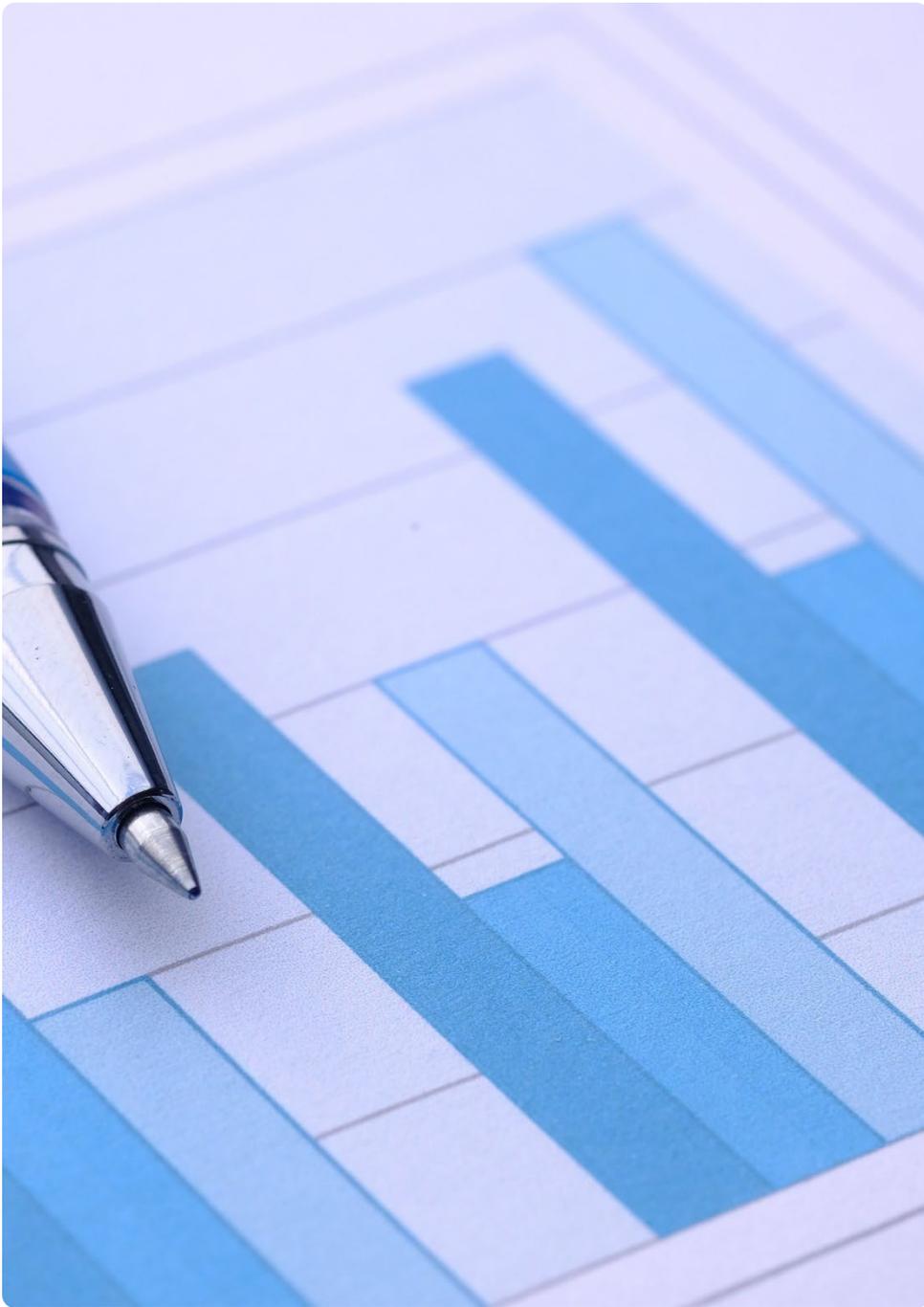


HB-502 Utah Critical Infrastructure Materials Study – Initial Findings



Executive Summary

1. Utah has sufficient aggregate to meet demand within proximity to where it is consumed in most areas in the state and probably has sufficient future resources to meet growing demand at least through 2060. Areas currently zoned for mineral extraction in most counties is lacking, and re-zoning will need to occur to ensure sufficient supply through 2060.
2. Certain areas, such as the region from the Salt Lake to the Weber valley, however, rely on imports of aggregate from further distances, a trend which is likely to continue as the region further develops. The increase in shipping cost will probably increase aggregate prices by 40-60% in this areas.
3. Stantec assesses that the state, industry, communities, counties, and municipalities would be better served by a state-level organization with the capacity and capability to consistency regulate all aggregate mining across the state and set and enforce the minimum standards for which all other authorities need to meet.
4. Land-use designation, rezoning, and permit decisions should probably remain with the local officials where the benefits and impacts of the quarry will be most realized.



Agenda

1. Stantec Team
2. HB 502 and Project Scope
3. Demand Analysis
4. Supply Analysis
5. Gap Analysis
6. Potential Future Resources
7. Community Impacts and Response
8. Regulations



Stantec Team



Stantec Team

Industry

Stantec staff have experience managing aggregate quarries in multiple states throughout the US. We have a working knowledge of the industry and have established relationships with stakeholders in Utah.

Economic and Policy

Stantec has mineral economists who have completed numerous aggregate market assessments and advised policymakers in several countries on their mineral development challenges and opportunities.

Technical

Stantec's technical team includes geologists, GIS analysis, engineers, and environmental experts with significant experience working both for the industry and for government authorities who regulate the industry.



HB 502 and Project Scope



HB 502 Summary

Conduct a study covering the next 35 years that includes:

- A. An inventory of critical infrastructure materials operations and related mining within the “relevant areas”
- B. An inventory of new critical infrastructure materials operations and related mining that may be created considering zoning and supply in the market
 - New operations
 - Expansion of existing operations
- C. An assessment of projected future demand for critical infrastructure materials within the relevant area, including:
 - the effects of residential and commercial development; and
 - known planned projects, such as transportation projects;



HB 502 Summary

- D. An analysis of the financial costs related to transporting and distributing critical infrastructure materials to and from “relevant areas”
- E. An analysis of the impacts of critical infrastructure materials operations and related mining on local infrastructure within the relevant area and possible mitigation of those impacts
- F. An analysis of the regulatory requirements faced by critical infrastructure materials operations
- G. The study of whether critical infrastructure materials operations should be licensed, permitted, or otherwise authorized or regulated by DOGM, another state agency, or local government



Outreach Process

Stakeholders

Stantec hosted two informational sessions for the study on 30 July and 1 August, following up with each stakeholder individually. On July 17 and 18, Stantec sent invitations for these meetings to over 80 individuals from state government, counties, cities, industry, trade organizations, and metropolitan planning organizations.

- All 11 counties mentioned in the bill
- 29 municipalities across the 11 counties
- Several aggregate companies
- Association of governments, metropolitan planning organizations, Utah League of Cities and Towns, Utah Association of Counties, Farm Bureau and UDOT.



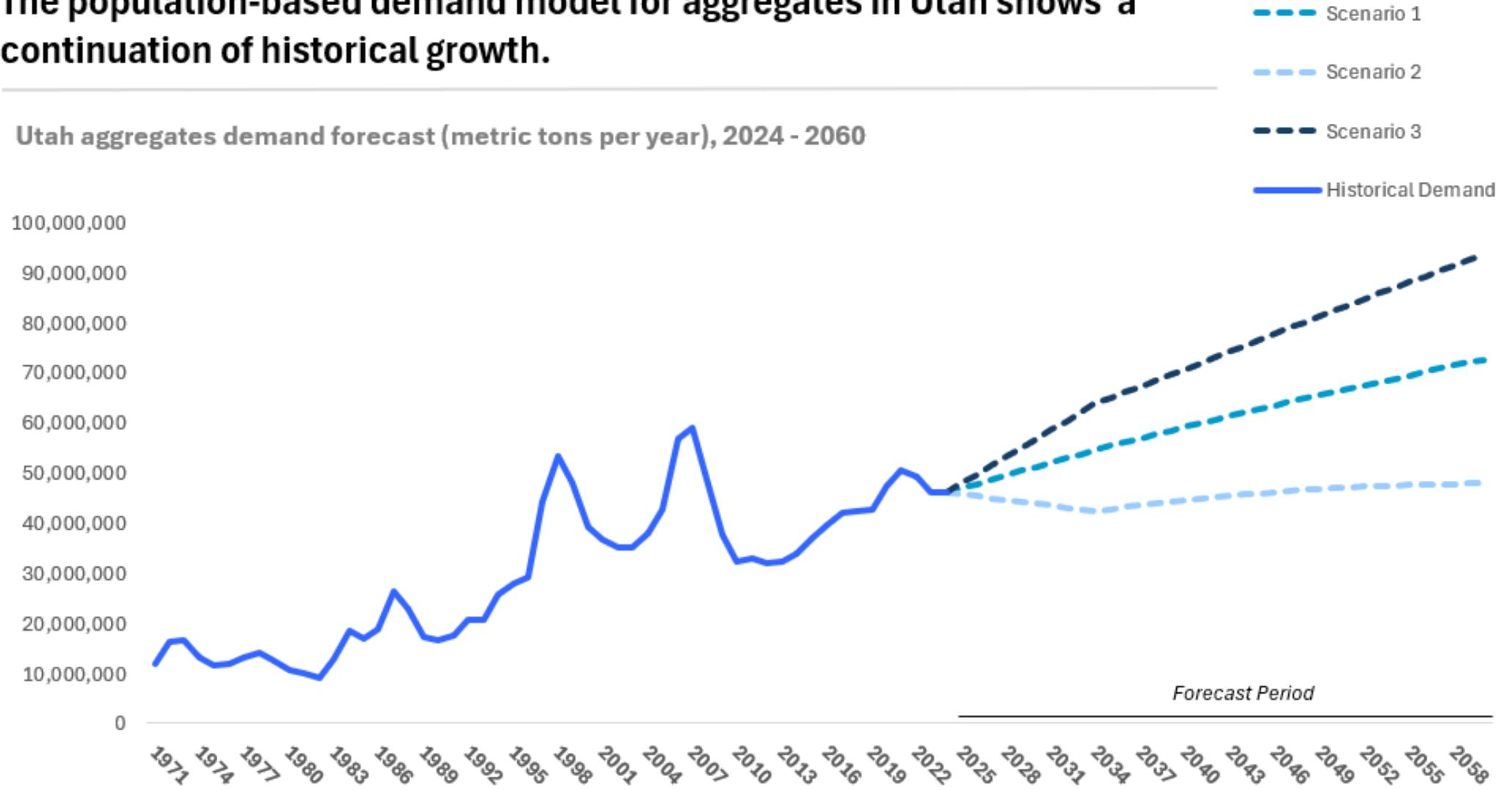


Demand Analysis



The population-based demand model for aggregates in Utah shows a continuation of historical growth.

Utah aggregates demand forecast (metric tons per year), 2024 - 2060



Sources: U.S. Geologic Survey (USGS), Kem C. Gardner Policy Institute (2024)

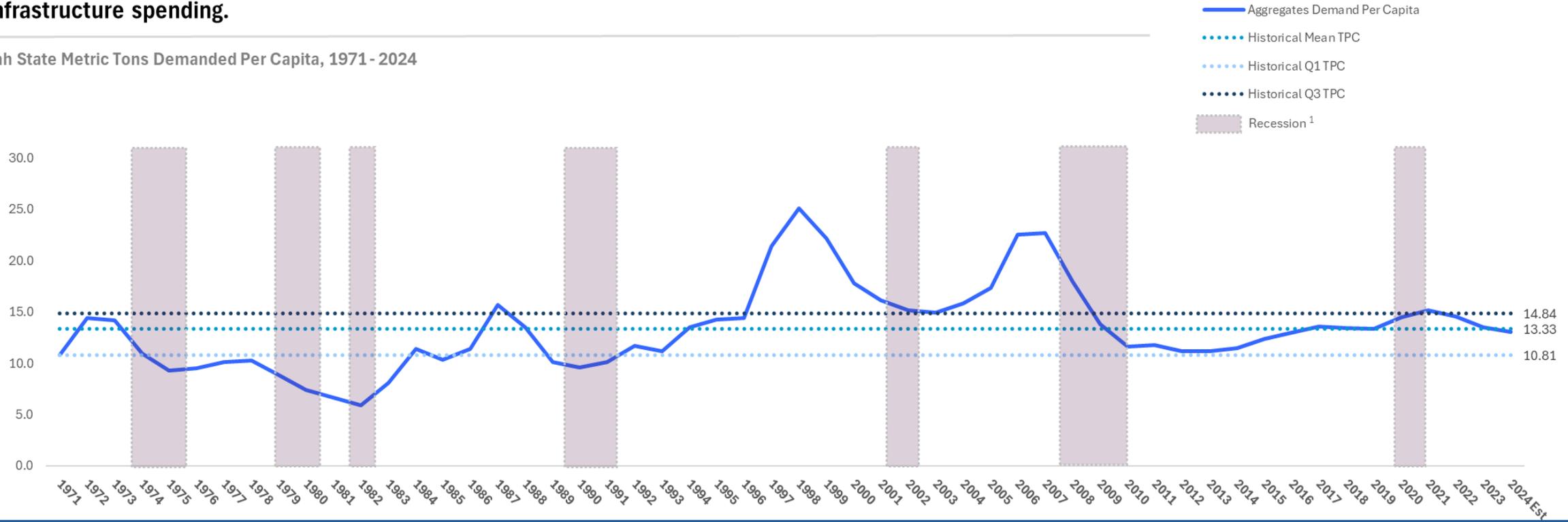
Notes: Forecasts developed by the product of 53-year average tons per capita (tpc) and forecasted baseline population (Scenario 1), the 1st quartile tpc and the low population estimate (Scenario 2), and the 3rd quartile tpc and the high population estimate (Scenario 3). The charts are smoothed for the first 10 years.

Stantec Consulting Services (2024)



Historical demand per capita has moved between 10.81 and 14.84, with lows during recessions and peaks from large infrastructure spending.

Utah State Metric Tons Demanded Per Capita, 1971 - 2024



Sources: U.S. Geologic Survey (USGS), Federal Reserve Economic Data (FRED)- St. Louis Fed

Notes: TPC is *Tons Per Capita*, Q1 is *Quartile 1*, Q3 is *Quartile 3*

¹ As defined by a GDP-based recession indicator

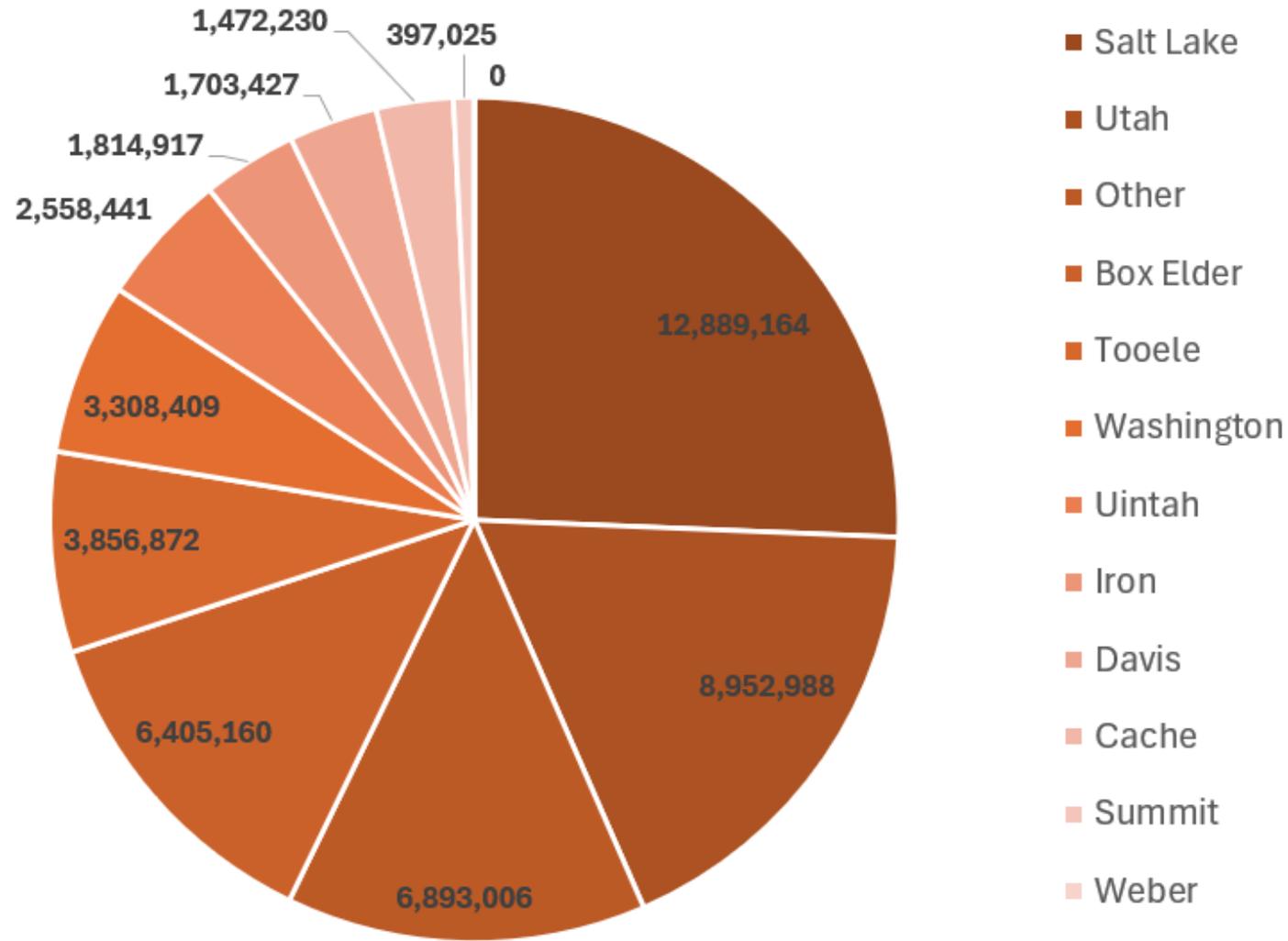
Stantec Consulting Services (2024)



Supply Analysis



2023 Aggregate Production by County



Production by County

Per capita production data by county and the data provided by producers shows that several quarries export material or have other circumstances driving a wide variation in production per capita.

- Box Elder County exports most of its production to Davis and Weber counties.
- Tooele County exports most of its production to Salt Lake County.
- Uintah county produces a few millions tons of aggregate per year to support oil and gas well development, depending on the state of the market.

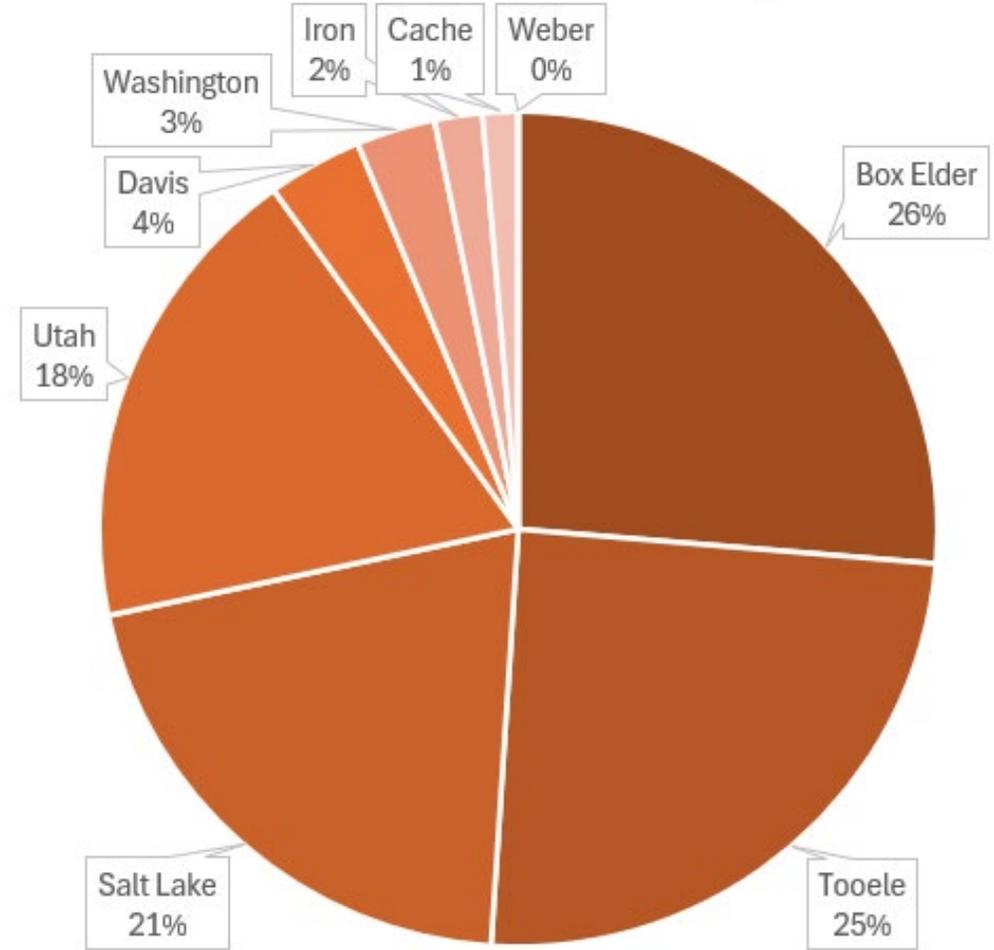
County	per capita Production (tons)			Likely Driver
	2021	2022	2023	
Box Elder	120.5	120.8	102.2	Exports to Cache, Davis, and Weber counties
Cache	11.8	9.4	10.3	Imports from Box Elder
Davis	6.3	8.6	4.6	Imports from Box Elder and Salt Lake counties
Iron	22.4	28.2	28.3	Significant growth
Salt Lake	11.2	9.2	10.9	Imports from Davis, Tooele, and Utah counties; Exports to Davis and Utah counties
Summit	8.0	8.4	9.3	Imports from Wasatch County; discrepancies in population estimates
Tooele	53.3	52.6	47.0	Exports to Salt Lake County
Uintah	11.3	47.5	67.8	Significant oil and gas production
Utah	18.6	17.7	12.5	Imports from Salt Lake County; Exports to Salt Lake County
Washington	18.9	19.9	16.3	Higher than average growth
Weber	0.0	0.1	0.0	Imports from Box Elder
Other	19.7	17.7	25.0	
Total	15.7	15.4	14.7	



Reserves

County	Estimated Reserves	Years Equivalent
Tooele	400,577,116	59.59
Box Elder	426,472,168	38.20
Davis	59,307,923	19.98
Utah	298,108,521	19.10
Salt Lake	334,557,060	14.89
Iron	29,767,598	9.41
Cache	22,175,656	8.64
Washington	49,491,544	8.58
Weber	0	0
Summit	Unknown	Unknown
Uintah	Unknown	Unknown

Estimated Reserves by County 2023





Key Supply Findings by County

County	Import vs Export of Aggregates	Long-term Trend	Important Notes
Box Elder			
Tooele			Tooele will likely become the primarily supplier for Salt Lake. Transportation needs consideration.
Salt Lake			
Davis			Long haul from Box Elder
Summit			Rely on Wasatch County
Utah			May supply Salt Lake
Weber			
Cache			
Uintah			
Iron			
Washington			Supplied from Arizona



Transportation Costs

Changes in shipping distances over the next 35 years will affect aggregate prices in some regions.

- The average shipping cost reported was about \$0.30-\$0.40 per ton per mile.
- A shipping distance of about 30 miles double the cost of aggregate.



Potential Future Resources

Utah Has Abundant Resources

The supply of aggregate in Utah will only be limited by shipping costs and regulatory approvals.

- Utah has about 6.5 trillion tons of potential future resources, which is about 13,000 years of supply at current consumption levels.
- These figures include adjustments for product suitability, access, recoverability, and waste.
- Much of the aggregate resources are on areas that are not suitable for mining due to land use conflicts or are too far away from markets to currently be economically feasible.
- It's important to note that the most populous areas have the least amount of potential future resources.

County	Acres (thousands)	Tons (million)
Box Elder	2,732	333,148
Cache	745	103,847
Davis	160	23,401
Iron	2,108	315,345
Salt Lake	471	59,340
Summit	1,185	148,708
Tooele	2,750	307,554
Uintah	2,094	207,877
Washington	1,555	269,953
Weber	324	42,591
Utah	1,162	147,072
Other	32,667	4,488,451
Utah Total	47,954	6,447,287



Impacts of Operations

Negative Impacts

Comments from stakeholders revolved around similar and well-known issues from aggregate mining that, in many locations, are not well regulated.

- Air quality, dust, visibility, noise, light, traffic, and impacts on roads were highlighted as negative impacts from quarry operations.



September 11, 2024

One study concluded that 60% of dust from a residential property was attributable to a local quarry. The quarry is in another city than the one realizing the dust impacts and has no authority over regulation.

Positive Impacts

Aggregate quarries provide the materials necessary to build roads, homes, schools, and all other critical infrastructure necessary for our way of life.

- Required aggregate by build:
 - One-lane highway: 38,000 tons per mile
 - House: 400 tons
 - School: 15,000 tons
- In 2017, the aggregate industry provided about 1,620 jobs in Utah.
- The industry has ripple effects into other industries, supporting an additional 1,790 jobs.





Regulatory Review



Regulatory Review

The permitting, operating and reclamation regulations governing the development and operation of a quarry in the State of Utah are complex and complicated.

- From the State's perspective quarry operations are covered by the state law under Utah Mined Land Reclamation Act of 1975, Title 40, Chapter 8 of the Utah Code Annotated as amended and state rules R647. The designated agency to enforce these rules is the Division of Oil, Gas, and Mining (UDOGM).
- On federal lands, the BLM regulates quarry operations on BLM lands under the Title 43 Code of Federal Regulations (CFR), Group 3600. While the NFS regulates quarry operations on NFS lands under the Title 36, Chapter II, Part 228.
- Within the various counties and cities, quarry operations are regulated under a combination of zoning and conditional use rules which vary across the state.
- In addition to the above regulations governing the mining and reclamation activity, quarries are also subject to air and water quality regulations. These requirements apply regardless of the location of the quarry and whether it is regulated by UDOGM or the county/municipality in which it is located.
- The application of all of these rules depend on many conditions and several factors.

Regulatory Review

The permitting and oversight of mining operations and reclamation of quarries varies significantly depending on the type of deposit, land ownership, location, age, and size.

- Alluvial vs bedrock
- BLM vs state vs private land
- County vs municipality
- Grandfathered operations under Utah Code Title 17 Chapter 17-27a Part 10 and Title 10 Chapter 9a Part 10
- Small vs large mine operations

Regulatory Review

In addition to the regulations governing mining and reclamation, quarries are subject to air and water quality regulations regardless of where they are located and how the mining operations and reclamation are regulated

- Air quality permits
 - New or existing sources of fugitive dust one quarter acre or greater in size must have an air quality permit
 - The permit generally has emission limits for fugitive dust
 - The permit includes a fugitive dust control plan
- Water quality permits
 - Storm Water Pollution Prevention Plan – Construction & Mining General Permits
 - Spill Prevention Control Containment

Regulatory Review

Within the various counties and cities, quarry operations are regulated under a combination of zoning and conditional use rules which vary across the state

- Zoning and Allowed Uses
 - Several counties/cities have existing zoning that allows mining but the area is limited.
 - Where an existing mining use is not specified, re-zoning is required.
 - Generally applicable to existing industrial zoned areas.
- Ordinance Governing Operations and Reclamation
 - Some jurisdictions have detailed ordinances similar to DOGM.
 - Some jurisdictions have either no specific ordinances for mining or some general requirements for excavation operations.
 - Of the eleven counties in the study, none of the ordinances are exactly the same.
 - Fifteen cities/municipalities were also reviewed, all with varying degrees of detail but generally none are the same.

Regulatory Review

Stantec has the following observations based on comments from county officials and municipalities and a review of regulatory requirements.

- The variance in requirements presents uneven standards across different areas, different sets of rules for different operations, and presents a regulatory burden that can be prohibitive to smaller businesses. It also creates issues with quarry operations operating near the boundary of a jurisdiction that impacts residents in adjacent jurisdictions.
- Over the years, quarries and residential areas have been allowed to encroach on each other in many areas in the State creating many of the issues and complaints from both parties.
- Many stakeholders said that they did not feel that had the capacity and/or authority to properly manage quarry operations.
- Some counties expressed concern regarding disproportionate tax revenue, especially for those jurisdictions that export most of their aggregate production to other counties. There is not enough revenue to pay for the impacts of quarry operations, especially road upgrades, repairs, and maintenance.
- Compliance with and enforcement of air quality regulations is considered to be deficient by many localities, but the Air Quality Division does not have the resources to increase monitoring and enforcement activity.
- The “grandfather provisions” of Title 17 Chapter 17-27a Part 10 and Title 10 Chapter 9a Part 10 create confusion, conflict, and are a source of frustration for many localities.

Regulatory Review

Stantec assesses that the industry, communities, counties, and municipalities would be better served by a state-level organization with the capacity and capability to consistency regulate all aggregate mining across the state and set the minimum standards for which all other authorities need to meet.

- There is benefit for consistent minimum standards across the industry that is controlled, monitored and enforced by a single state agency.
- Division of Oil, Gas and Mining could provide the single state point of contact for the industry and facilitate air and water quality issues with the other appropriate agencies.

Land-use designation, rezoning, and conditional use permit decisions could remain with the local officials where the benefits and impacts of the quarry will be most realized.

- Many stakeholders felt the local communities should have the final say on quarry approvals since they realize most of the costs and benefits.
- If local officials retain the authority to set standards above the minimum requirements set by the state, then they would be responsible for regulating and enforcing these standards.



Conclusions

Utah has sufficient aggregate to meet demand within proximity to where it is consumed in most areas in the state and probably has sufficient future resources to meet growing demand at least through 2060. Certain areas, such as the region from the Salt Lake to the Weber valley, however, rely on imports of aggregate from further distances, a trend which is likely to continue as the region further develops. Transportation logistics needs to be considered needs to be considered in light of this trend.

Many residents, counties, and municipalities face common challenges with the impacts of aggregate production and regulating the industry. Stantec assesses that the industry, communities, counties, and municipalities would be better served by a state-level organization with the capacity and capability to consistency regulate all aggregate mining across the state and set the minimum standards for which all other authorities need to meet.

Land-use designation, rezoning, and permit decisions should probably remain with the local officials where the benefits and impacts of the quarry will be most realized.

Thank you
