted from the passing adjacent street traffic in order to define more accurately the traffic impact on the street system caused by development of a site.

The data summarized in this report is only for vehicle trip ends and does not include all person trip ends by mode. More data is needed for each building and land use type to define vehicle occupancy rates and person trip generation rates by mode of travel.

More data is also needed to define generation rates for the following types of buildings or land uses:

- water ports
- truck terminals
- railroad terminals
- low- and high-rise apartments
- condominiums
- retirement communities
- residential planned unit developments containing a mixture of duplexes, apartments and/or single family units
- day care centers
- churches
- museums
- libraries
- hospitals
- nursing homes
- clinics
- medical offices
- government buildings
- specialty shopping centers containing a mixture of small specialty shops and restaurants
- building materials retail establishments
- high quality restaurants
- drinking establishments
- banks, savings and loans, real estate offices, insurance offices and other financial services
- recreational uses.

Update Procedure

The Institute is establishing a formal procedure to update this report and to add data for additional land uses or building types not sufficiently covered in the report and to develop information on person trip ends by mode.

It is recommended that all ITE districts and sections be involved in this continual update procedure. These organizations, through their respective technical committees, can collect data from at least one or more sites annually and send it either on keypunch cards or on the trip generation coding sheets to the ITE Technical Council. In many cases, traffic counters, or even personnel, may be available from time to time to conduct a generation study in a given area.

It is also proposed that ITE work with the U.S. Department of Transportation, state, county and city departments of transportation or traffic engineering and with private consultants to obtain additional current data and include it in the updated reports. In this manner, a continual, uniform method of obtaining and summarizing the current trip generation data for all types of special generators, land uses and building types will be produced.

To implement this update procedure, the ITE Technical Council is establishing a permanent committee on trip generation rates for special generators, land uses or building types to update this report at least every two years.

The function of this committee will be to:

1. Store all trip generation data.
2. Coordinate with ITE district and section technical committees, government agencies and private consultants for the collection of additional data.
3. Distribute trip generation coding sheets and instructions to those collecting data.
4. Maintain computer program for trip generation analyses and summarization.
5. Maintain and modify when necessary a uniform procedure for collecting data.
6. Summarize trip generation data.
7. Conduct special trip generation analyses when appropriate.
8. Revise trip generation rate tables and appropriate text of report on basis of the additional data.
9. Establish data collection needs in areas where deficiencies exist or where little information is available.

The following procedure is presented to obtain new generation data from actual traffic volume counts. It is recommended that it be followed when collecting data and to transmit it on the coding sheets shown in the full report or on keypunch cards.

- Count a special generator where automatic counts can be made on drives without double-counting turning vehicles and without counting through traffic. Preferably, directional counts should be made. The site should be self-contained with adequate parking not shared by other activities.

From: Richard Getz Gmail
Sent: Friday, September 8, 2023 2:10 PM
To: Rachel Kahler <rkahler@heberut.gov>
Cc: CC Public Comments <ccpublic@heberut.gov>; Council@wasatch.utah.gov; Doug Smith <dsmith@wasatch.utah.gov>; Heidi Franco <hfranco@Heberut.gov>; Mike Johnston <mjohnston@heberut.gov>; PublicComment@wasatch.utah.gov; City Council <citycouncil@heberut.gov>; erowland@wasatch.utah.gov; kcrittenden@wasatch.utah.gov; kmcmillan@wasatch.utah.gov; lsearle@wasatch.utah.gov; manager@wasatch.utah.gov; Matt Brower <mbrower@Heberut.gov>; mnelson@wasatch.utah.gov; planning@wasatch.utah.gov; Ryan Stack <rstack@heberut.gov>; sfarrell@wasatch.utah.gov; spark@wasatch.utah.gov; Scott Phillips <sphillips@heberut.gov>; Yvonne Barney <ybarney@heberut.gov>
Subject: (EXTERNAL) Re: Groundwater mitigation at proposed temple site

Please, please, please do what is right for the residents of Wasatch County, Heber City and the Heber Valley.

The proposed site is simply NOT appropriate.

Pumping millions of gallons of water during construction and then on an ongoing basis is absurd.

I can't even imagine the NOISE pollution of industrial water pumps going 24/7/365!

https://www.kpcw.org/wasatch-county/2023-09-07/lds-temple-may-need-to-dewater-hundreds-of-thousands-of-gallons-of-groundwater-daily

Regards,

Richard Getz

From: Dave Speer
Sent: Tuesday, September 19, 2023 10:58 AM
To: planning@wasatch.utah.gov; Doug Smith <dsmith@wasatch.utah.gov>; lsearle@wasatch.utah.gov; Council@wasatch.utah.gov; sfarrell@wasatch.utah.gov; erowland@wasatch.utah.gov; mnelson@wasatch.utah.gov; kmcmillan@wasatch.utah.gov; spark@wasatch.utah.gov; CC Public Comments <ccpublic@heberut.gov>
Cc: jcjohnson@redledges.com; Lisa Bahash <lbahash@outlook.com>; Heidi Franco <hfranco@Heberut.gov>; Matt Brower <mbrower@Heberut.gov>; Planning Commission <planningcommission@heberut.gov>; City Council <citycouncil@heberut.gov>; Yvonne Barney <ybarney@heberut.gov>; Mike Johnston <mjohnston@heberut.gov>; Rachel Kahler <rkahler@heberut.gov>; Scott Phillips <sphillips@heberut.gov>; Ryan Stack <rstack@heberut.gov>
Subject: (EXTERNAL) The new county lighting ordinance is based on flawed data

Dear Wasatch County Council members,

Should you decide to vote against the proposed amendment by *Save Wasatch Back Dark Skies* to revise your lighting ordinance, it should by no means close the book on this issue. As I have pointed out in several previous letters and public commentary, your ordinance contains a serious error that must be corrected before it results in a tragedy for the county's night skies and turns Heber into just another brightly lit suburb of Salt Lake City.

The allowable maximum Luminance of 27 cd/m^2 specified in your document is based on someone's misunderstanding of the Joint Illuminating Engineering Society (IES) / International Dark Sky Association (IDA) *Model Lighting Ordinance (MLO).* It is then compounded by a mathematical error in the translation of Illuminance (incident light) to luminance (reflected light). The result is an allowable level of light that is on par with inner city "brightness". This can be used to light ANY future project within county boundaries. I do not believe this is your intention for the Heber Valley and surrounding county property.

I implore you to take your ordinance back to the drawing board and correct this error (among others that should be discussed). This is an important issue to many county residents and must not be ignored if you have any desire to control light pollution. Continuing the current course prohibits the county (and Heber City for that matter) from using any association with Dark Sky advocacy in the future.

Respectfully,

David Speer

Illumination Engineer, retired after 40+ years

From: Kelsey Berg
Sent: Tuesday, September 12, 2023 10:47 PM
To: CC Public Comments <ccpublic@heberut.gov>
Subject: (EXTERNAL) Fwd: 1790 South/Hidden Creek Lane name removal support

To: Heber City Council

We would like to express our support to the Council for removal of the name "Hidden Creek Lane" from 1790 South in Heber City.

We request and support removing the name from 1790 South for the following reasons:

1. Hidden Creek Lane on the east side of Mill Road is a private road.
2. 1790 South does not connect to Hidden Creek Lane on the east side of Mill Road. Two roads with the same name that don't connect will cause unnecessary confusion for those looking for addresses on both roads.
3. 1790 South does not align with Hidden Creek Lane. In order for them to meet, it would require a curved road through the Forest Service property and this may never be open for development. This means that it is likely the two roads will never connect.
4. The development on the west side of Mill Road (Sawmill Development) is within Heber City boundaries and the east side of Mill Road and Hidden Creek Lane is within Wasatch County jurisdiction. According to the agreement between Heber City and Wasatch County, the city

boundary will not cross east of Mill Road, and therefore it could cause problems in the future to have two roads of the same name within two jurisdictions.

We ask and support the removal of the name "Hidden Creek Lane" from 1790 South.

We appreciate your efforts to rectify this situation.

Respectfully,

Tod and Lynette Berg
Kelsey Berg
Kameron and Lorrie Kohler
Jake and Natalie Lundquist
Rachel Michael
Brent and Ginger Baker
Eric and Suzy Anderson
Starla Phillips
Tanner and Shelby Phillips

From: Caroline Anderson
Sent: Tuesday, September 12, 2023 3:36 PM
To: CC Public Comments <ccpublic@heberut.gov>;
Subject: (EXTERNAL) Pumping the aquifer for the temple

Dear County Council members,

I just read the report about how the aquifer under Heber will need to have millions of gallons pumped out of it in perpetuity in order for the proposed LDS temple to have a basement for baptisms.

While it's clear that there's a huge division between LDS members and non members with regard to the height of the temple, the lighting issues and what is considered beautiful etc., surely everyone with children and grandchildren can see that pumping water out of the aquifer in perpetuity is not environmentally sound or sustainable in these times? Even if one is more focused on Heaven and eternal life etc., don't all of our grandchildren still have to live on this Earth another 70+ years?

See also: https://www.nytimes.com/interactive/2023/08/28/climate/groundwater-drying-climate-change.html
This issue is not going to go away and will only get more and more national attention. Even in Utah, if we don't have another heavy snow year and are back in drought conditions by next year, won't draining the local aquifer for this reason make Heber and the Church look bad?

Please, please reconsider or at least postpone approving this location and consider alternative locations for the Heber temple that would not further contribute to the draining of the aquifer. Thank you for your time,

Sincerely,

Caroline Anderson
Heber City, UT