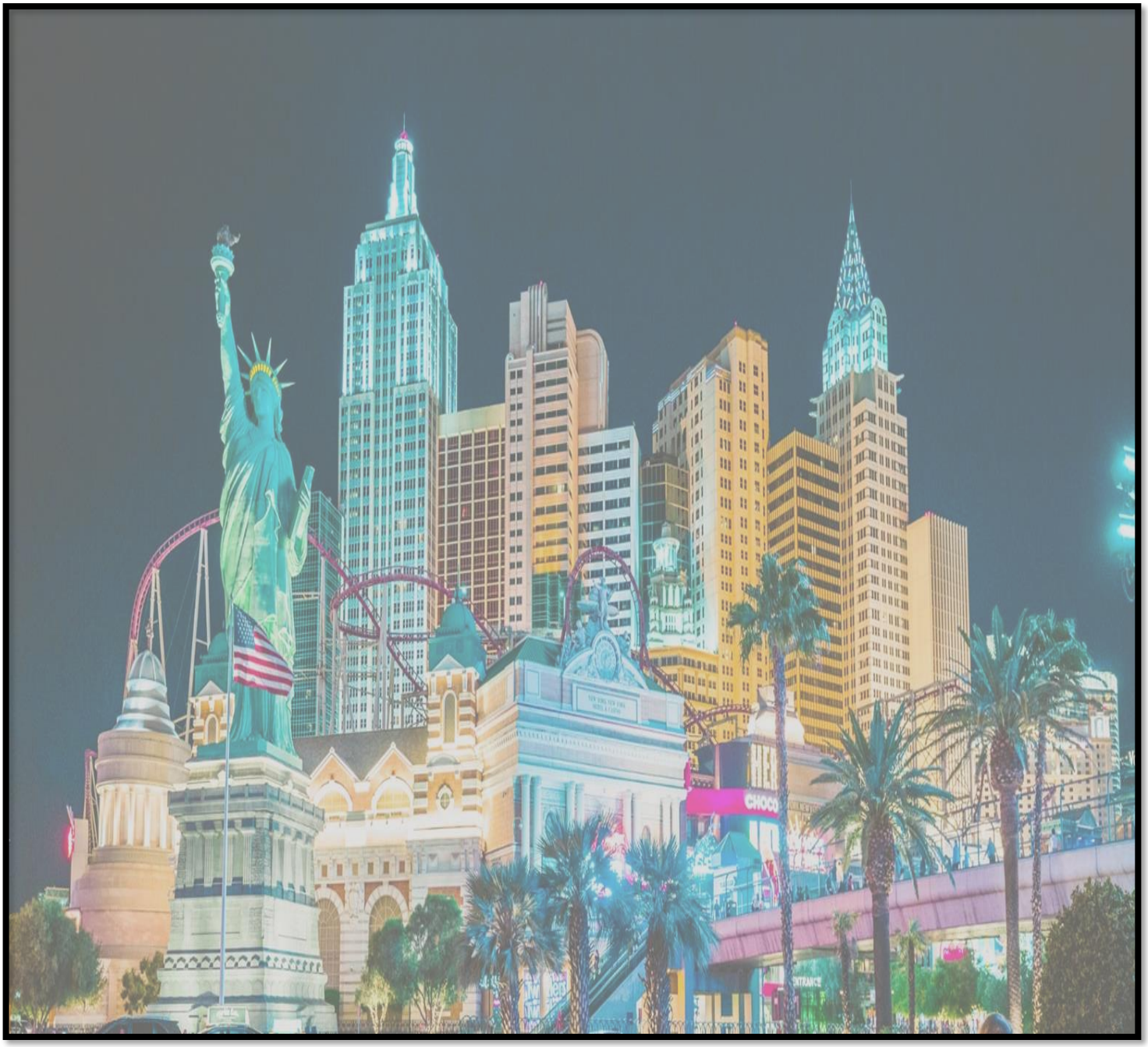
SOUTHERN NEVADA TRAUMA SYSTEM

ANNUAL REPORT

2022



SERIOUS INJURIES • SUPERIOR CARE
TRAUMA SYSTEMS MATTER
Southern Nevada Trauma System

SNHD
Southern Nevada Health District

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Acknowledgments

The Southern Nevada Trauma System report was prepared by staff in the Southern Nevada Health District Office of Emergency Medical Services & Trauma System and the Southern Nevada Health District Office of Epidemiology and Public Health Informatics. The Health District appreciates the contributions of the following organizations:

- American College of Surgeons Committee on Trauma
- Nevada State Division of Health
- Regional Trauma Advisory Board
- Trauma Medical Audit Committee
- University Medical Center
- Sunrise Hospital & Sunrise Children's Hospital
- St. Rose Dominican Hospitals – Siena Campus
- Mike O'Callaghan Military Medical Center

Thanks to the members of the Regional Trauma Advisory Board, all SNHD EMS committees, participating trauma center medical directors, program managers, and registrars. Their dedication to continuously improving data collection makes it possible to fully evaluate and advance the Southern Nevada Trauma System.

Southern Nevada Trauma System Review

Introduction

This Southern Nevada Trauma Annual Report comprehensively describes the ongoing development, operation, and maintenance of the Southern Nevada Trauma System using a 5-year calendar review. Since its inception in 2005, trauma system leadership continues to make significant strides to provide a well-coordinated trauma system to serve the trauma transport and treatment of Southern Nevada residents, bordering states, and visitors each year.

The Need for a Trauma System

Despite the COVID pandemic, traumatic injury remains the leading cause of death among young people and a significant health threat to Southern Nevada and its millions of visitors each year. The 2022 annual report reflects on the growth of the system in response to the identified need of our community with the addition of a Level III center. Using evidenced based data to recognize top injury mechanisms, preparedness and injury prevention efforts can be directed at decreasing injury before it occurs.

Southern Nevada is an expert in providing care for large scale events, but 2023 will bring a new level of large scale with hosting Super Bowl LVIII and the first Formula 1 Las Vegas Grand Prix.

What is a Trauma System?

A trauma system is an organized, coordinated, comprehensive injury response network of essential resources that promote injury prevention and control initiatives and provides specialized care for the injured. The system facilitates appropriate triage and transportation of trauma patients through the emergency medical services system to designated health care facilities that possess the capability, competence, and commitment to providing optimum care for trauma victims. It also promotes rehabilitation services to decrease the likelihood of long-term disability and maximize injured patients' potential to return to their prior functional capacity and reintegration into the community.

The goals of a trauma care delivery system are to:

- reduce the incidence and severity of injuries;
- improve the health outcome of those who are injured by ensuring equitable access to the most appropriate health care resources promptly;
- promote efficient, cost-effective delivery of care;
- implement performance improvement activities to ensure quality care throughout the system; and
- advocate for sufficient resources to meet the needs of the injured in the community.

Trauma System Components

Prehospital Emergency Medical Services

The prehospital component of the trauma system is designed to provide initial assessment and management of injured patients at the scene of an emergency with safe and efficient transport to the most appropriate health care facility.

Level I

A Level I trauma center provides comprehensive care for the most severely injured patients. The required clinical resources include emergency medicine, general and subspecialty surgical and anesthesia services. A Level I trauma center is expected to provide leadership in trauma system planning, education, and research. The center must also meet specific volume performance standards (at least 1200 patients annually). A 24-hour in-house availability with a 15-minute maximum acceptable response is required for the highest-level trauma activation.

Level II

A Level II trauma center provides comprehensive trauma care based on the environment of the region. In population-dense areas, Level II should supplement the Level I facility's clinical activity and expertise. A Level II trauma center is expected to provide initial and definitive trauma care for severely injured patients, including all the clinical services provided by a Level I trauma center except hand and microvascular surgical services. A 24-hour in-house availability with a 15-minute maximum acceptable response is required for the highest-level trauma activation.

Level III

A Level III trauma center typically serves communities without immediate access to Level I or II resources. When multiple trauma centers function within a community (e.g., metropolitan area), a Level III trauma center may be required to participate within a trauma system. The required resources include emergency medicine and general and orthopedic surgical services to treat and stabilize all the Center for Disease Control guidelines for trauma triage (Steps 1-4). The other subspecialties are desired but not required. Level III trauma centers then function to transfer injured patients that exceed the facility resources to Level I and Level II trauma centers. As such, participation in a regional trauma system is essential. A 24-hour availability with a 30-minute maximum acceptable response is required for the highest-level trauma activation.

Pediatric Level I or II

A Pediatric Level I or Level II trauma center is a health care facility that has committed the necessary resources and expertise to meet the pediatric population's specialized needs. A pediatric trauma center is expected to assume a leadership role in the care of injured children within their community.

Rehabilitation, Data Collection, Injury Prevention, Performance Improvement

All trauma centers commit to an optimal performance that includes these four key points. The rehabilitation of injured patients reduces costs; each trauma center establishes local agreements with rehabilitation centers to provide post-trauma care. Data collected to analyze and evaluate system performance is used to improve responses, conserve resources, implement prevention strategies, and comply with reporting statutes.

Southern Nevada Trauma System

The establishment of a Trauma System is mandated by Nevada law. The authority to plan, implement, and monitor the Southern Nevada Trauma System was delegated to the Southern Nevada District Board of Health (Board). The Board has established and adopted a comprehensive trauma system plan and regulations. As the lead regulatory agency in Southern Nevada, the Southern Nevada Health District plays a central role in acquiring and analyzing trauma system data. Through the Office of Emergency Medical Services & Trauma System (OEMSTS), the Health District provides a continuous assessment of the trauma system. In addition, the Regional Trauma Advisory Board (RTAB) and Trauma Medical Advisory Committee (TMAC) share responsibility for interpreting the data to evaluate the system's efficiency and effectiveness. In Southern Nevada, all trauma centers are verified by the American College of Surgeons Committee on Trauma (ACS-COT) and designated by the Nevada Division of Public and Behavioral Health (DPBS) every three-years. With a population of over 700,000, the Board must participate in the designation process.

Office of Emergency Medical Services & Trauma System

OEMSTS is comprised of a Manager, Supervisor, Regional Trauma Coordinator, EMS Project/Program Coordinators, EMS Field Representatives, and Senior Administrative Assistant. Additionally, the Health District contracts a licensed physician to serve as the EMS Medical Director. OEMSTS receives direction from the District Health Officer and Director of Community Health.

American College of Surgeons Committee on Trauma

ACS-COT focuses on improving injured patients' care. Their guidelines were developed for a verification process whereby a hospital could be evaluated to determine if all the needed criteria to function as a trauma center are being met.

Optimal versus Minimal Standard

The American College of Surgeons Committee on Trauma (ACS-COT) has developed a classification system to verify the necessary resources to provide optimal care to injured patients. It is not a ranking of medical care provided by a health care facility but the recognition of the depth of resources available within the institution. In Nevada, any healthcare facility that has not been verified by the ACS-COT meets a minimum standard, through state and federal industry certifications, and not an optimal standard. Nevada Administration Code (NAC) 450B.819 requires ACS-COT verification to be considered for designation.

Verification versus Designation

Verification: A hospital verified by the ACS-COT demonstrates it meets the criteria contained in *Resources for Optimal Care of the Injured Patient*. This verification process requires a visit by the ACS-TOS to determine if all criteria are optimally met. Any hospital seeking to be designated to perform as a Trauma Center in Southern Nevada must be verified.

Designation: The regulatory and bureaucratic process needed by a hospital to be designated as a Trauma Center is performed by the Nevada Division of Public and Behavioral Health of the Department of Health and Human Services. Additionally, in Southern Nevada, as defined by its population, a hospital seeking designation must obtain a letter from the Southern Nevada District Board of Health that provisionally authorizes its designation. To be included in the Southern Nevada Trauma Catchment Areas, a hospital must be designated.

Southern Nevada Verified and Designated Trauma Centers

- University Medical Center Level I and Pediatric Level II Trauma Center
- Sunrise Hospital Level II Trauma Center
- St. Rose Dominican Hospitals – Siena Campus Level III Trauma Center
- Mike O'Callaghan Military Medical Center Level III Trauma Center

Southern Nevada Emergency Medical Services

In Southern Nevada, the public fire departments provide emergency medical services (EMS): Boulder City Fire Department, Clark County Fire Department, Henderson Fire Department, Las Vegas Fire & Rescue, Mesquite Fire & Rescue, and North Las Vegas Fire Department. The private franchised EMS agencies serving the area are American Medical Response, Community Ambulance, Guardian Elite Medical Services, and MedicWest Ambulance. Air ambulance services are provided by Guardian Flight (fixed wing), Optimumedicine (fixed wing), and Mercy Air Service Inc. (rotor wing).

Level III Trauma Center – Southern Nevada Trauma System

A Level III trauma center is generally not found in an urban or suburban area where Level I and II resources exist. In consideration of the addition of a Level III trauma center to Southern Nevada, trauma system leadership incorporated the trauma center to create a nationwide unique inclusive system. Furthermore, any subsequent hospital seeking initial designation may only apply as a Level III (NAC 450B.817). Therefore, participation as a Level III trauma center in the Southern Nevada Trauma System is supplemental to the Level I and II Trauma Centers' activity and expertise. In most occurrences, this entails providing definitive care to the less severely injured patients in the immediate area (Steps 3-4) and allowing for more severe trauma cases and the resources needed to serve them to be prioritized at a Level I and II trauma center.

Southern Nevada Trauma Catchment Areas

To facilitate the timely transportation of trauma patients from the scene of an emergency to the closest appropriate trauma center, the Office of Emergency Medical Services & Trauma System (OEMSTS) creates and determines geographic catchment areas (Appendix B). One of the Regional Trauma Advisory Board's (RTAB) responsibilities is to monitor trauma patients' distribution to ensure patients are matched with the appropriate resources while providing sufficient volume to each trauma center to provide stability within the trauma system. Prehospital emergency services triage for trauma patients is based on the CDC 2011 Guidelines for field triage of injured patients. The CDC 2021 guidelines have been released and are being reviewed.

Non-Trauma Center Hospitals

The Southern Nevada Trauma System recognizes hospital facilities that provide emergency services contribute to its inclusive trauma system. These facilities are known as Non-Trauma Center Hospitals and provide prompt assessment, resuscitation, emergency operations, and stabilization and arrange for transfer to a designated trauma center. Most trauma patients arrive at Non-Trauma Center Hospitals by self-delivery or by EMS provider judgment exemptions. If injured patients meet state-defined trauma criteria, they may be transferred through inter-local agreements to a designated Trauma Center.

Leadership and Legislation

The Administrator of Nevada's Department of Health and Human Services, in conjunction with the Deputy of the Division of Public and Behavioral Health, has the authority to designate a health care institution as a Level I, II, or III trauma center or Pediatric Level I or II trauma center based on a proposal that must include a verification of the American College of Surgeons classification system and approval of a district board of health in any county whose population is 700,000 or more. During the 2005 state legislative session, Nevada Revised Statute (NRS) 450B.237 was promulgated, authorizing the Southern Nevada District Board of Health to establish and adopt a comprehensive trauma system plan concerning trauma treatment in Clark County. During the 2020 state legislative session, NRS 450B.237 was altered. The overall designation process remained the same except that approval of a new Level III trauma center must come from the Nevada State Health Division's Administrator after they have conducted a comprehensive assessment of needs. Additionally, the Southern Nevada District Board of Health cannot approve the proposal unless regulations and a trauma plan are adopted. Furthermore, those plans shall include considerations of and plans for future county trauma needs, designation of new trauma centers, the impact of a new trauma center on the existing system, and the most effective way to provide trauma services.

The Health District's Regional Trauma Coordinator, as part of OEMSTS, provides administrative oversight of the Southern Nevada Trauma System. With the assistance of local trauma leaders and community stakeholders, the Southern Nevada Trauma System regulations were first adopted by the District Board of Health in May 2007.

To assist the District Health Officer and OEMSTS in fulfilling the responsibilities defined in regulations, the RTAB was created. The primary mission of the RTAB is to support the District Health Officer to ensure a quality system of patient care for the victims of trauma within Southern Nevada. The trauma board makes recommendations and assists in the ongoing design, operation, evaluation, and revision of the trauma system from initial patient access to definitive patient care. The members of the RTAB include a trauma surgeon and trauma program manager from each designated trauma center; the chairman of the Health District's Emergency Medical Services Medical Advisory Board; an administrator from a non-trauma hospital; a person representing the public providers of advanced emergency care; a person representing the private franchised providers of advanced emergency care; a person representing health education and prevention services; a person representing the payors of medical benefits for the victims of trauma; and a person representing the general public. RTAB meets at least quarterly according to the trauma system's needs.

Trauma System Evaluation and Performance Improvement

An essential component of any trauma system is a continuous, comprehensive, multidisciplinary, data-driven assessment process. This process monitors and evaluates the trauma system's structure and outcome measures through all phases of care. The Southern Nevada Trauma System Improvement Plan consists of three major elements: 1) internal performance improvement and patient safety program within each trauma center; 2) scheduled independent evaluations of trauma care by trauma care experts from the American College of Surgeons every three years; and quarterly trauma system review and analysis by the Trauma Medical Audit Committee; and 3) ongoing data collection, management, and analysis at the local, state and national level to ensure system effectiveness and identify trends and needs within the system.

The cornerstone of the Southern Nevada Trauma System medical review process is the Trauma Medical Audit Committee (TMAC). It is a peer review committee that meets quarterly to review, monitor, and evaluate trauma system performance and make recommendations for system improvements. The TMAC derives its authority and privilege from NRS 49.117 - 49.123; NRS 49.265; and NRS 450B.237. The members of the TMAC include the trauma medical director and program manager from each designated trauma center; the Southern Nevada medical examiner or designee; the Health District's Regional Trauma Coordinator; a neurosurgeon; an anesthesiologist; an orthopedic surgeon; and an emergency physician not affiliated with a trauma center.

Effectively evaluating trauma system performance is contingent upon appropriate data collection, management, analysis, and reporting. NRS 450B.238 requires each hospital to record and maintain information concerning the treatment of trauma in the hospital, utilizing the guidelines adopted by the American College of Surgeons, to the state trauma registry managed by the State Health Division, Bureau of Health Planning and Statistics. The State Trauma Registry is one source of valuable information needed to describe injured patients with an ISS greater than fifteen within the Southern Nevada Trauma System.

Each designated Trauma Center also provides data to the National Trauma Data Bank. This data includes patients evaluated for trauma by the mechanism of injury and special considerations. This criterion is based on physiologic, anatomic, mechanism, and special considerations outlined in the Southern Nevada EMS System Trauma Field Triage Criteria Protocol (TFTC). In addition, injury mortality data provided by the Southern Nevada Coroner's Office is used by the TMAC to evaluate trauma system resource utilization and planning for improved system effectiveness and efficiency.

Purpose of Southern Nevada Trauma Needs Assessment Review

To provide a data-driven assessment of the Southern Nevada Trauma System, the Regional Trauma Coordinator produces the annual Southern Nevada Trauma System Report. Where able, a 5-year dataset will be used to present the most current information available. All sources are chosen to provide an overview of injury and trauma system utilization at the local level. As defined in NRS, the District Board of Health shall consider plans for future county trauma needs, designation of new trauma centers, and the most effective way to provide trauma services. This assessment is intended as a tool for the Southern Nevada Trauma System's subject-matter experts to review the overall system to recognize trends and provide decision-makers with informed guidance.

Data Sources

The Center for Business and Economic Research University of Nevada, Las Vegas

- Provides population and population forecasts for Clark County, NV

Nevada State Trauma Registry

The Nevada Trauma registry is a depository of trauma incident data from across the state. All hospitals within Nevada are required to submit data quarterly. To be classified as a trauma, a series of criteria identified by the American College of Surgeons must be met. For an incident to be classified as a trauma, the patient must have:

- At least one diagnostic code for injury:
    - ICD-10 code from the following ranges: S00-S99 (7th Character Modifier A, B, or C), T07, T14, T20-T28 (7th Character modifier A), T30-32, and T79.A1-T79.A9 (7th character modifier A) and the patient must have:
- At least one of the following criteria:
    - Patient was in the hospital for at least 24 hours due to injuries;
    - Injury resulted in death; or
    - Patient was transferred between hospitals using EMS or air ambulance.

Southern Nevada Department of Comprehensive Planning

Trauma Field Triage Criteria (TFTC) 2022 Data

The designated trauma centers in Southern Nevada submit data to the OEMSTS related to patients transported according to the Health District's EMS Operations Trauma Field Triage Criteria Protocol criteria. The TFTC algorithm is a triage decision scheme developed by the American College of Surgeons Committee on Trauma.

Prehospital professionals are trained to perform a physical assessment of trauma patients and recognize specific injuries and injury mechanisms that are likely to cause severe injury. The data, verified through First Watch, includes:

- day and time;
- address with longitude and latitude coordinates;
- injury code;
- EMS response time-stamps;
- transport destinations;
- out-of-area.

Patients are transported to area trauma centers based on these criteria:

Step 1 (Physiologic): A trauma patient whose injury is so severe that their vital signs or level of consciousness are abnormal.

Step 2 (Anatomic): A trauma patient whose vital signs and level of consciousness are within normal limits, but they have sustained an obvious serious injury; for example, an open or depressed skull fracture, pelvic fracture, or paralysis.

Step 3 (Mechanism): A trauma patient whose vital signs and level of consciousness are within normal limits. They do not appear to have an obvious serious injury. Still, they have experienced high energy impact to the body that may have caused a severe injury that is not immediately obvious.

Step 4 (Special Considerations): A trauma patient whose circumstances merit special considerations, for example, older adults, children, anticoagulants/bleeding disorders, and pregnancy.

Limitations

One of the most critical limitations of the trauma system report is the lack of consistency in trauma data collection at the state and local levels. Variability was noted in disease classification coding, case definitions, and inclusion criteria among the organizations that collect injury data. There is also a lack of consistency in coding of data provided by non-trauma hospitals within the state trauma registry. Accurate coding of these trauma cases is essential to calculate overtriage and undertriage as an ACS-COT defined assessment measure, which means the data reported are not representative of all trauma cases in the system.

It is the desire of the OEMSTS and members of the RTAB to be evidence-based in making decisions regarding future planning, development, and modification of the Southern Nevada Trauma System. The stakeholders are working diligently to improve needs assessment activities specific to Southern Nevada.

The Trauma System During COVID-19

The trauma system functioned as intended during the COVID pandemic without interruption of services. Complications arose when ACS-COT was unable to provide in-person verification visits. This required the ACS-COT to develop web-based verification visits. Siena Level III Trauma Center was reverified as part of the pilot web-based verification process. Sunrise Level II Trauma Center was reverified via the web-based verification process. All three trauma centers were granted one-year extensions to their designations by the Administrator of the Nevada Department of Health and Human Services due to the ACS-COT delays.

During the COVID pandemic, trauma case numbers and type remained the same, though initially, there appeared to be an increase in interpersonal violence. The increase was attributed to a decrease in other injuries (e.g., automobile accidents) that subsequently raised the percentage of certain injuries without an actual increase in cases.

Future Plans

The trauma system's future evolution depends on a reliable surveillance system to monitor trends, identify opportunities for improvement, and provide valuable information to health care leaders, emergency managers, and policymakers. Access to quality data contributes to the accurate assessment of current resources and assists in developing comprehensive, evidence-based, and integrated strategic plans to promote effective and efficient emergency medical care for injured patient.

The OEMSTS, during 2023, will be focusing on the following:

- Review of Trauma System Plan and Performance Improvement Plan
- Review of trauma system data
- Assess the System progression with the addition of MOMMC

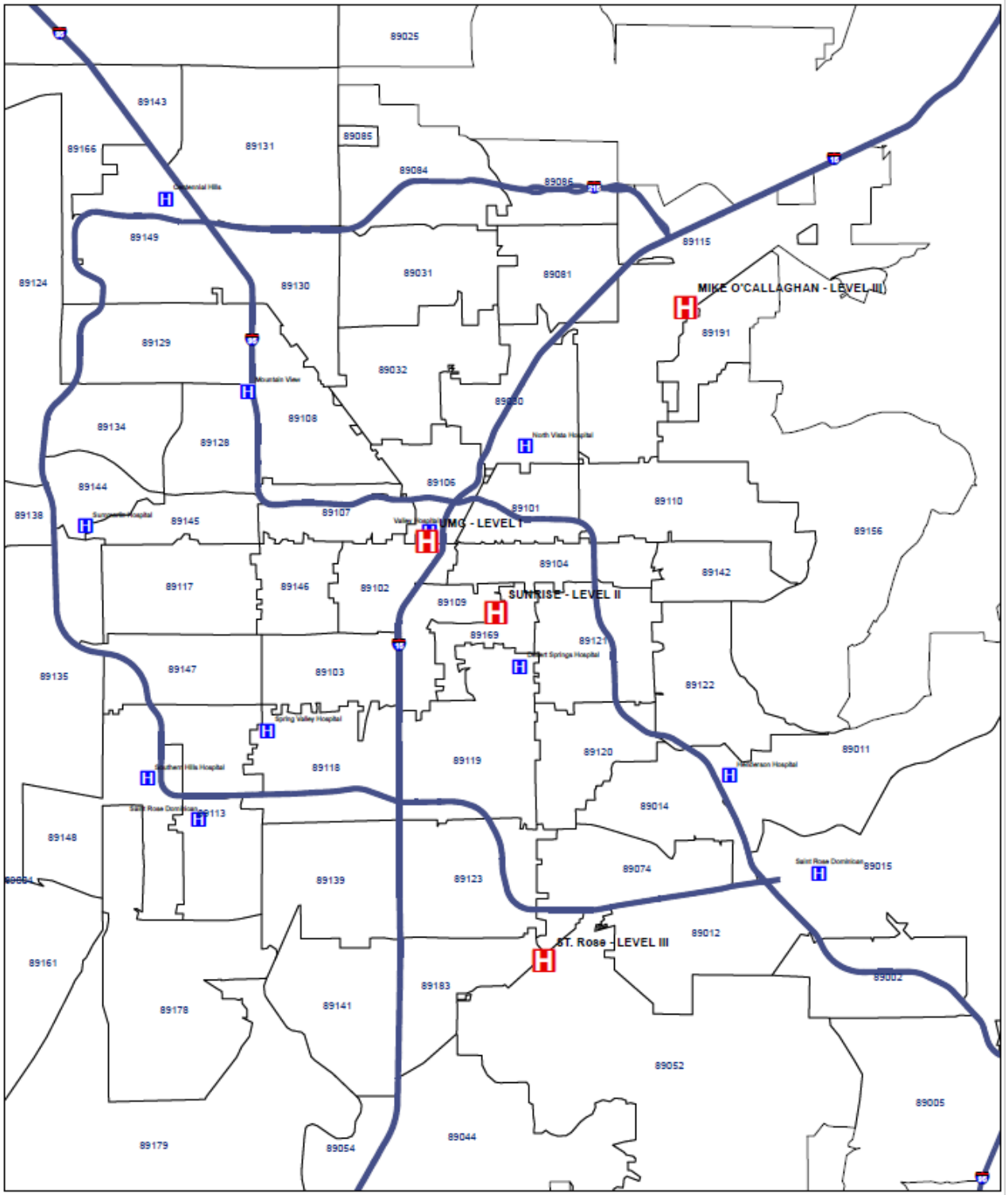
The Office of Emergency Medical System & Trauma System appreciates our community partners' contributions and support in maintaining the Southern Nevada Trauma System and have committed to building on the achievements to date.

Population Data

Intent

The intent of including population data is to examine if there has been statistically significant population growth or decline and determine if population changes will impact patient care. The data is populated to provide evidence of where growth or decline is happening, how fast, and if it is expected to continue. While population changes are not always associated with increased or decreased trauma volumes, the change needs to be identified to consider its impact. When a population change occurs, it congruently may affect but is not limited to roadways, infrastructure, emergency and healthcare providers, and socioeconomic factors.

Clark County ZIP Code Map



Clark County Population Forecast: 2022-2060

Year	Population Forecast	Change in Population Forecast	Growth in Population (Percent)
2010	1,951,269*	-55,078	-2.7%
2011	1,966,630**	15,361	0.8%
2012	2,008,654**	42,024	2.1%
2013	2,062,253**	53,599	2.7%
2014	2,102,238**	39,985	2.0%
2015	2,147,641**	45,403	2.2%
2016	2,205,207**	57,566	2.7%
2017	2,248,390**	43,183	2.0%
2018	2,284,616**	36,226	1.6%
2019	2,325,798**	41,182	1.8%
2020	2,376,683**	50,885	2.2%
2021	2,333,092**	-43,591	-1.8%
2022	2,375,000	41,908	1.8%
2023	2,427,000	52,000	2.2%
2024	2,485,000	58,000	2.4%
2025	2,540,000	55,000	2.2%
2026	2,593,000	53,000	2.1%
2027	2,644,000	51,000	2.0%
2028	2,691,000	47,000	1.8%
2029	2,733,000	42,000	1.6%
2030	2,773,000	40,000	1.5%
2031	2,810,000	37,000	1.3%
2032	2,845,000	35,000	1.2%
2033	2,879,000	34,000	1.2%
2034	2,910,000	31,000	1.1%
2035	2,940,000	30,000	1.0%
2036	2,969,000	29,000	1.0%
2037	2,996,000	27,000	0.9%
2038	3,023,000	27,000	0.9%
2039	3,048,000	25,000	0.8%
2040	3,073,000	25,000	0.8%
2041	3,096,000	23,000	0.7%
2042	3,119,000	23,000	0.7%
2043	3,140,000	21,000	0.7%
2044	3,161,000	21,000	0.7%
2045	3,181,000	20,000	0.6%
2046	3,199,000	18,000	0.6%
2047	3,217,000	18,000	0.6%
2048	3,234,000	17,000	0.5%
2049	3,250,000	16,000	0.5%
2050	3,266,000	16,000	0.5%
2051	3,281,000	15,000	0.5%
2052	3,295,000	14,000	0.4%
2053	3,309,000	14,000	0.4%
2054	3,322,000	13,000	0.4%
2055	3,334,000	12,000	0.4%
2056	3,346,000	12,000	0.4%
2057	3,357,000	11,000	0.3%
2058	3,368,000	11,000	0.3%
2059	3,378,000	10,000	0.3%
2060	3,387,000	9,000	0.3%
2010 U.S. Census.			
***** SNRPC Census population estimate.***			
Source: The Center for Business and Economic Research University of Nevada, Las Vegas			
Note: The average annual forecasted growth rate is 0.9 percent.			

Clark County Historical Population by Zip Code, 2017-2022

ZIP	2022	2021	2020	2019	2018	2017	Absolute Growth 2017-2022	Growth Rate (%) 2017-2022
89002	38,176	38,515	38,425	37,804	36,793	36,154	2,022	5.59
89004	151	150	303	308	315	307	-156	-50.81
89005	14,972	15,250	16,505	16,398	16,104	16,508	-1,536	-9.30
89007	939	991	1,068	1,074	1,064	1,067	-128	-12.00
89011	41,693	40,068	37,424	34,521	31,074	29,387	12,306	41.88
89012	36,366	37,311	36,607	36,360	36,374	36,159	207	0.57
89014	42,512	42,223	42,773	42,753	42,471	41,767	745	1.78
89015	41,972	43,447	42,658	42,205	42,528	42,266	-294	-0.70
89018	1,407	1,114	1,353	1,300	1,153	1,294	113	8.73
89019	2,570	2,808	2,908	2,838	2,786	2,784	-214	-7.69
89021	3,059	2,733	3,610	3,544	3,554	3,240	-181	-5.59
89025	1,308	1,278	1,453	1,449	1,452	1,371	-63	-4.60
89027	18,673	19,703	21,955	21,020	20,158	18,994	-321	-1.69
89029	9,350	9,734	10,931	10,515	10,538	10,289	-939	-9.13
89030	50,691	56,056	56,289	56,328	54,973	54,953	-4,262	-7.76
89031	78,527	76,085	73,842	72,506	71,137	70,384	8,143	11.57
89032	48,816	49,448	48,263	47,941	46,542	46,124	2,692	5.84
89034	3,474	3,372	3,601	3,117	2,707	2,344	1,130	48.21
89039	156	149	231	227	206	206	-50	-24.27
89040	3,259	3,455	4,023	3,922	3,776	4,045	-786	-19.43
89044	30,804	27,551	27,455	25,971	23,420	21,325	9,479	44.45
89046	479	485	437	424	406	405	74	18.27
89052	61,079	61,276	62,576	60,356	58,648	57,998	3,081	5.31
89054	66	62	102	102	102	102	-36	-35.29
89074	52,941	54,376	55,749	54,863	55,455	55,163	-2,222	-4.03
89081	42,546	41,804	39,622	38,840	38,540	37,600	4,946	13.15
89084	38,175	37,263	32,752	29,726	28,263	27,434	10,741	39.15
89085	4,263	3,699	3,671	3,627	3,747	3,747	516	13.77
89086	10,735	8,660	6,679	6,037	5,103	5,103	5,632	110.37
89101	41,479	46,728	45,257	44,179	41,672	41,868	-389	-0.93
89102	34,614	37,782	41,080	40,100	38,181	36,838	-2,224	-6.04
89103	45,170	45,150	51,624	50,396	49,618	49,626	-4,456	-8.98
89104	36,516	38,337	39,826	39,691	37,032	37,046	-530	-1.43
89106	30,811	31,678	30,767	30,087	26,751	27,058	3,753	13.87
89107	38,891	38,623	39,331	39,340	40,580	40,580	-1,689	-4.16
89108	76,138	78,128	79,111	78,900	80,869	80,572	-4,434	-5.50
89109	6,880	7,165	6,608	6,464	5,539	5,539	1,341	24.21
89110	74,821	78,526	80,441	80,581	79,077	78,851	-4,030	-5.11
89113	37,623	34,794	34,803	33,936	31,853	30,881	6,742	21.83
89115	73,305	75,196	77,533	75,243	74,336	73,292	13	0.02
89117	55,750	55,761	57,174	57,184	58,913	58,915	-3,165	-5.37

ZIP	2022	2021	2020	2019	2018	2017	Absolute Growth 2017-2022	Growth Rate (%) 2017-2022
89118	26,979	26,082	27,433	26,417	25,884	25,293	1,686	6.67
89119	47,594	50,411	51,001	49,860	49,614	49,615	-2,021	-4.07
89120	24,366	24,084	26,647	26,026	24,506	24,371	-5	-0.02
89121	67,609	66,209	69,532	69,543	72,173	72,155	-4,546	-6.30
89122	55,706	56,056	56,994	56,498	55,750	55,227	479	0.87
89123	58,026	58,763	63,176	62,305	64,061	63,914	-5,888	-9.21
89124	6,861	6,616	6,891	7,202	7,169	7,573	-712	-9.40
89128	38,716	39,775	39,749	39,753	39,379	39,379	-663	-1.68
89129	54,158	55,565	55,755	54,566	56,848	56,646	-2,488	-4.39
89130	32,357	32,490	32,836	32,325	33,556	33,443	-1,086	-3.25
89131	50,354	50,227	50,474	50,176	49,455	48,902	1,452	2.97
89134	23,820	24,205	25,486	25,486	25,298	25,298	-1,478	-5.84
89135	32,928	33,092	33,828	32,617	32,316	31,224	1,704	5.46
89138	26,515	23,289	22,074	20,001	18,748	17,296	9,219	53.30
89139	45,600	43,112	44,127	42,064	41,653	40,705	4,895	12.03
89141	43,033	41,017	43,865	40,006	38,678	32,782	10,251	31.27
89142	36,010	35,568	36,888	36,391	37,609	37,118	-1,108	-2.99
89143	13,879	13,350	13,409	13,406	14,658	14,658	-779	-5.31
89144	18,980	19,291	20,160	20,162	19,824	19,824	-844	-4.26
89145	27,908	28,452	28,594	28,481	28,171	28,164	-256	-0.91
89146	19,008	18,686	20,057	19,918	19,739	19,745	-737	-3.73
89147	56,070	56,287	60,934	60,183	60,349	59,476	-3,406	-5.73
89148	66,568	65,967	71,877	68,749	66,931	62,538	4,030	6.44
89149	44,915	42,908	44,504	43,739	41,365	40,550	4,365	10.76
89156	30,895	29,945	31,508	31,514	30,418	30,379	516	1.70
89158	476	1,367	1,549	1,543	0	0	476	N/A
89161	0	443	502	502	506	471	-471	-100.00
89166	28,834	23,425	20,957	19,253	17,830	16,794	12,040	71.69
89169	25,852	26,853	28,273	27,047	24,946	24,946	906	3.63
89178	43,852	41,198	40,314	38,514	35,355	34,218	9,634	28.15
89179	11,856	11,819	11,688	11,422	9,740	9,325	2,531	27.14
89183	39,788	39,602	38,786	37,955	38,275	36,777	3,011	8.19
Total	2,325,798	2,325,798	2,325,798	2,325,798	2,284,616	2,248,390	77,408	3.44

Clark County Department of Comprehensive Planning

Source: Southern Nevada Census Population Estimate, August - Roll Close 2020

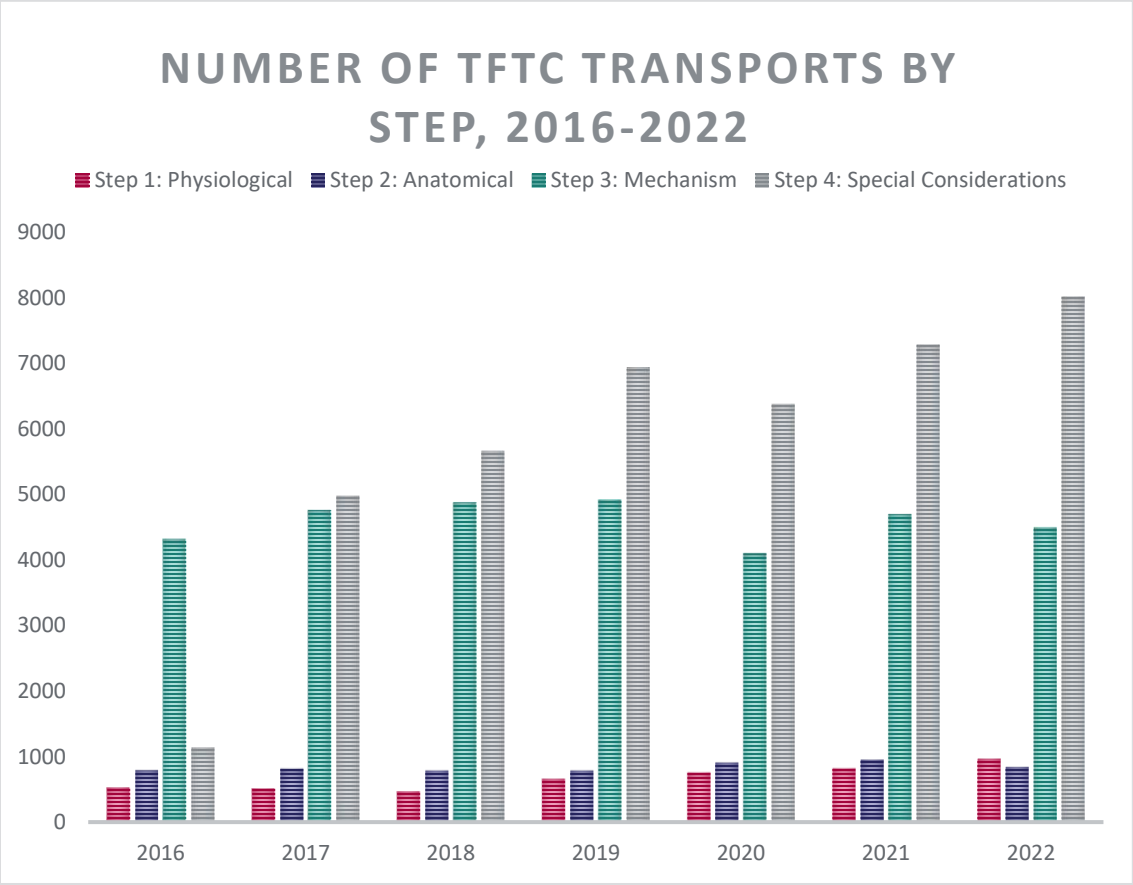
SNHD Trauma Field Triage Criteria (TFTC) Data

Intent

The intent of including TFTC data is to examine and determine the number of reported trauma cases at all designated Trauma Centers in Southern Nevada. This data can then be used to analyze capacity, determine unmet needs, identify negative outcomes, and recognize barriers to access healthcare. TFTC data is abstracted by trained data extractors to be reported, compiled, verified, and generated by a collaborative effort between designated trauma centers and the Office of Emergency Medical Services and Trauma System (OEMSTS). This data is separate from the data criteria required and submitted to the Nevada State Trauma Registry. All data points include a date, time, location, injury code, transporting agency, and receiving facility. Current Southern Nevada TFTC is guidance provided by the CDC modified in 2018 by the Medical Advisory Board.

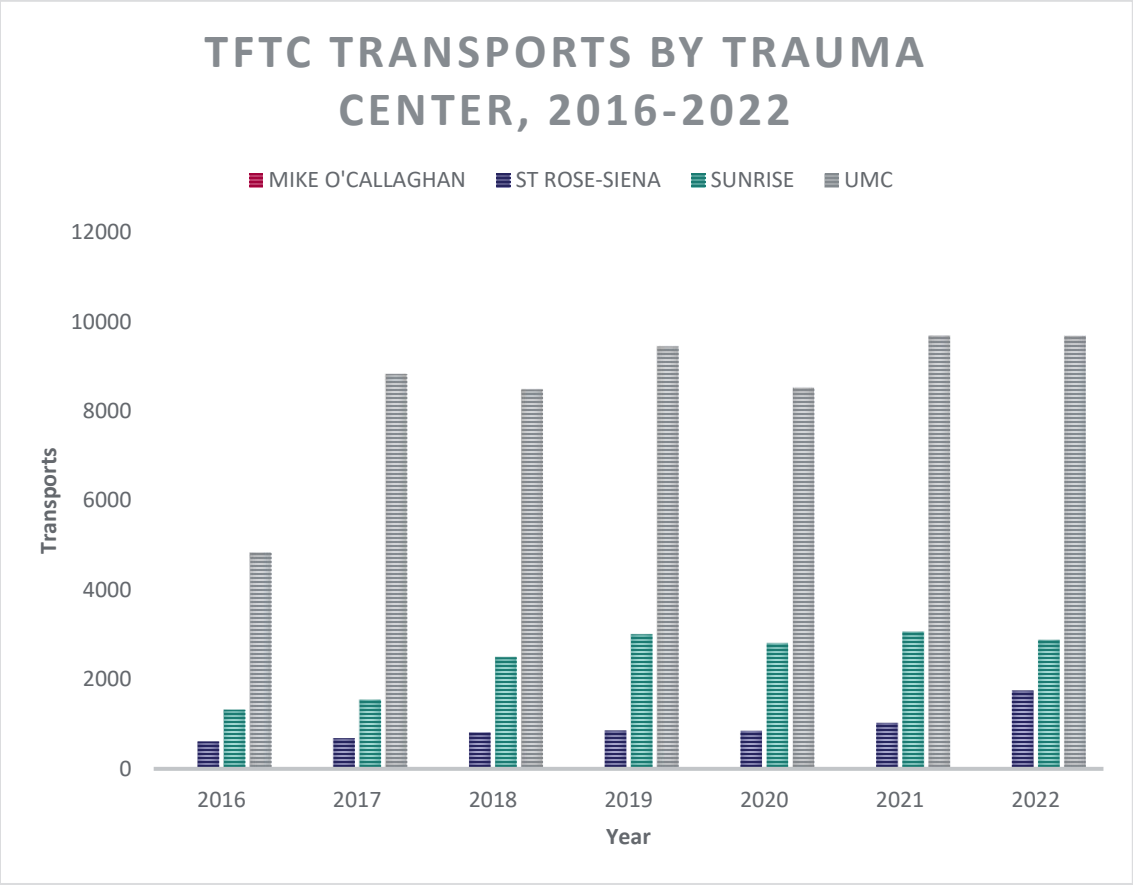
Appendix A: Trauma Field Triage Criteria

Number of TFTC Transports by Step, 2016-2022



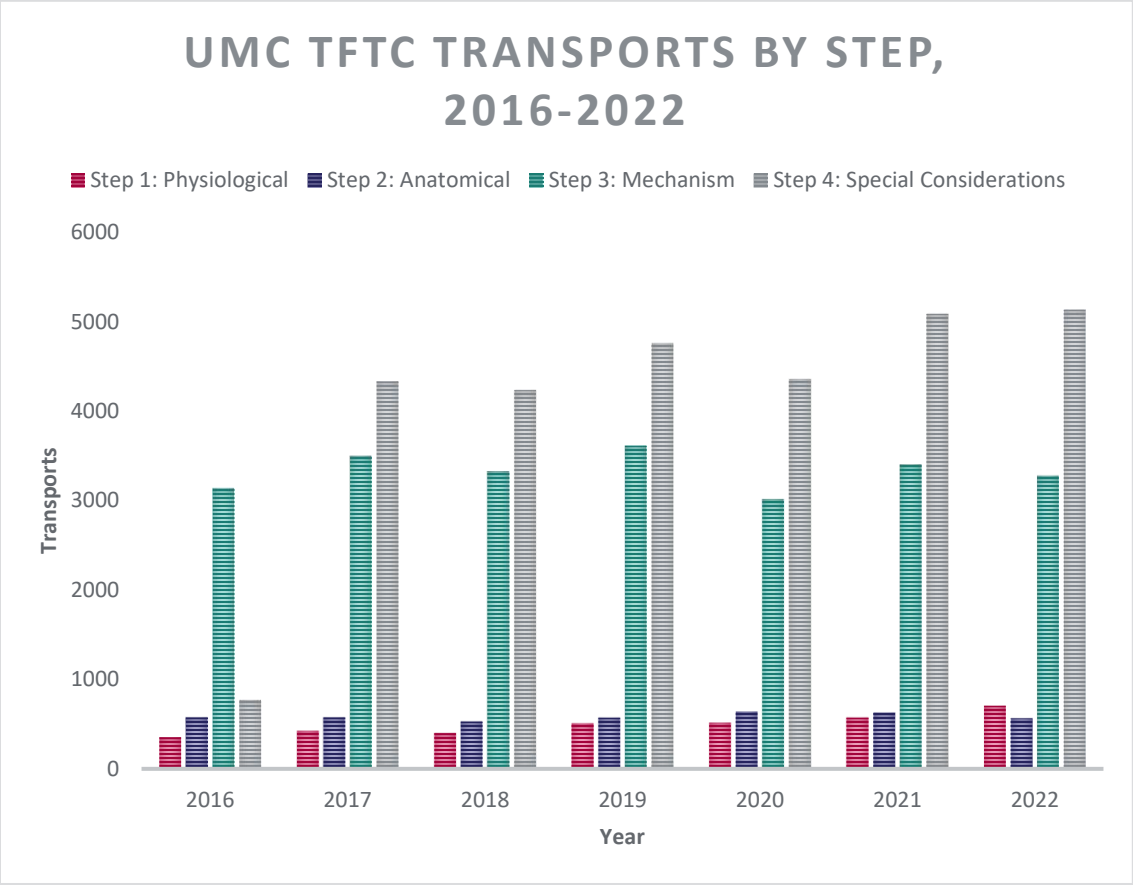
Number of TFTC Transports by Step, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Step 1: Physiologic	522	509	466	655	750	818	964
Step 2: Anatomic	787	811	782	779	904	947	836
Step 3: Mechanism	4324	4761	4879	4921	4103	4696	4495
Step 4: Special Considerations	1137	4979	5663	6946	6383	7289	8025
All	6770	11060	11793	13301	12172	13776	14339
Source: SNHD TFTC Data							
Note: The total for all steps in 2018 includes 3 transports that were not classified. The total for all steps in 2020 includes 32 transports that were not classified. The total for all steps in 2021 includes 26 transports that were not classified. Includes all TFTC transports in the Southern Nevada Trauma System. The total for all steps in 2022 includes 19 transports that were not classified. Includes all TFTC transports in the Southern Nevada Trauma System.							

TFTC Transports by Trauma Center, 2016-2022



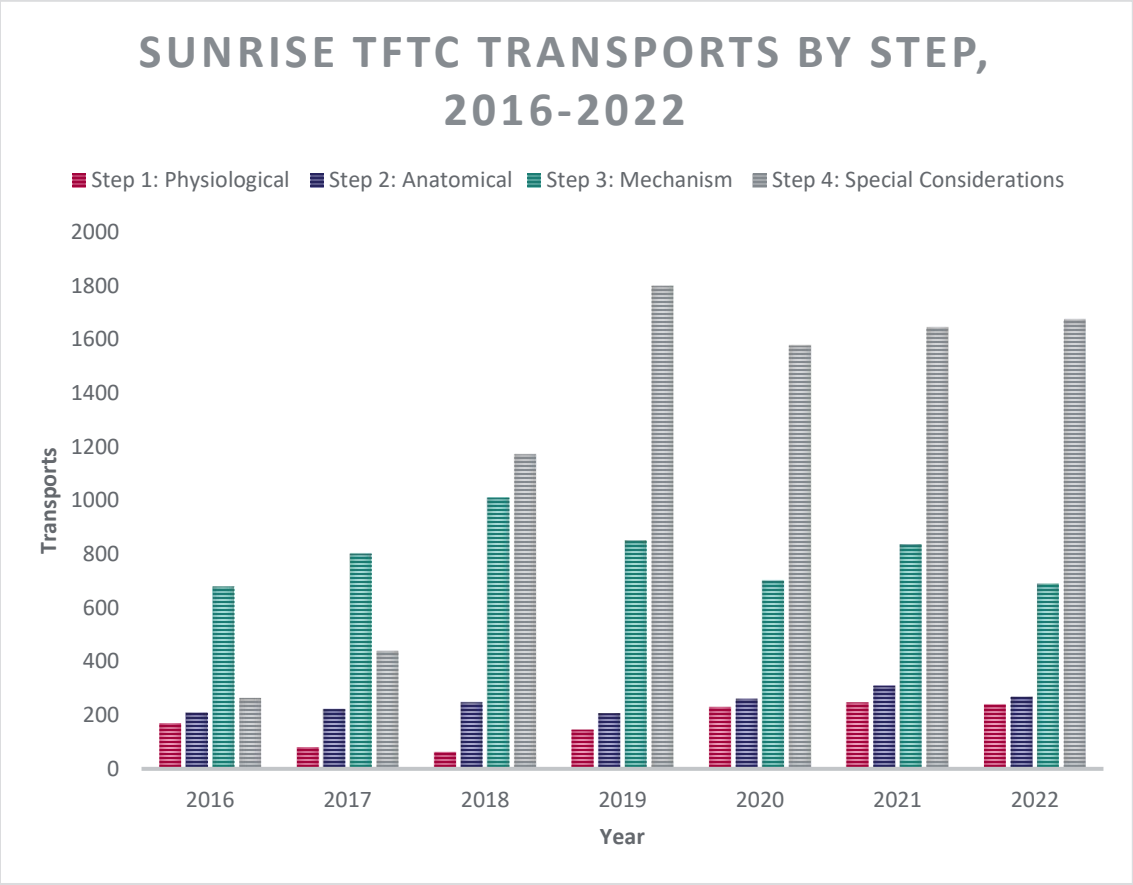
TFTC Incidents by Trauma Center, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Mike O'Callaghan	0	0	0	0	0	0	35
St. Rose-Siena	612	683	810	853	847	1028	1748
Sunrise	1322	1545	2496	3003	2803	3062	2875
UMC	4836	8832	8487	9445	8522	9686	9681
All	6770	11060	11793	13301	12172	13776	14339
Source: SNHD TFTC Data							
Note: Includes all TFTC transports in the Southern Nevada Trauma System.							

UMC TFTC Transports by Step, 2016-2022



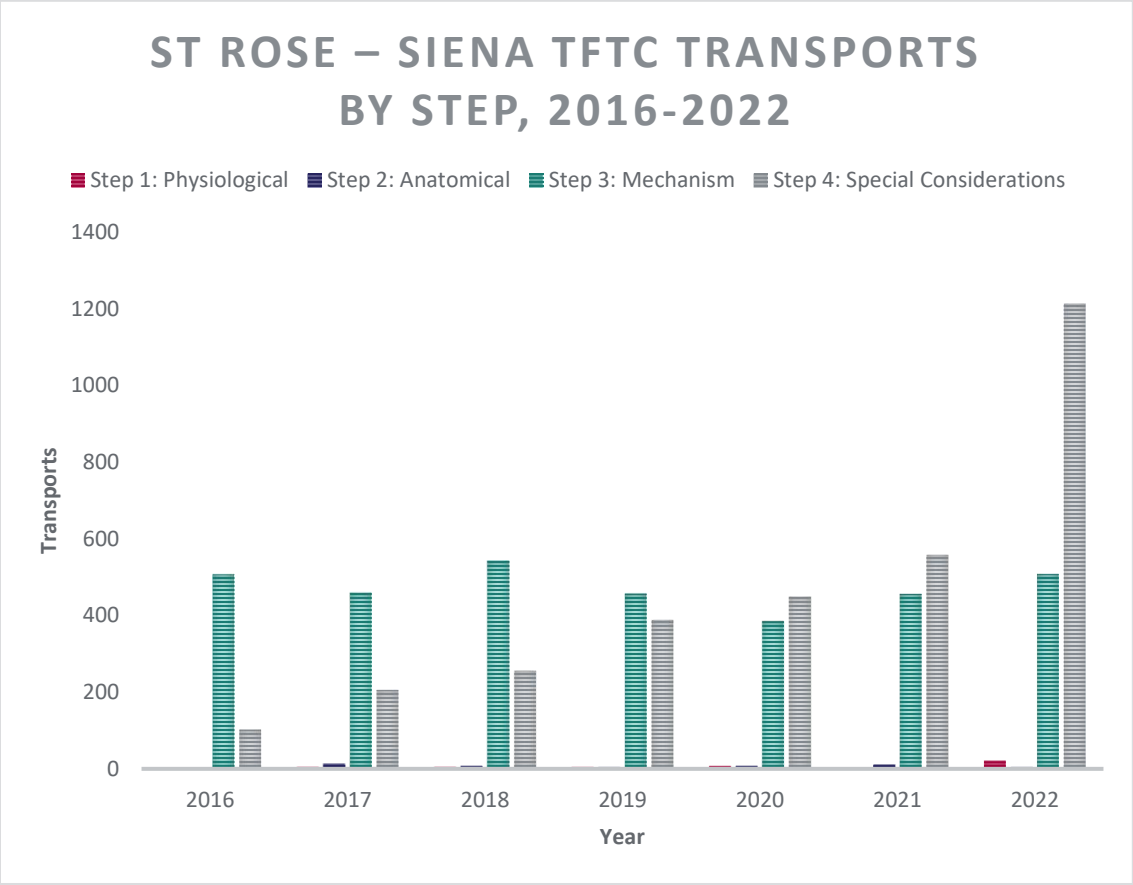
UMC TFTC Transports by Step, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Step 1: Physiologic	351	424	398	505	513	569	703
Step 2: Anatomic	576	576	529	569	637	627	564
Step 3: Mechanism	3138	3499	3325	3613	3016	3403	3277
Step 4: Special Considerations	771	4333	4235	4758	4356	5087	5134
Total	4836	8832	8487	9445	8522	9686	9681
Source: SNHD TFTC Data							
Note: Includes all TFTC transports in the Southern Nevada Trauma System.							

Sunrise TFTC Transports by Step 2016-2022



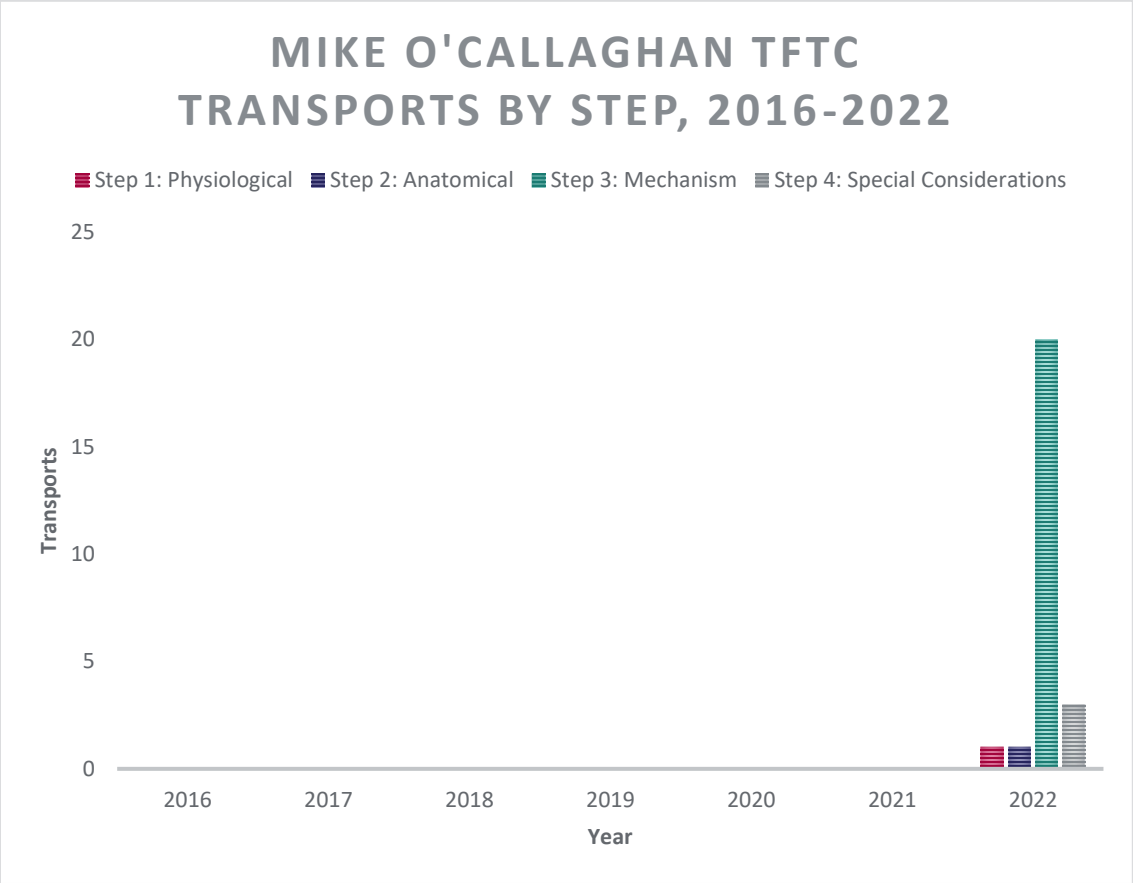
Sunrise TFTC Transports by Step, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Step 1: Physiologic	170	80	63	146	231	248	240
Step 2: Anatomic	209	223	247	207	261	310	268
Step 3: Mechanism	679	802	1011	851	702	837	690
Step 4: Special Considerations	264	440	1172	1799	1577	1644	1674
Total	1322	1545	2496	3003	2803	3062	2875
Source: SNHD TFTC Data							
Note: Sunrise includes 3 unclassified steps in 2018, 32 unclassified steps in 2020, 23 unclassified steps in 2021, and 3 unclassified steps in 2022. Includes all TFTC transports in the Southern Nevada Trauma System.							

St. Rose – Siena TFTC Transports by Step, 2016-2022



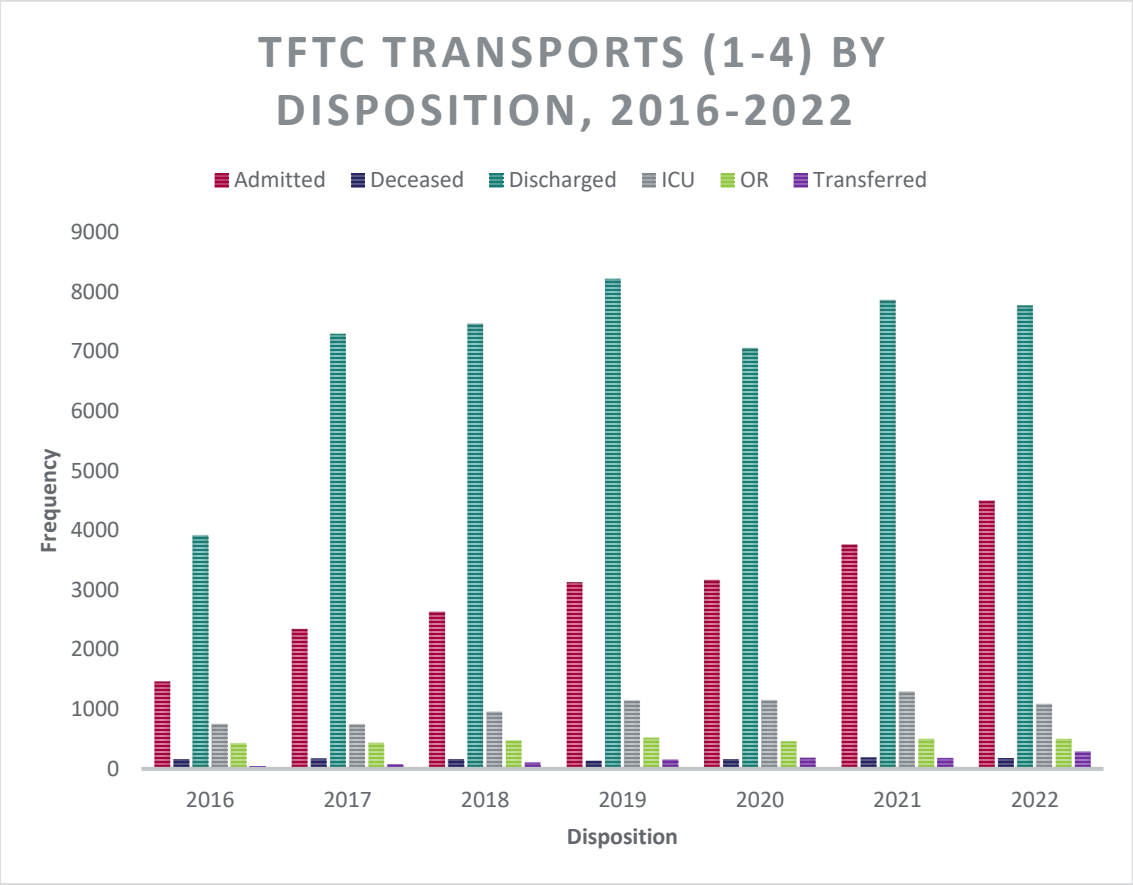
St Rose – Siena TFTC Transports by Step, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Step 1: Physiologic	1	5	5	4	6	1	20
Step 2: Anatomic	2	12	6	3	6	10	3
Step 3: Mechanism	507	460	543	457	385	456	508
Step 4: Special Considerations	102	206	256	389	450	558	1214
Total	612	683	810	853	847	1028	1748
Source: SNHD TFTC Data							
Note: St. Rose – Siena includes 3 unclassified steps in 2021 and 3 unclassified steps in 2022. Includes all TFTC transports in the Southern Nevada Trauma System.							

Mike O'Callaghan TFTC Transports by Step, 2016-2022



Mike O'Callaghan TFTC Transports by Step, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Step 1: Physiologic	0	0	0	0	0	0	1
Step 2: Anatomic	0	0	0	0	0	0	1
Step 3: Mechanism	0	0	0	0	0	0	20
Step 4: Special Considerations	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	35
Source: SNHD TFTC Data							
Note: Mike O'Callaghan became a Level III Trauma Center in 2022. Mike O'Callaghan includes 10 unclassified steps in 2022. Includes all TFTC transports in the Southern Nevada Trauma System.							

TFTC Transports (1-4) by Disposition 2016-2022



TFTC Transports (1-4) by Disposition, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Admitted	1461	2341	2633	3129	3167	3753	4334
Deceased	162	172	166	137	161	192	182
Discharged	3918	7291	7461	8218	7053	7854	7769
ICU	750	745	953	1139	1144	1293	1236
OR	427	431	468	516	460	498	495
Transferred	44	80	104	158	184	181	290
All	6762	11060	11785	13297	12170	13771	14306
Source: SNHD TFTC Data							
Note: Includes all TFTC transports in the Southern Nevada Trauma System with a Documented Disposition. Includes 1 unclassified disposition in 2020.							

TFTC Steps (1-4) by Disposition, 2016-2022								
		2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Step 1: Physiological	Admitted	73	118	91	129	171	153	223
	Deceased	92	80	84	86	96	123	135
	Discharged	58	100	56	106	125	127	170
	ICU	234	171	190	265	291	351	335
	OR	64	38	41	67	66	64	96
	Transferred	.	2	4	2	1	0	4
Step 2: Anatomical	Admitted	168	225	178	167	208	215	211
	Deceased	36	45	46	25	47	53	33
	Discharged	316	305	264	278	318	350	306
	ICU	82	89	101	112	118	123	111
	OR	184	144	190	196	209	203	170
	Transferred	0	3	3	1	4	3	5
Step 3: Mechanism	Admitted	859	938	919	916	777	877	835
	Deceased	29	36	30	21	11	10	6
	Discharged	2957	3352	3400	3485	2865	3363	3263
	ICU	318	286	358	342	326	313	248
	OR	133	120	131	115	88	99	84
	Transferred	25	29	41	42	36	34	49
Step 4: Special Considerations	Admitted	361	1060	1445	1917	1998	2502	3061
	Deceased	5	11	6	5	6	5	8
	Discharged	587	3534	3738	4349	3732	4004	4020
	ICU	116	199	304	420	406	501	541
	OR	46	129	106	138	96	131	145
	Transferred	19	46	56	113	143	144	231
All		6762	11060	11785	13297	12170	13771	14305
Source: SNHD TFTC Data								
Note: Includes all TFTC transports in the Southern Nevada Trauma System with a Documented Disposition. Includes 3 unclassified steps in 2018, 32 unclassified steps in 2020, 23 unclassified steps in 2021, and 16 unclassified steps in 2022.								

Transport Times

Intent

The intent of analyzing Trauma Field Triage Criteria (TFTC) transport times is to evaluate patient transport time to identify if a barrier exists to the prompt treatment of trauma. The goal of a trauma system is to get the right patient the right care in the right place at the right time. Prompt trauma treatment may shorten the recovery period and return a patient to pre-accident functionality. Patients transported by EMS providers to trauma centers must satisfy TFTC. These patients vary in the severity of the mechanisms of injury. The less severe, which represent a larger number of patients, are awake, alert, and have normal vital signs. While they appear less injured, some patients have significant, often occult injuries. Most will be discharged home after evaluation, but some require life-saving interventions identified by expedited resources available at trauma centers. There are no established or scientifically defined optimal transport times. Therefore, for Southern Nevada, transport times are provided to subject-matter-experts to allow for analysis based on, but not limited to, geographic layout and infrastructure for the community's needs.

Appendix B: Southern Nevada Trauma Catchment Areas

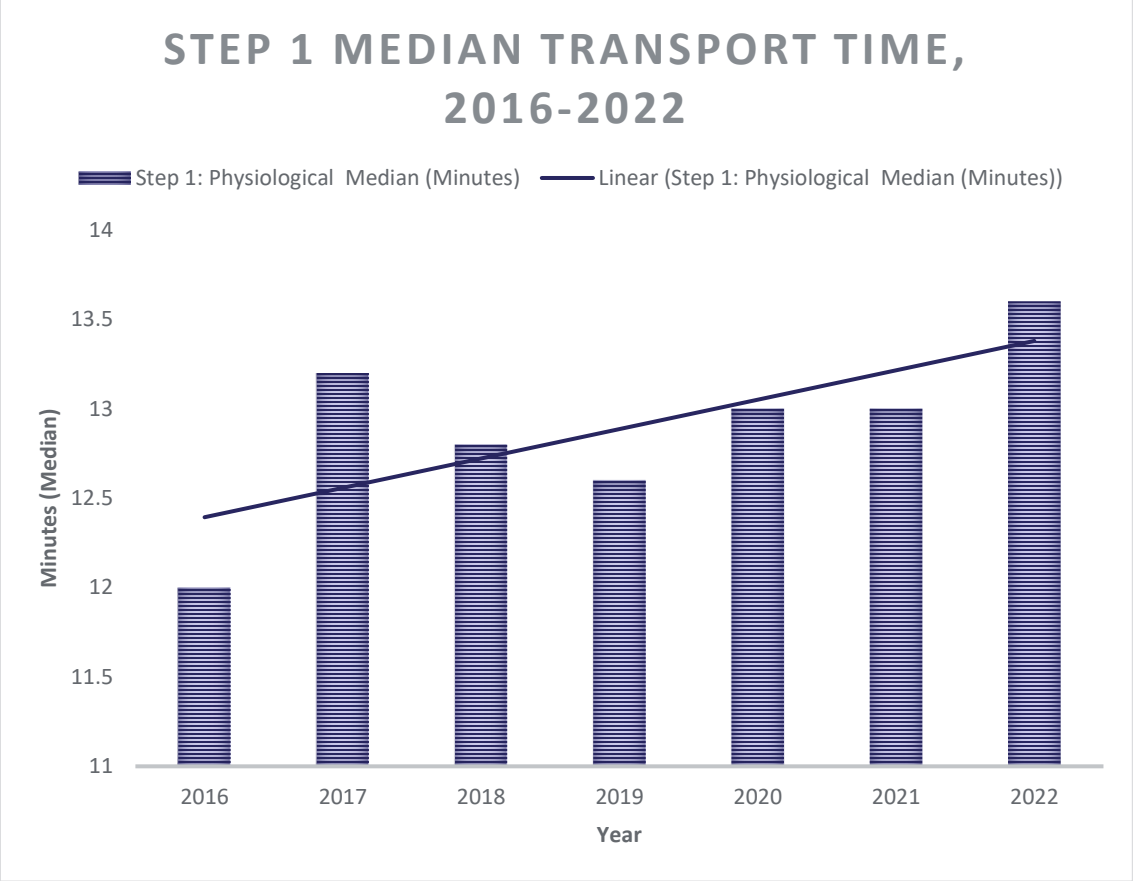
Median Transport Time (Injury Location to Trauma Center) and Step (1-4), 2016-2022

Median Transport Time (Injury Location to Trauma Center) by Step (1-4), 2016-2022								
		Year						
		2016	2017	2018	2019	2020	2021	2022
Step 1: Physiologic	N	489	475	433	606	687	764	877
	Median (Minutes)	22m 36s	24m 48s	22m 36s	25m 18s	26m 12s	25m 0s	26m 12s
Step 2: Anatomic	N	762	784	758	732	863	919	796
	Median (Minutes)	23m 6s	24m 0s	23m 30s	22m 48s	22m 24s	23m 24s	22m 42s
Step 3: Mechanism	N	4072	4531	4684	4654	3871	4469	4179
	Median (Minutes)	29m 24s	30m 48s	30m 48s	31m 0s	30m 12s	29m 36s	30m 48s
Step 4: Special Considerations	N	1101	4886	5588	6812	6220	7179	7678
	Median (Minutes)	31m 48s	32m 6s	33m 24s	32m 48s	32m 24s	32m 48s	33m 12s
Source: SNHD TFTC Data								
Note: Includes all TFTC transports in the Southern Nevada Trauma System with a transport time greater than 0 seconds. Since the step totals only include transport times greater than 0 seconds, the step totals are different than the totals presented on previous pages. Transport Time (Injury Location to Trauma Center) was calculated by adding transport time in minutes and scene time in minutes.								

Median Transport Time and Step (1-4), 2016-2022

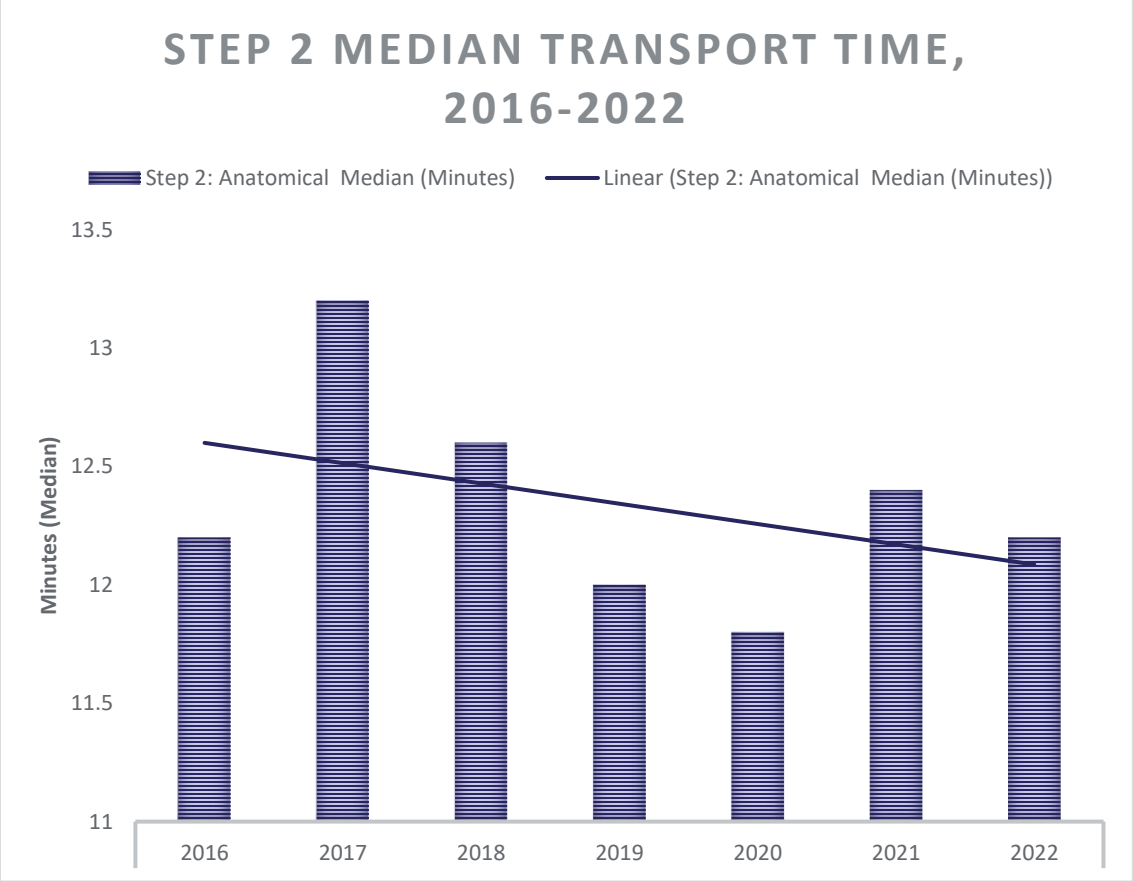
Median Transport Time by Step (1-4), 2016-2022								
		Year						
		2016	2017	2018	2019	2020	2021	2022
Step 1: Physiologic	N	489	475	433	606	687	764	877
	Median (Minutes)	12m 0s	13m 12s	12m 48s	12m 36s	13m 0s	13m 0s	13m 36s
Step 2: Anatomic	N	762	784	758	732	863	919	796
	Median (Minutes)	12m 12s	13m 12s	12m 36s	12m 0s	11m 48s	12m 24s	12m 12s
Step 3: Mechanism	N	4072	4531	4684	4654	3871	4469	4179
	Median (Minutes)	15m 42s	15m 48s	16m 24s	15m 48s	15m 12s	15m 12s	15m 24s
Step 4: Special Considerations	N	1101	4886	5588	6812	6220	7179	7678
	Median (Minutes)	15m 36s	16m 12s	16m 24s	15m 24s	14m 48s	15m 48s	16m 0s
Source: SNHD TFTC Data								
Note: Includes all TFTC transports in the Southern Nevada Trauma System with a transport time greater than 0 seconds. Since the step totals only include transport times greater than 0 seconds, the step totals are different than the totals presented on previous charts.								

Step 1 Median Transport Time, 2016-2022



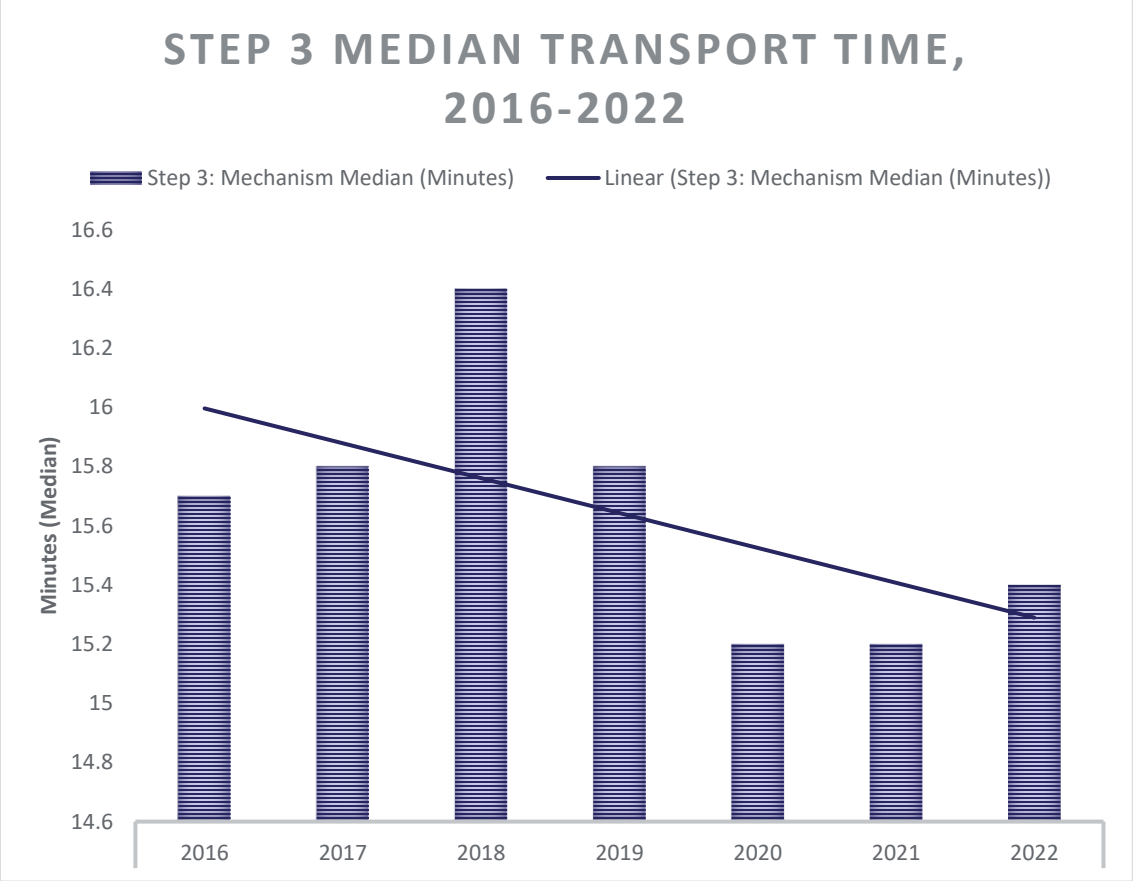
Step 1 Median Transport Time, 2016-2022								
		Year						
		2016	2017	2018	2019	2020	2021	2022
Step 1: Physiologic	N	489	475	433	606	687	764	877
	Median (Minutes)	12m 0s	13m 12s	12m 48s	12m 36s	13m 0s	13m 0s	13m 36s
Source: SNHD TFTC Data								
Note: Includes all TFTC transports in the Southern Nevada Trauma System with a transport time greater than 0 seconds. Since the step totals only include transport times greater than 0 seconds, the step totals are different than the totals presented on previous charts.								

Step 2 Median Transport Time, 2016-2022



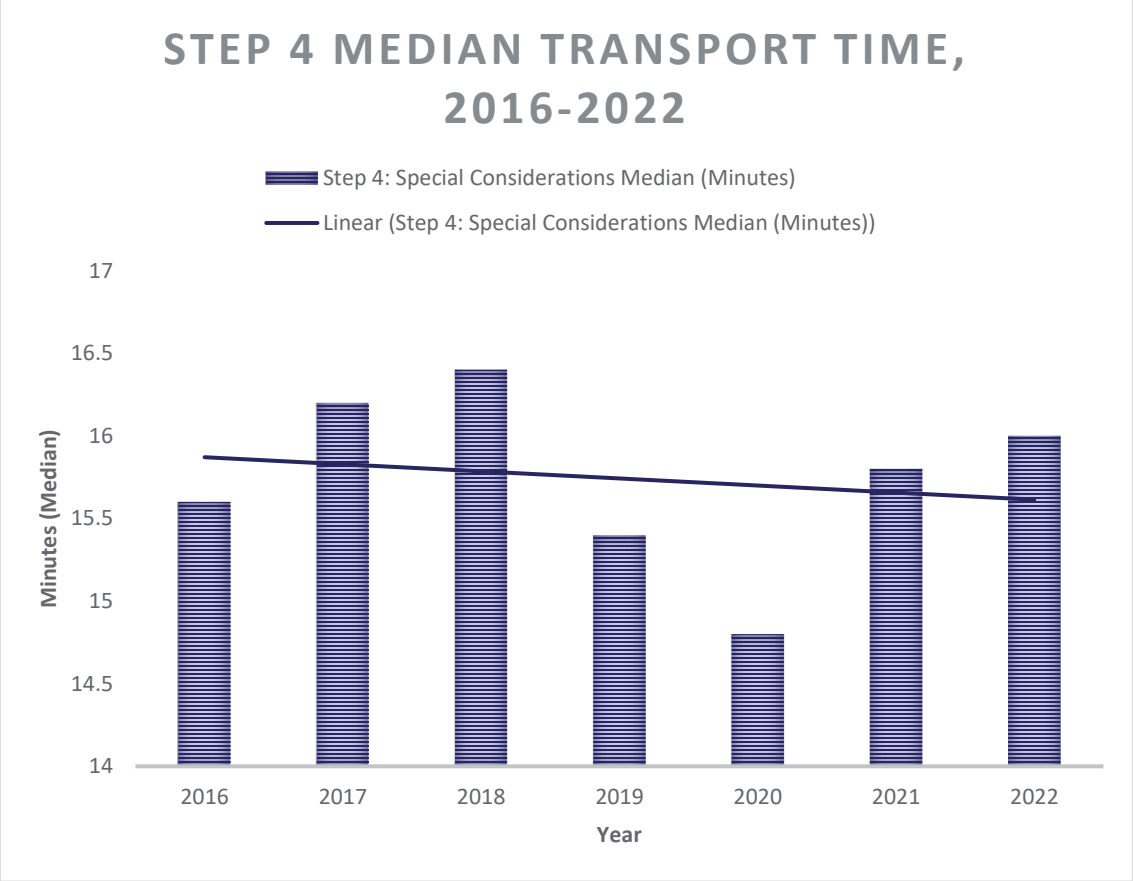
Step 2 Median Transport Time, 2016-2022								
		Year						
		2016	2017	2018	2019	2020	2021	2022
Step 2: Anatomic	N	762	784	758	732	863	919	796
	Median (Minutes)	12m 12s	13m 12s	12m 36s	12m 0s	11m 48s	12m 24s	12m 12s
Source: SNHD TFTC Data								
Note: Includes all TFTC transports in the Southern Nevada Trauma System with a transport time greater than 0 seconds. Since the step totals only include transport times greater than 0 seconds, the step totals are different than the totals presented on previous pages.								

Step 3 Median Transport Time, 2016-2022



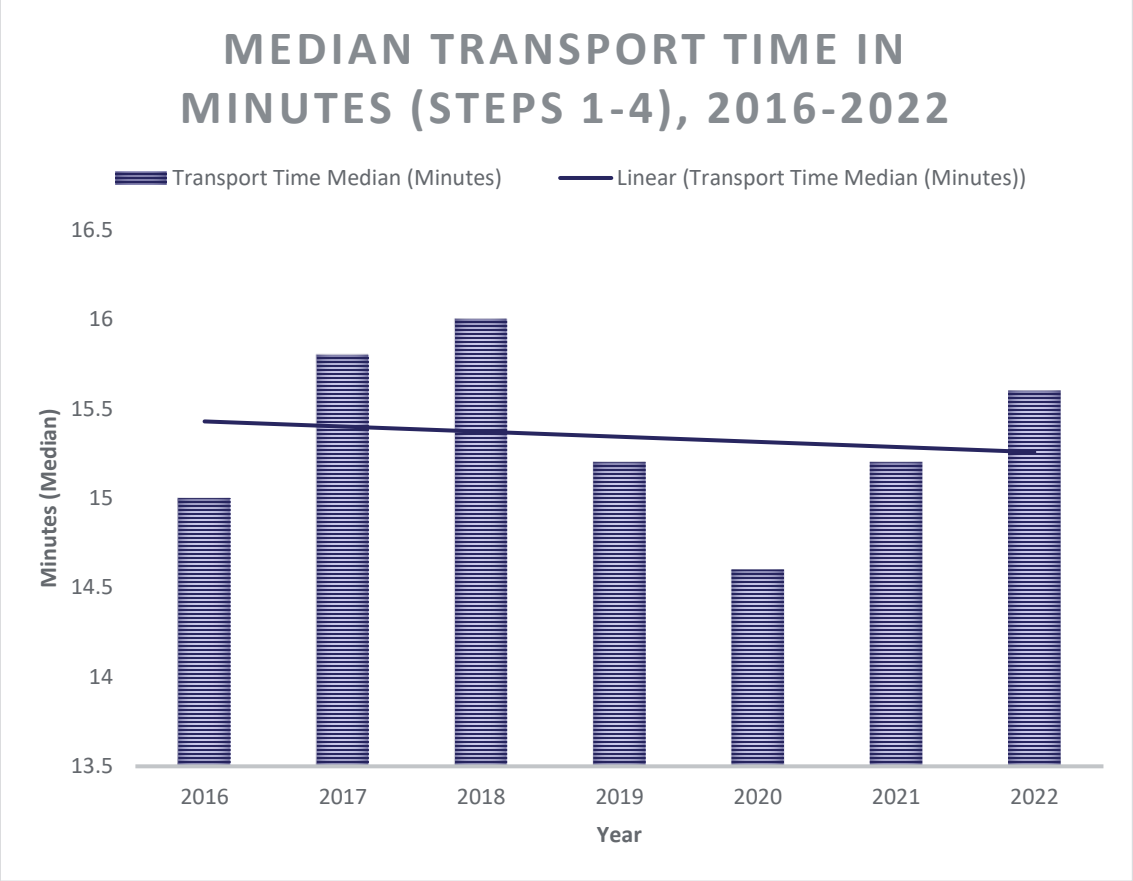
Step 3 Median Transport Time, 2016-2022								
		Year						
		2016	2017	2018	2019	2020	2021	2022
Step 3: Mechanism	N	4072	4531	4684	4654	3871	4469	4179
	Median (Minutes)	15m 42s	15m 48s	16m 24s	15m 48s	15m 12s	15m 12s	15m 24s
Source: SNHD TFTC Data								
Note: Includes all TFTC transports in the Southern Nevada Trauma System with a transport time greater than 0 seconds. Since the step totals only include transport times greater than 0 seconds, the step totals are different than the totals presented on previous pages.								

Step 4 Median Transport Time, 2016-2022



Step 4 Median Transport Time, 2016-2022								
		Year						
		2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Step 4: Special Considerations	N	1101	4886	5588	6812	6220	7179	7678
	Median (Minutes)	15m 36s	16m 12s	16m 24s	15m 24s	14m 48s	15m 48s	16m 0s
Source: SNHD TFTC Data								
Note: Includes all TFTC transports in the Southern Nevada Trauma System with a transport time greater than 0 seconds. Since the step totals only include transport times greater than 0 seconds, the step totals are different than the totals presented on previous pages.								

Median Transport Time in Minutes (Steps 1-4), 2016-2022

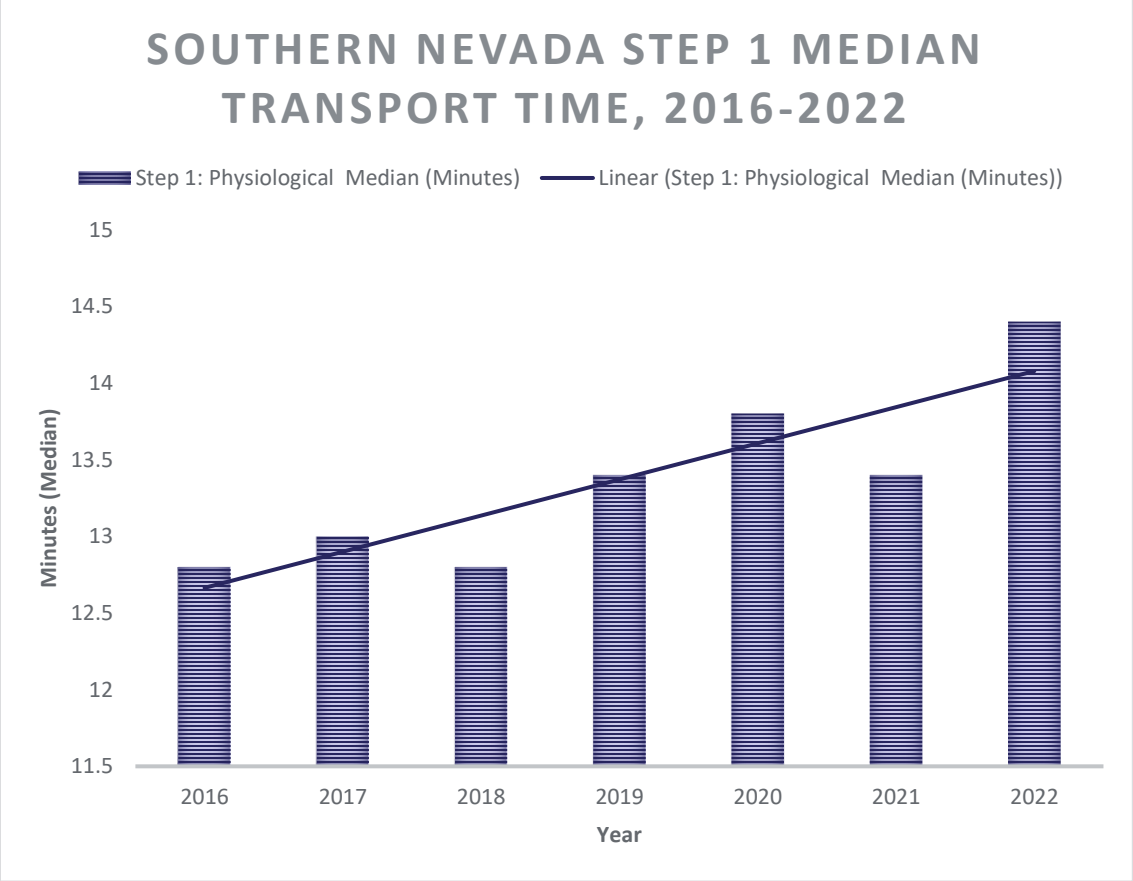


Median Transport Time in Minutes (Steps 1-4), 2016-2022								
		Year						
		2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Transport Time (Minutes)	**N**	6424	10676	11466	12804	11653	13334	13536
	Median	15m 0s	15m 48s	16m 0s	15m 12s	14m 36s	15m 12s	15m 36s
Source: SNHD TFTC Data								
Note: Includes all TFTC transports in the Southern Nevada Trauma System with a transport time greater than 0 seconds. Since the step totals only include transport times greater than 0 seconds, the step totals are different than the totals presented on previous pages.								

Southern Nevada Median Transport Time in Minutes (Steps 1-4), 2016-2022

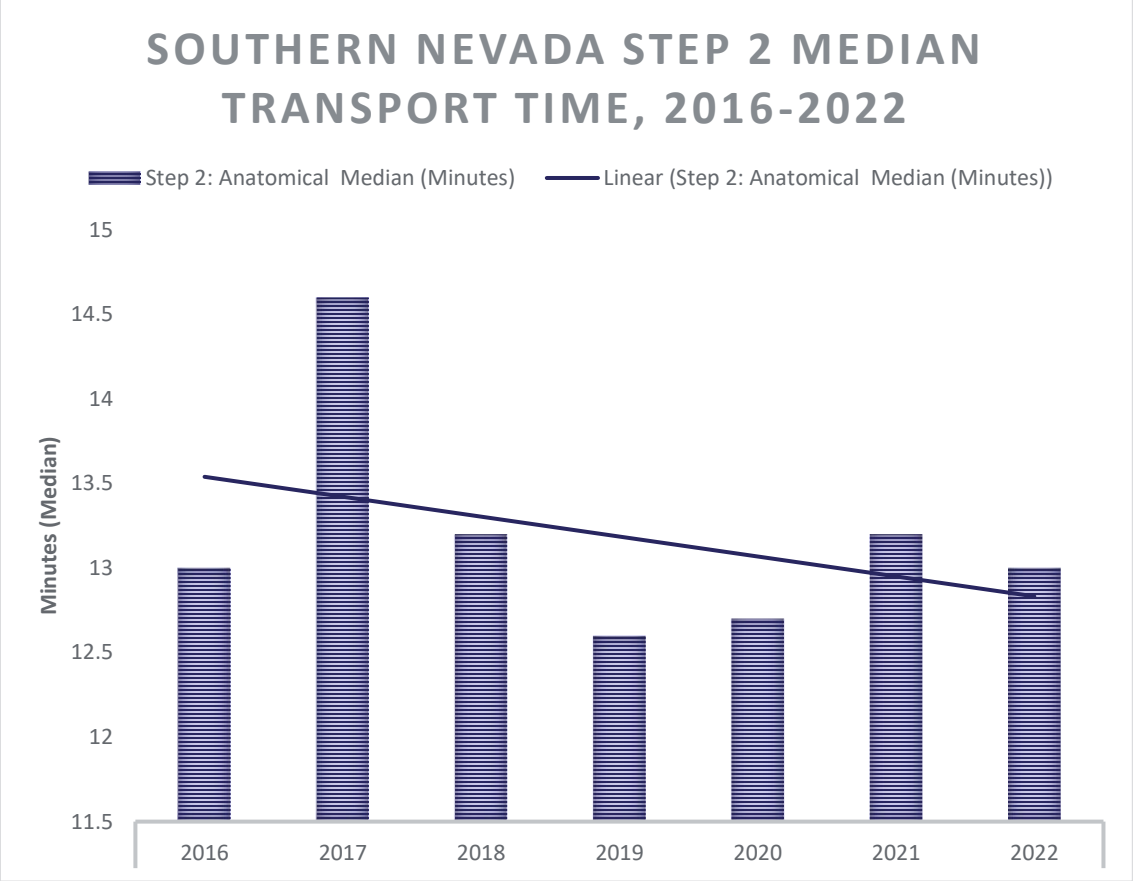
Southern Nevada Median Transport Time by Step (1-4), 2016-2022								
		Year						
		2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Step 1: Physiologic	N	382	416	385	504	591	637	742
	Median (Minutes)	12m 48s	13m 0s	12m 48s	13m 24s	13m 48s	13m 24s	14m 24s
Step 2: Anatomic	N	629	631	668	631	718	768	663
	Median (Minutes)	13m 0s	14m 36s	13m 12s	12m 36s	12m 42s	13m 12s	13m 0s
Step 3: Mechanism	N	3494	3986	4093	4065	3507	3968	3689
	Median (Minutes)	16m 12s	16m 24s	16m 48s	16m 12s	15m 24s	15m 36s	15m 48s
Step 4: Special Considerations	N	935	4370	4840	5730	5430	6250	6732
	Median (Minutes)	16m 24s	16m 24s	16m 48s	16m 0s	15m 24s	16m 12s	16m 24s
Source: SNHD TFTC Data								
Note: Data not listed if out of state or if zip code is unavailable. Service area for Southern Nevada includes the following zip codes where the injury took place: 89002, 89004, 89005, 89007, 89011, 89012, 89014, 89015, 89018, 89019, 89021, 89027, 89029, 89030, 89031, 89032, 89034, 89039, 89040, 89044, 89046, 89052, 89054, 89074, 89081, 89084, 89085, 89086, 89101, 89102, 89103, 89104, 89106, 89107, 89108, 89110, 89113, 89115, 89117, 89118, 89120, 89121, 89122, 89123, 89124, 89128, 89129, 89130, 89131, 89134, 89135, 89138, 89139, 89141, 89142, 89143, 89144, 89145, 89146, 89147, 89148, 89149, 89156, 89161, 89166, 89178, 89179, and 89183. Includes TFTC transports with a transport time greater than 0 seconds.								

Southern Nevada Step 1 Median Transport Time, 2016-2022



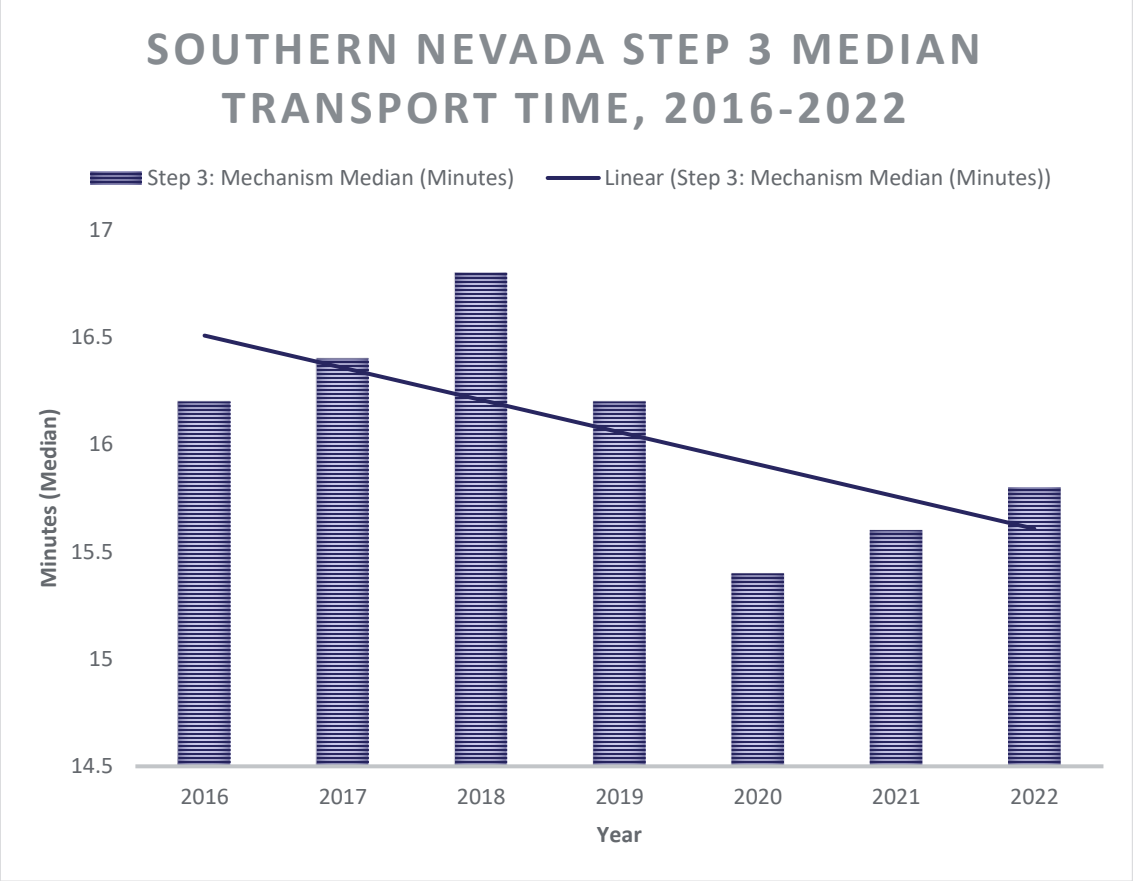
Southern Nevada Step 1 Median Transport Time, 2016-2022								
		Year						
		2016	2017	2018	2019	2020	2021	2022
Step 1: Physiologic	N	382	416	385	504	591	637	742
	Median (Minutes)	12m 48s	13m 0s	12m 48s	13m 24s	13m 48s	13m 24s	14m 24s
Source: SNHD TFTC Data								
Note: Data not listed if out of state or if zip code is unavailable. Service area for Southern Nevada includes the following zip codes where the injury took place: 89002, 89004, 89005, 89007, 89011, 89012, 89014, 89015, 89018, 89019, 89021, 89027, 89029, 89030, 89031, 89032, 89034, 89039, 89040, 89044, 89046, 89052, 89054, 89074, 89081, 89084, 89085, 89086, 89101, 89102, 89103, 89104, 89106, 89107, 89108, 89110, 89113, 89115, 89117, 89118, 89120, 89121, 89122, 89123, 89124, 89128, 89129, 89130, 89131, 89134, 89135, 89138, 89139, 89141, 89142, 89143, 89144, 89145, 89146, 89147, 89148, 89149, 89156, 89161, 89166, 89178, 89179, and 89183. Includes TFTC transports with a transport time greater than 0 seconds.								

Southern Nevada Step 2 Median Transport Time, 2016-2022



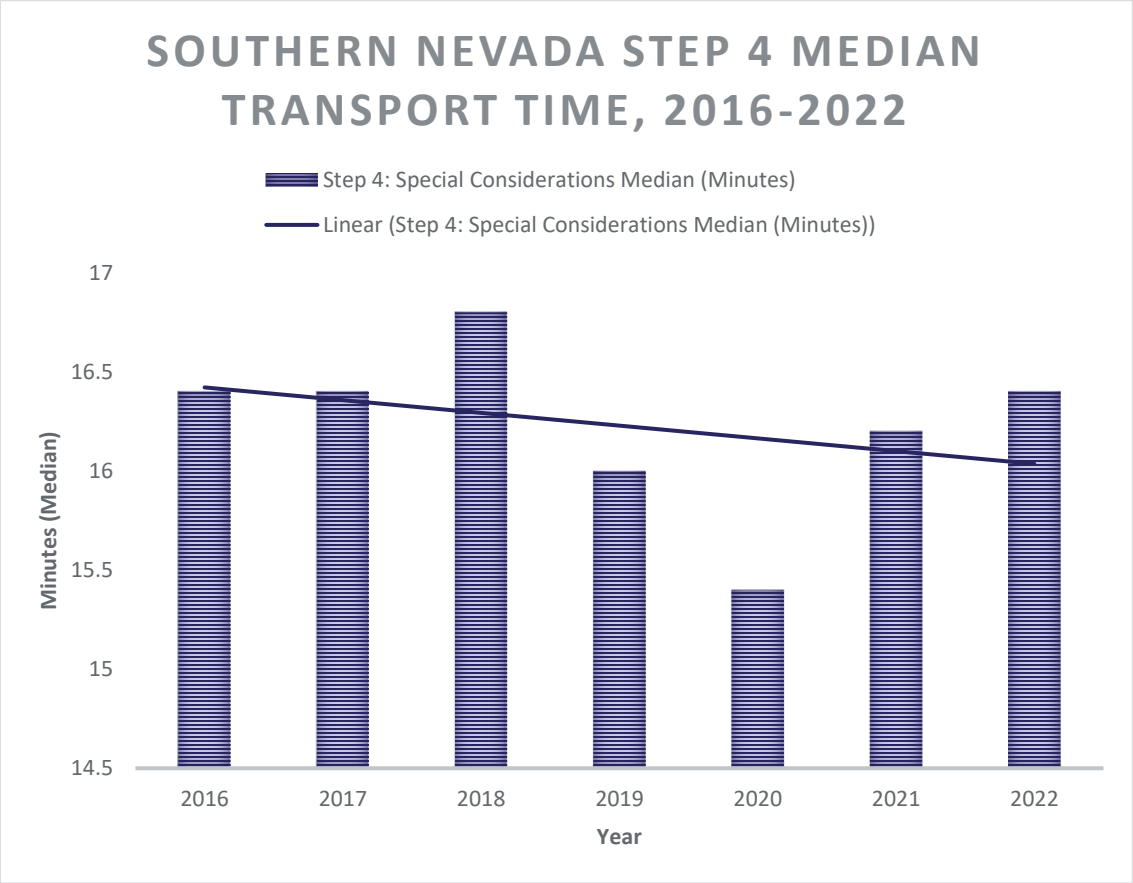
Southern Nevada Step 2 Median Transport Time, 2016-2022								
		Year						
		2016	2017	2018	2019	2020	2021	2022
Step 2: Anatomic	N	629	631	668	631	718	768	663
	Median (Minutes)	13m 0s	14m 36s	13m 12s	12m 36s	12m 42s	13m 12s	13m 0s
Source: SNHD TFTC Data								
Note: Data not listed if out of state or if zip code is unavailable. Service area for Southern Nevada includes the following zip codes where the injury took place: 89002, 89004, 89005, 89007, 89011, 89012, 89014, 89015, 89018, 89019, 89021, 89027, 89029, 89030, 89031, 89032, 89034, 89039, 89040, 89044, 89046, 89052, 89054, 89074, 89081, 89084, 89085, 89086, 89101, 89102, 89103, 89104, 89106, 89107, 89108, 89110, 89113, 89115, 89117, 89118, 89120, 89121, 89122, 89123, 89124, 89128, 89129, 89130, 89131, 89134, 89135, 89138, 89139, 89141, 89142, 89143, 89144, 89145, 89146, 89147, 89148, 89149, 89156, 89161, 89166, 89178, 89179, and 89183. Includes TFTC transports with a transport time greater than 0 seconds.								

Southern Nevada Step 3 Median Transport Time, 2016-2022



Southern Nevada Step 3 Median Transport Time, 2016-2022								
		Year						
		2016	2017	2018	2019	2020	2021	2022
Step 3: Mechanism	N	3494	3986	4093	4065	3507	3968	3689
	Median (Minutes)	16m 12s	16m 24s	16m 48s	16m 12s	15m 24s	15m 36s	15m 48s
Source: SNHD TFTC Data								
Note: Data not listed if out of state or if zip code is unavailable. Service area for Southern Nevada includes the following zip codes where the injury took place: 89002, 89004, 89005, 89007, 89011, 89012, 89014, 89015, 89018, 89019, 89021, 89027, 89029, 89030, 89031, 89032, 89034, 89039, 89040, 89044, 89046, 89052, 89054, 89074, 89081, 89084, 89085, 89086, 89101, 89102, 89103, 89104, 89106, 89107, 89108, 89110, 89113, 89115, 89117, 89118, 89120, 89121, 89122, 89123, 89124, 89128, 89129, 89130, 89131, 89134, 89135, 89138, 89139, 89141, 89142, 89143, 89144, 89145, 89146, 89147, 89148, 89149, 89156, 89161, 89166, 89178, 89179, and 89183. Includes TFTC transports with a transport time greater than 0 seconds.								

Southern Nevada Step 4 Median Transport Time, 2016-2022

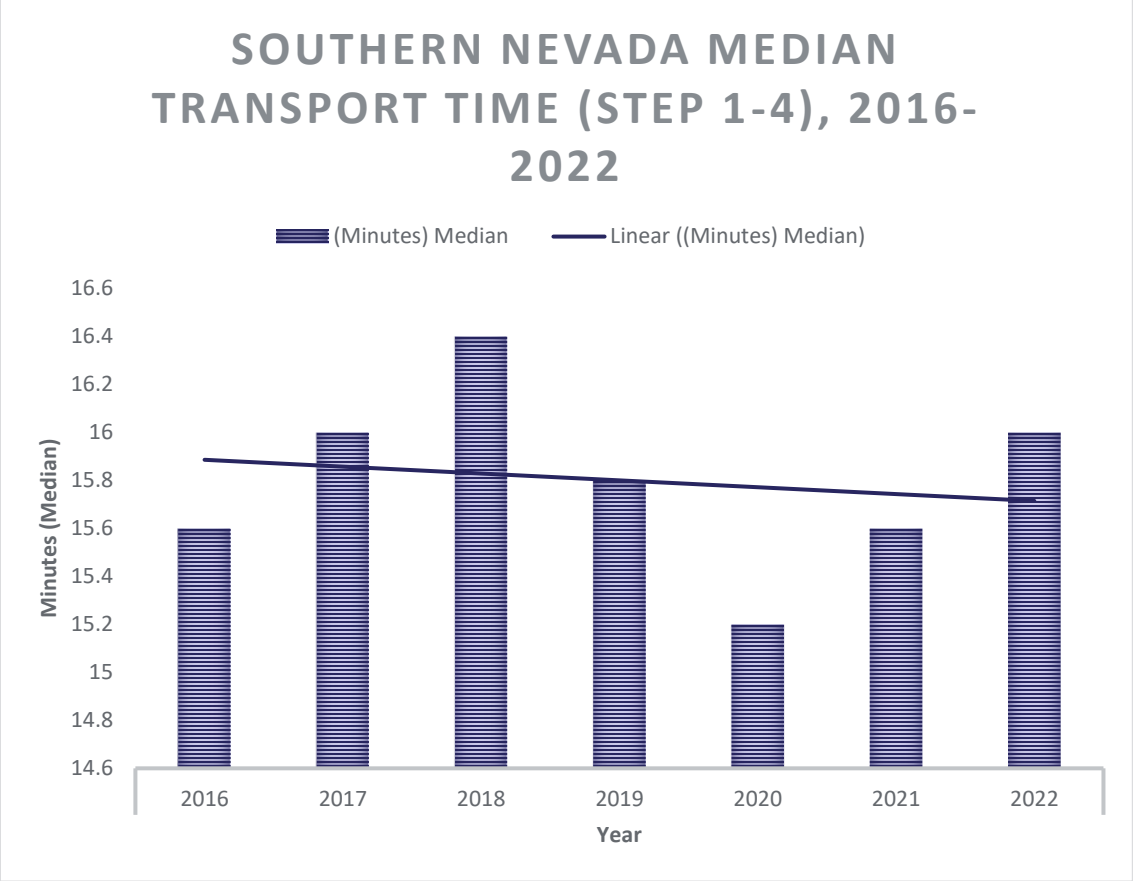


Southern Nevada Step 4 Median Transport Time, 2016-2022								
		Year						
		2016	2017	2018	2019	2020	2021	2022
Step 4: Special Considerations	N	935	4370	4840	5730	5430	6250	6732
	Median (Minutes)	16m 24s	16m 24s	16m 48s	16m 0s	15m 24s	16m 12s	16m 24s

Source: SNHD TFTC Data

Note: Data not listed if out of state or if zip code is unavailable. Service area for Southern Nevada includes the following zip codes where the injury took place: 89002, 89004, 89005, 89007, 89011, 89012, 89014, 89015, 89018, 89019, 89021, 89027, 89029, 89030, 89031, 89032, 89034, 89039, 89040, 89044, 89046, 89052, 89054, 89074, 89081, 89084, 89085, 89086, 89101, 89102, 89103, 89104, 89106, 89107, 89108, 89110, 89113, 89115, 89117, 89118, 89120, 89121, 89122, 89123, 89124, 89128, 89129, 89130, 89131, 89134, 89135, 89138, 89139, 89141, 89142, 89143, 89144, 89145, 89146, 89147, 89148, 89149, 89156, 89161, 89166, 89178, 89179, and 89183. Includes TFTC transports with a transport time greater than 0 seconds.

Southern Nevada (Composite) Median Transport Time by Step (1-4), 2016-2022



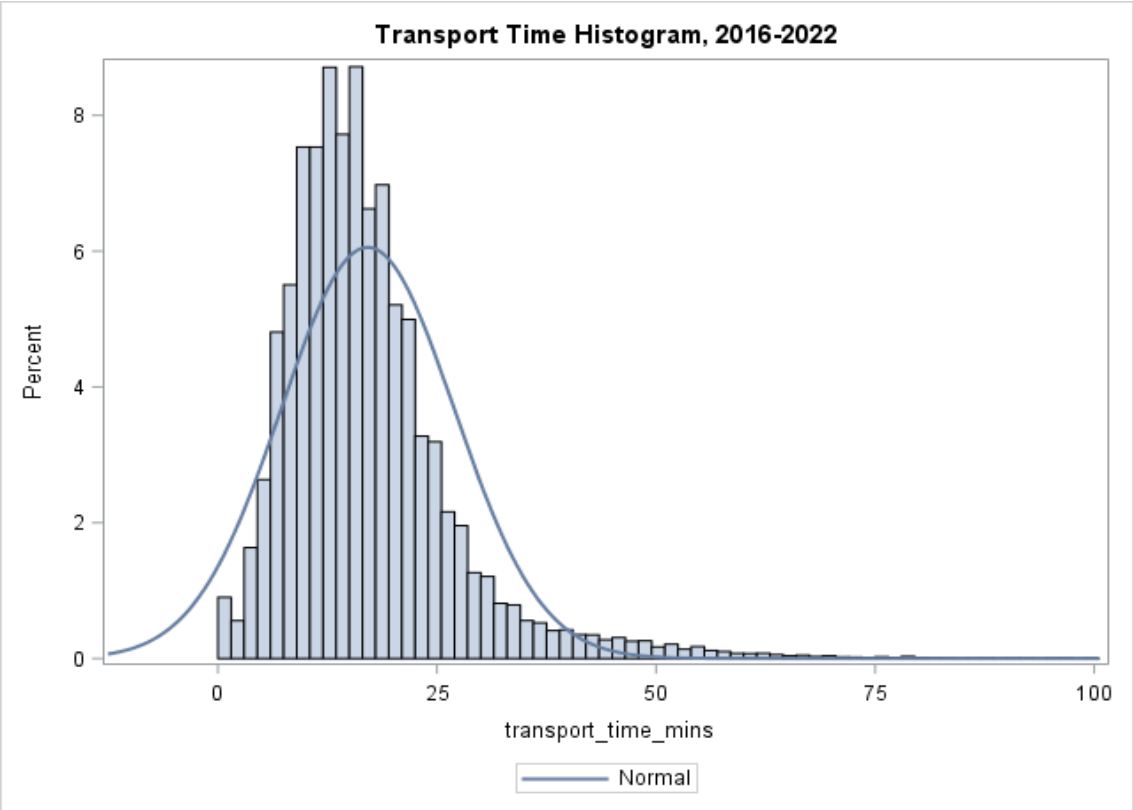
Southern Nevada Median Transport Time (Step 1-4), 2016-2022

		Year						
		2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Transport Time (Minutes)	N	5440	9403	9988	10930	10255	11625	11832
	Median	15m 36s	16m 0s	16m 24s	15m 48s	15m 12s	15m 36s	16m 0s

Source: SNHD TFTC Data

Note: Data not listed if out of state or if zip code is unavailable. Service area for Southern Nevada includes the following zip codes where the injury took place: 89002, 89004, 89005, 89007, 89011, 89012, 89014, 89015, 89018, 89019, 89021, 89027, 89029, 89030, 89031, 89032, 89034, 89039, 89040, 89044, 89046, 89052, 89054, 89074, 89081, 89084, 89085, 89086, 89101, 89102, 89103, 89104, 89106, 89107, 89108, 89110, 89113, 89115, 89117, 89118, 89120, 89121, 89122, 89123, 89124, 89128, 89129, 89130, 89131, 89134, 89135, 89138, 89139, 89141, 89142, 89143, 89144, 89145, 89146, 89147, 89148, 89149, 89156, 89161, 89166, 89178, 89179, and 89183. Includes TFTC transports with a transport time greater than 0 seconds.

Histogram and Interquartile Range of Transport Time, 2016-2022



Interquartile Range of Transport Time, 2016-2022							
	Year						
	2016	2017	2018	2019	2020	2021	2022
25th Percentile Transport Time (Minutes)	10m 12s	11m 12s	11m 12s	10m 36s	10m 12s	10m 48s	11m 0s
50th Percentile Transport Time (Minutes)	15m 0s	15m 48s	16m 0s	15m 12s	14m 36s	15m 12s	15m 36s
75th Percentile Transport Time (Minutes)	20m 36s	21m 30s	21m 48s	21m 0s	19m 48s	20m 36s	21m 0s
Quartile Range Transport Time (Minutes)	10m 24	10m 18s	10m 36s	10m 24s	9m 36s	9m 48s	10m 0s
Source: SNHD TFTC Data							
Note: Includes all TFTC transports in the Southern Nevada Trauma System with a transport time greater than 0 seconds. Histogram is restricted to show transport times between values greater than 0 and less than or equal to 100.							

TFTC Incidents by Transport Time and Step, 2016-2022

TFTC Incidents by Transport Time and Step, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
>15 Minutes							
Step 1	151	187	158	224	254	270	369
Step 2	259	328	271	253	255	321	278
Step 3	2147	2477	2633	2475	1943	2264	2154
Step 4	581	2711	3206	3547	3035	3869	4259
>20 Minutes							
Step 1	81	98	78	109	122	135	196
Step 2	128	159	142	123	120	157	149
Step 3	1178	1421	1536	1417	1017	1171	1174
Step 4	313	1508	1836	1942	1515	2098	2302
>25 Minutes							
Step 1	46	69	43	54	57	62	83
Step 2	75	85	82	50	64	83	67
Step 3	651	783	811	747	507	613	627
Step 4	172	798	966	954	682	1022	1146
Source: SNHD TFTC Data							
Note: Includes all TFTC transports in the Southern Nevada Trauma System.							

Percentage of TFTC Incidents with Transport Time ≤15, 2016-2022

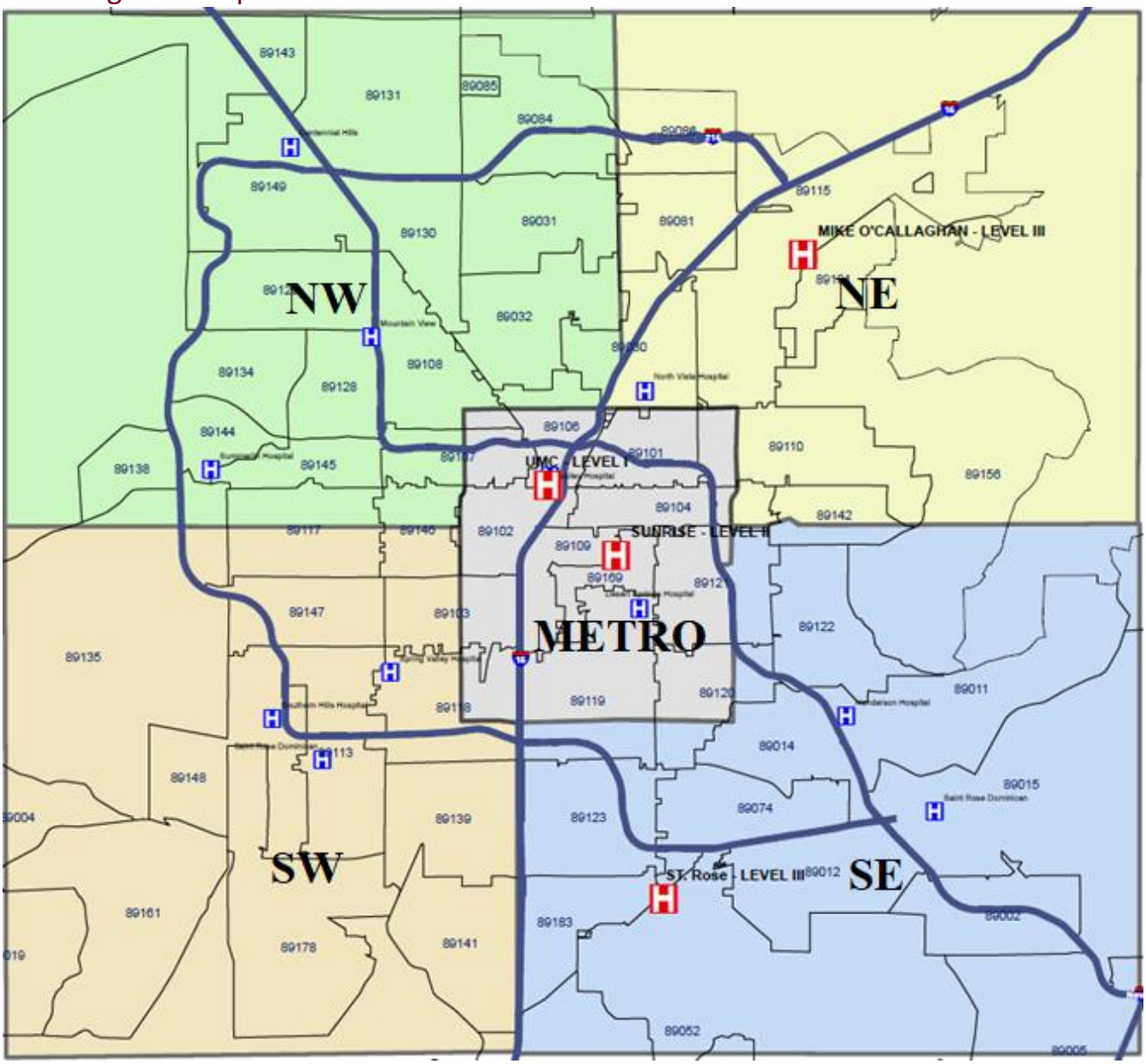
Percentage of TFTC Incidents with Transport Time ≤15 Minutes							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
≤15 Minutes							
Step 1	338	288	275	382	433	494	508
Total	489	475	433	606	687	764	877
%	69.12%	60.63%	63.51%	63.04%	63.03%	64.66%	57.92%
Step 2	503	456	487	479	608	598	518
Total	762	784	758	732	863	919	796
%	66.01%	58.16%	64.25%	65.44%	70.45%	65.07%	65.08%
Step 3	1925	2054	2051	2179	1928	2205	2025
Total	4072	4531	4684	4654	3871	4469	4179
%	47.27%	45.33%	43.79%	46.82%	49.81%	49.34%	48.46%
Step 4	520	2175	2382	3265	3185	3310	3419
Total	1101	4886	5588	6812	6220	7179	7678
%	47.23%	44.51%	42.63%	47.93%	51.21%	46.11%	44.53%
Source: SNHD TFTC Data							
Note: Includes all TFTC transports in the Southern Nevada Trauma System with a transport time greater than 0 seconds. There are 2 incidents not classified in 2018, 4 incidents not classified in 2020, 2 incidents not classified in 2021, and 3 incidents not classified in 2022.							

TFTC Regional Incidents

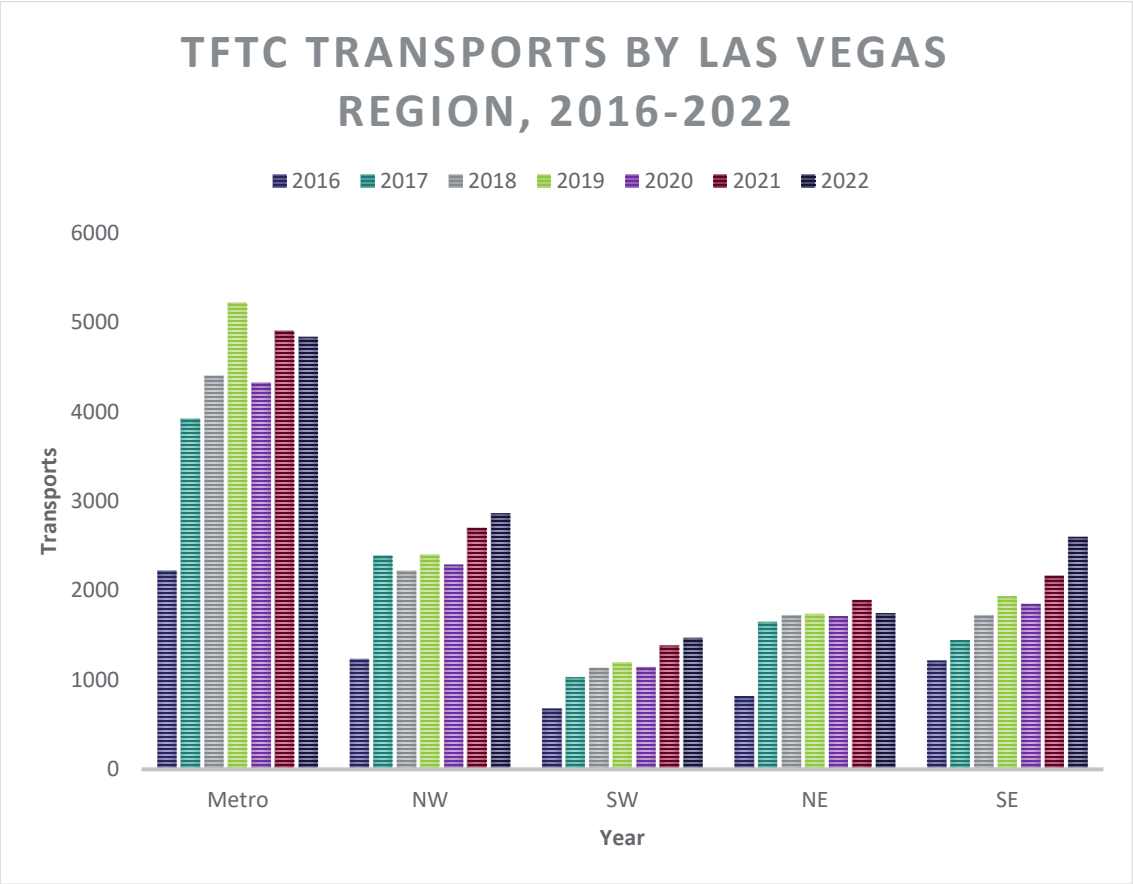
Intent

TFTC Regional Incidents are provided to analyze trauma in Southern Nevada's metropolitan area. Divided into five regions that contain unique geographical, socioeconomic, and infrastructure, the transport times and number of incidents are intended to identify barriers to access to care. This further develops an approach to monitor for unmet needs to create new capacity when and where needed. The five regions were agreed upon by the RTAB, TMAC, and generated by OEMSTS. (Note: These regions are not catchment areas.)

TFTC Regional Map



TFTC Incident Total by Las Vegas Region, 2016-2022



TFTC Transports by Las Vegas Region, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Metro	2224	3918	4397	5218	4325	4900	4833
NW	1235	2392	2224	2407	2292	2698	2864
SW	681	1030	1140	1201	1149	1387	1473
NE	821	1649	1727	1741	1716	1892	1746
SE	1216	1448	1724	1938	1851	2166	2600
Total	6177	10437	11212	12505	11333	13043	13516
Source: SNHD TFTC Data							
Note: Only includes transports with a step designation							

TFTC Transports by Las Vegas Region and Step, 2016-2022

TFTC Transports by Las Vegas Region and Step, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Step 1							
Metro	212	181	171	230	254	307	324
NW	92	117	93	139	136	138	197
SW	48	57	41	73	59	87	79
NE	47	67	84	70	106	100	132
SE	79	56	44	84	121	124	147
Step 2							
Metro	333	337	305	290	357	386	353
NW	129	136	133	131	149	149	136
SW	56	62	53	58	57	54	58
NE	124	119	133	134	163	155	130
SE	113	119	123	113	125	156	133
Step 3							
Metro	1249	1414	1515	1513	1158	1408	1377
NW	779	954	880	913	785	944	882
SW	506	542	578	615	512	539	508
NE	517	606	615	614	561	632	557
SE	808	804	885	783	684	791	794
Step 4							
Metro	430	1986	2406	3185	2556	2799	2779
NW	235	1185	1118	1224	1222	1467	1649
SW	71	369	468	455	521	707	828
NE	133	857	895	923	886	1005	927
SE	216	469	672	958	921	1095	1526
Source: SNHD TFTC Data							
Note: Only includes transports with a step designation.							

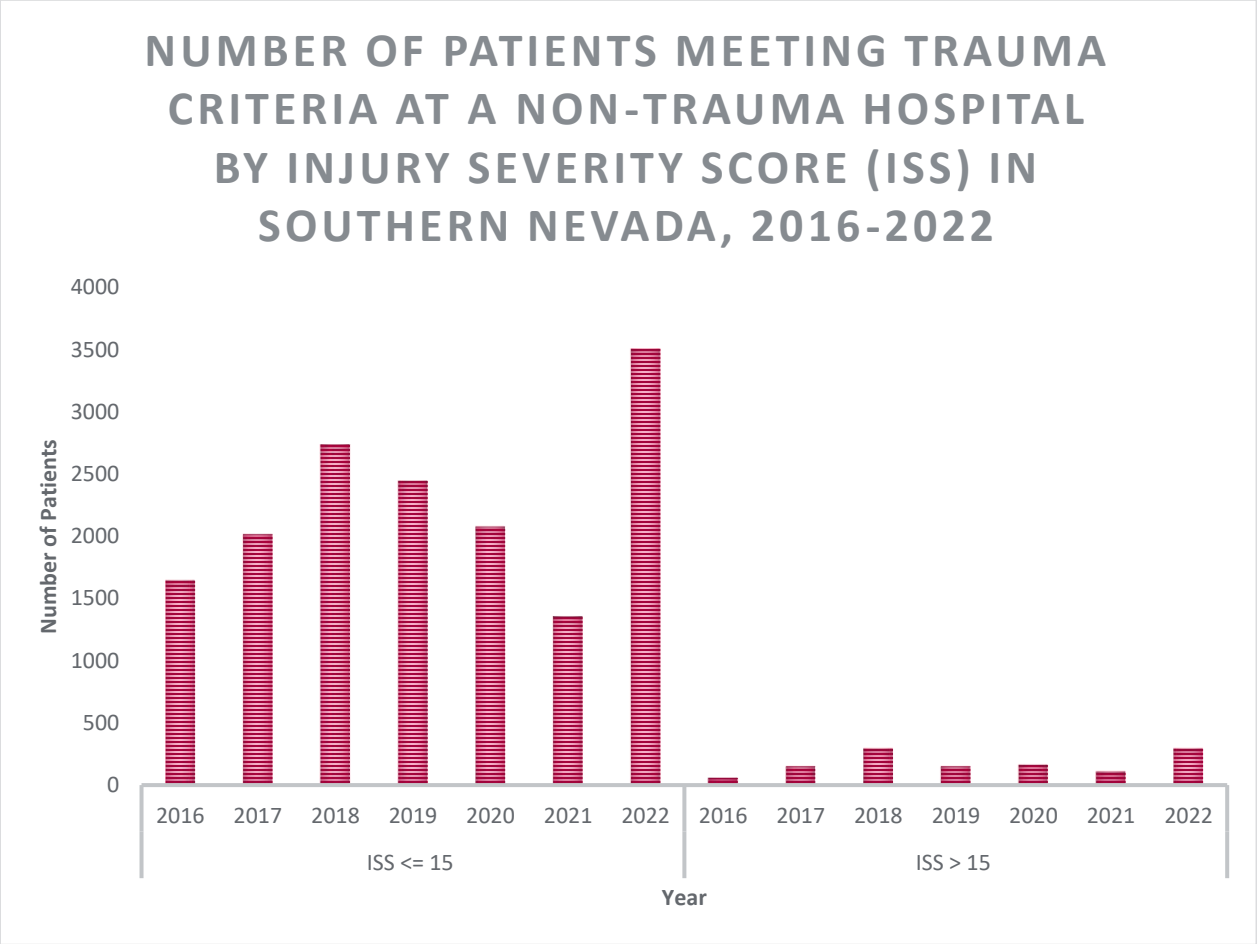
Non-Trauma Center Hospital Data

Intent

Non-Trauma Center Hospital Data is provided to analyze trauma outside of the designated trauma centers. Due to the inclusion criteria and collection methods, the NV State Trauma Registry and the TFTC Trauma Center Registry are incompatible. Patients identified as meeting trauma inclusion criteria at non-trauma hospitals are still part of Southern Nevada's inclusive trauma system. Since the two data sets cannot be combined, an accurate calculation of overtraige and undertriage is not possible. Still, it is important to capture and analyze all trauma within our community to determine capacity and injury prevention needs.

Note: The Injury Severity Score (ISS) is a system for numerically stratifying injury severity, which correlates with mortality, morbidity, and other severity measures. The risk of death increases with a higher score. It requires extensive training and experience to calculate and determine the score. This report categorizes an ISS score that is equal to or less than 15 as minor or moderate. A score greater than 15 is considered severe to very severe.

Number of Patients Meeting Trauma Criteria at a Non-Trauma Hospital by Injury Severity Score (ISS) in Southern Nevada, 2016-2022



Number of Patients Meeting Trauma Criteria at a Non-Trauma Hospital by Injury Severity Score (ISS) in Southern Nevada, 2016-2022														
	ISS ≤ 15							ISS > 15						
	2016	2017	2018	2019	2020	2021	2022	2016	2017	2018	2019	2020	2021	2022
All	1644	2016	2737	2445	2078	1357	3507	57	149	294	150	162	110	294
Source: State Trauma Registry data														

Number of Patients Meeting Trauma Criteria at a Non-Trauma Hospital with an Injury Severity (ISS) >15 by Facility in Southern Nevada, 2016-2022

Number of Patients Meeting Trauma Criteria at a Non-Trauma Hospital with an Injury Severity Score (ISS) > 15 by Facility in Southern Nevada, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Boulder City Hospital	0	0	14	1	1	0	1
Centennial Hills Hospital	2	90	102	13	4	8	16
Desert Springs Hospital Medical Center	1	2	0	0	0	1	1
Henderson Hospital	0	0	0	4	3	4	1
***Henderson Hospital - ER at Green Valley**	0	0	0	3	1	0	1
Mesa View Regional Hospital	9	5	1	0	1	0	0
***Mountain View - ER at Aliante**	0	0	0	0	1	0	1
Mountain View Hospital	26	24	36	31	18	21	45
***Mountain View - ER at Skye Canyon**	0	0	0	0	0	0	2
North Vista Hospital	5	10	75	70	113	68	155
***Southern Hills - ER at the Lakes**	0	0	0	0	1	0	1
Southern Hills Hospital Medical Center	0	8	0	2	3	0	1
Spring Valley Hospital Medical Center	2	3	32	3	3	1	4
***St. Rose Dominican Hosp Blue Diamond**	0	0	0	0	0	0	1
***St. Rose Dominican Hosp North Las Vegas**	0	0	1	0	0	0	8
***St. Rose Dominican Hosp West Flamingo**	0	0	1	0	0	0	3
***St. Rose Dominican Hosp West Sahara**	0	0	0	0	0	0	2
***St. Rose Dominican Hospital De Lima Campus**	3	2	4	2	0	2	0
St. Rose Dominican Hospital San Martin Campus	0	0	2	1	0	0	3
Summerlin Hospital Medical Center	8	4	26	17	9	4	45
Valley Hospital Medical Center	1	1	0	3	4	1	3
All	57	149	294	150	162	110	294

Source: State Trauma Registry data
Includes transfers to higher level of care
**Free-Standing ER*

Number of Patients Meeting Trauma Criteria at a Non-Trauma Hospital with an Injury Severity (ISS) ≤15 by Facility in Southern Nevada, 2016-2022

Number of Patients Meeting Trauma Criteria at a Non-Trauma Hospital with an Injury Severity Score (ISS) ≤ 15 by Facility in Southern Nevada, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Boulder City Hospital	46	63	42	41	42	22	58
Centennial Hills Hospital	26	227	270	190	178	103	301
Desert Springs Hospital Medical Center	9	9	16	22	23	19	85
Henderson Hospital	29	137	126	353	277	130	284
***Henderson Hospital - ER at Green Valley**	0	0	0	64	60	27	29
Mesa View Regional Hospital	101	87	90	48	22	3	59
***Mountain View - ER at Aliante**	0	0	2	8	15	2	26
Mountain View Hospital	356	474	574	471	497	358	700
***Mountain View - ER at Skye Canyon**	0	0	0	0	0	0	11
North Vista Hospital	276	245	140	50	10	3	5
***Southern Hills - ER at the Lakes**	0	0	17	13	7	0	13
***Southern Hills ER at South Las Vegas Blvd**	0	0	0	0	0	0	17
Southern Hills Hospital Medical Center	73	52	102	73	131	8	295
***Spring Valley - ER at Blue Diamond**	0	0	0	6	19	7	35
Spring Valley Hospital Medical Center	186	189	447	657	399	328	655
***St. Rose Dominican Hosp Blue Diamond**	0	0	10	3	14	6	35
***St. Rose Dominican Hosp North Las Vegas**	0	24	78	36	18	14	70
***St. Rose Dominican Hosp West Flamingo**	0	0	12	5	4	3	25
***St. Rose Dominican Hosp West Sahara**	0	0	13	4	10	4	35
***St. Rose Dominican Hospital De Lima Campus**	196	201	205	94	86	61	104
St. Rose Dominican Hospital San Martin Campus	90	32	190	88	75	43	144
Summerlin Hospital Medical Center	232	253	363	195	173	202	480
Valley Hospital Medical Center	24	23	40	24	18	14	41
All	1644	2016	2737	2445	2078	1357	3507
Source: State Trauma Registry data *Includes transfers to higher level of care* **Free Standing ER*							

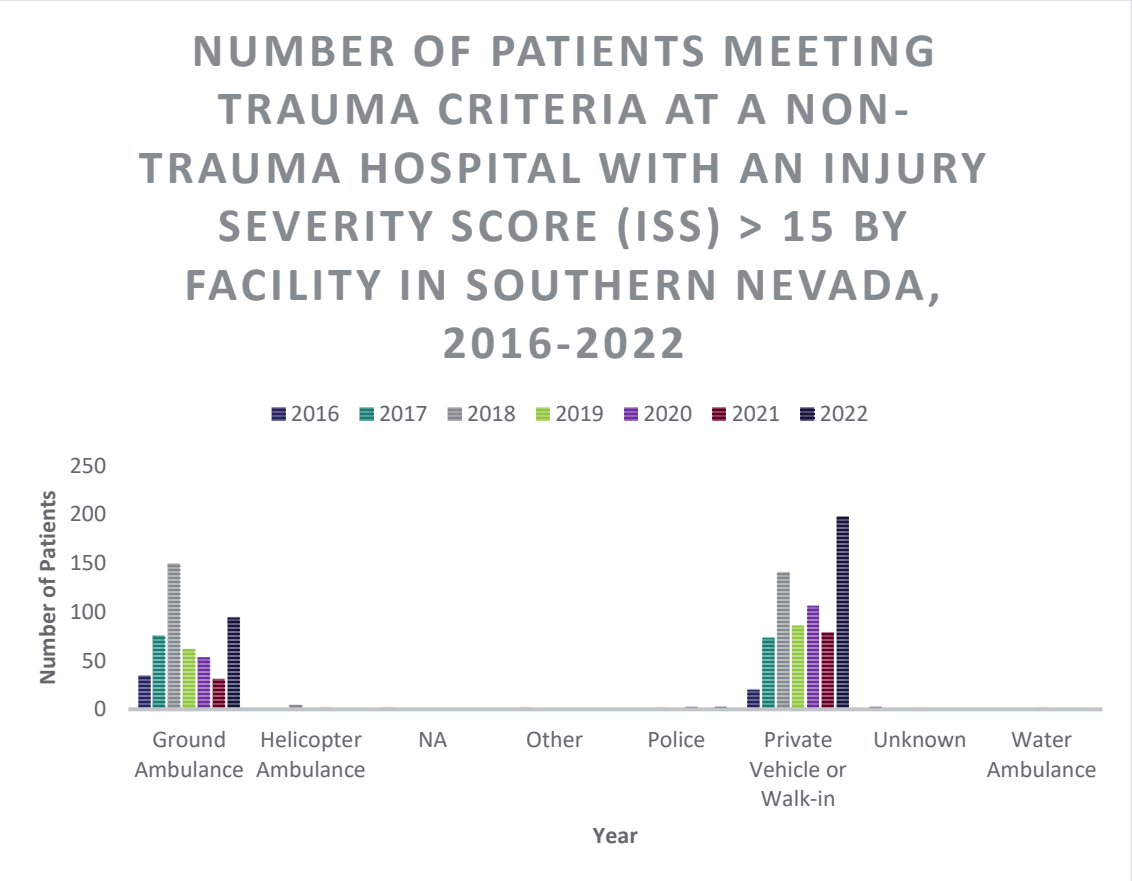
Number of Patients Meeting Trauma Criteria at a Non-Trauma Hospital who were Transferred to a Trauma Hospital with an Injury Severity (ISS) >15 by Facility in Southern Nevada, 2016-2022

Number of Patients Meeting Trauma Criteria at a Non-Trauma Hospital who were Transferred to a Trauma Hospital with an Injury Severity Score (ISS) > 15 by Facility in Southern Nevada, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Boulder City Hospital	0	0	10	0	1	0	1
Centennial Hills Hospital	2	19	16	5	4	8	13
Desert Springs Hospital Medical Center	1	2	0	0	0	1	1
Henderson Hospital	0	0	0	0	1	1	1
Henderson Hospital - ER at Green Valley	0	0	0	1	1	0	1
Mesa View Regional Hospital	4	1	0	0	0	0	0
Mountain View Hospital	3	7	2	1	2	1	3
Mountain View Hospital - ER at Aliante	0	0	0	0	1	0	0
Mountain View Hospital - ER at Skye Canyon	0	0	0	0	0	0	2
North Vista Hospital	4	10	70	47	108	65	153
Southern Hills Hospital - ER at the Lakes	0	0	0	0	1	0	0
Southern Hills Hospital Medical Center	0	6	0	1	1	0	0
Spring Valley Hospital Medical Center	1	1	5	0	0	1	0
St. Rose Dominican Hospital - West Sahara	0	0	0	0	0	0	2
St. Rose Dominican Hospital De Lima Campus	1	2	1	1	0	2	0
St. Rose Dominican Hospital North Las Vegas	0	0	1	0	0	0	8
St. Rose Dominican Hospital San Martin Campus	0	0	2	0	0	0	3
St. Rose Dominican Hospital West Flamingo	0	0	1	0	0	0	3
Summerlin Hospital Medical Center	1	2	10	4	3	3	29
Valley Hospital Medical Center	1	1	0	2	4	1	3
All	18	51	118	62	127	83	223
Source: State Trauma Registry data							

Number of Patients Meeting Trauma Criteria at a Non-Trauma Hospital who were Transferred to a Trauma Hospital with an Injury Severity (ISS) ≤ 15 by Facility in Southern Nevada, 2016-2022

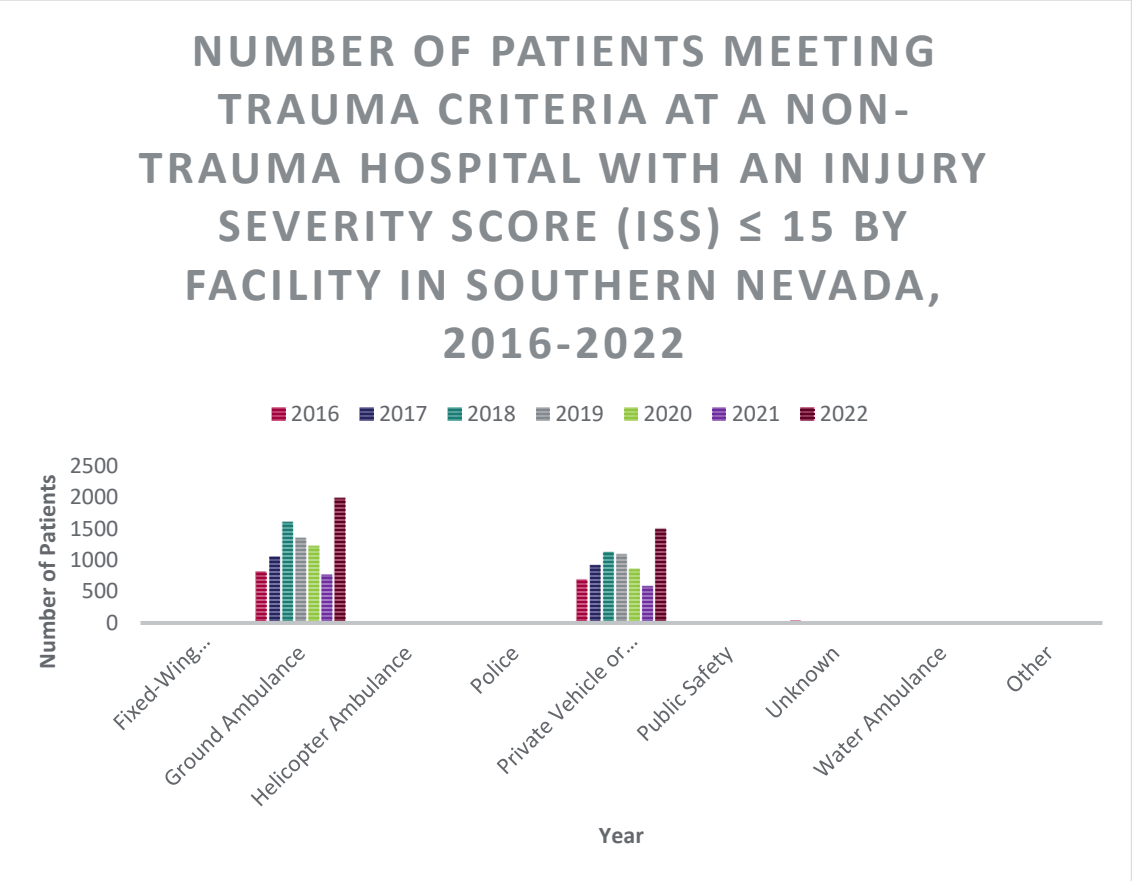
Number of Patients Meeting Trauma Criteria at a Non-Trauma Hospital who were Transferred to a Trauma Hospital with an Injury Severity Score (ISS) ≤ 15 by Facility in Southern Nevada, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Boulder City Hospital	27	32	18	11	25	11	43
Centennial Hills Hospital	19	37	21	27	27	29	57
Desert Springs Hospital Medical Center	9	8	14	13	23	19	40
Henderson Hospital	3	11	20	44	61	44	90
Henderson Hospital - ER at Green Valley	0	0	0	22	23	7	15
Mesa View Regional Hospital	19	15	6	8	6	1	23
Mountain View Hospital	33	55	33	17	32	24	56
Mountain View Hospital - ER at Aliante	0	0	2	2	6	1	11
Mountain View Hospital - ER at Skye Canyon	0	0	0	0	0	0	2
North Vista Hospital	255	236	94	34	10	3	5
Southern Hills ER at South Las Vegas Blvd	0	0	0	0	0	0	9
Southern Hills Hospital - ER at the Lakes	0	0	12	12	6	0	5
Southern Hills Hospital Medical Center	40	45	62	19	22	7	50
Spring Valley Hospital - ER at Blue Diamond	0	0	0	0	10	2	19
Spring Valley Hospital Medical Center	46	33	19	44	42	41	71
St. Rose Dominican Hospital - Blue Diamond	0	0	7	2	12	3	30
St. Rose Dominican Hospital - West Sahara	0	0	7	4	8	4	27
St. Rose Dominican Hospital De Lima Campus	74	110	96	48	65	46	77
St. Rose Dominican Hospital North Las Vegas	0	14	38	23	16	12	61
St. Rose Dominican Hospital San Martin Campus	4	8	41	0	0	0	35
St. Rose Dominican Hospital West Flamingo	0	0	7	1	3	1	21
Summerlin Hospital Medical Center	31	42	50	22	25	52	93
Valley Hospital Medical Center	24	23	32	17	18	14	41
All	584	669	579	370	440	321	881
Source: State Trauma Registry data							

Number of Patients Meeting Trauma Criteria at a Non-Trauma Hospital with an Injury Severity Score (ISS) >15 by Arrival Mode in Southern Nevada, 2016-2022



Number of Patients Meeting Trauma Criteria at a Non-Trauma Hospital with an Injury Severity Score (ISS) > 15 by Arrival Mode in Southern Nevada, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Ground Ambulance	34	75	149	62	53	31	94
Helicopter Ambulance	0	0	4	0	1	0	0
Police	0	0	1	0	2	0	2
Private Vehicle or Walk-in	20	73	140	86	106	79	198
Water Ambulance	0	0	0	1	0	0	0
Other	0	1	0	0	0	0	0
Unknown	2	0	0	1	0	0	0
N/A	1	0	0	0	0	0	0
All	57	149	294	150	162	110	294
Source: State Trauma Registry data							

Number of Patients Meeting Trauma Criteria at a Non-Trauma Hospital with an Injury Severity Score (ISS) ≤15 by Arrival Mode in Southern Nevada, 2016-2022

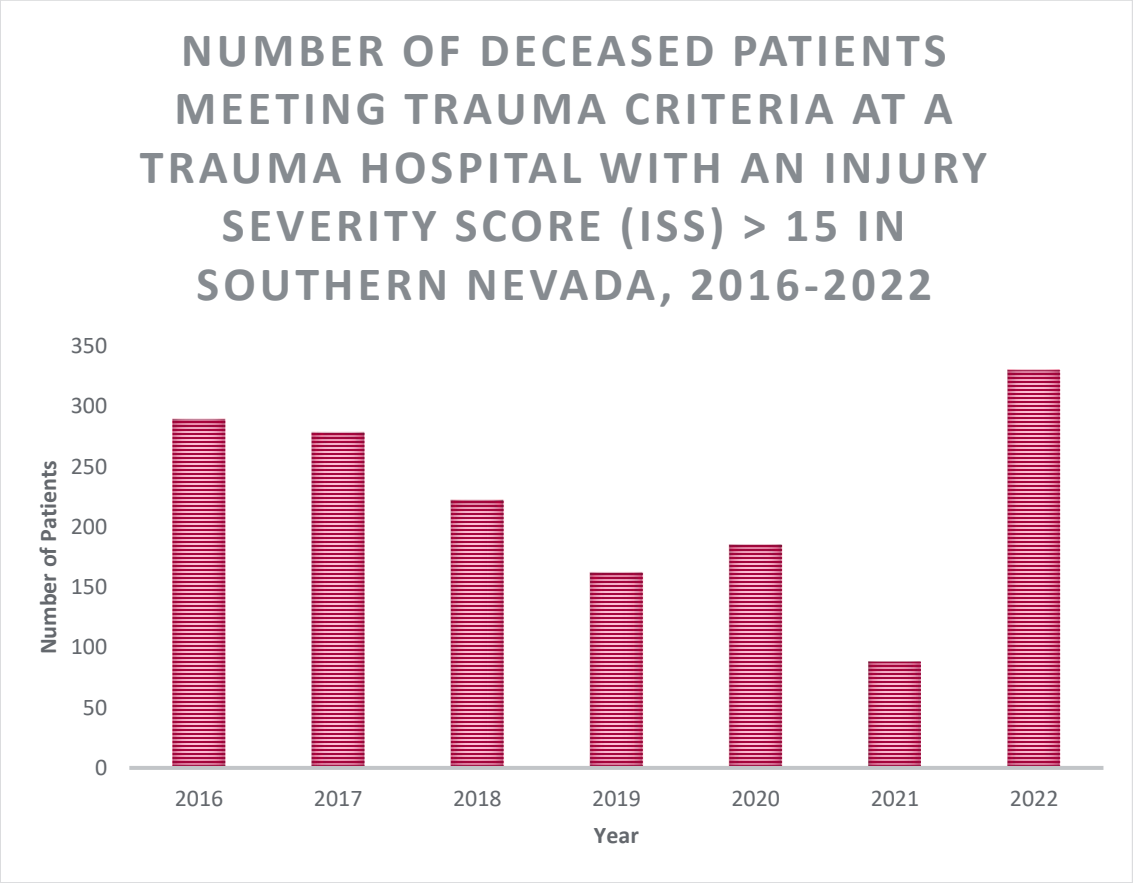


Number of Patients Meeting Trauma Criteria at a Non-Trauma Hospital with an Injury Severity Score (ISS) ≤ 15 by Arrival Mode in Southern Nevada, 2016-2022

	2016	2017	2018	2019	2020	2021	2022
Fixed-Wing Ambulance	0	0	1	0	0	1	7
Ground Ambulance	817	1057	1599	1348	1219	768	1982
Helicopter Ambulance	7	2	7	1	4	3	15
Police	4	8	3	5	2	2	6
Private Vehicle or Walk-in	689	920	1124	1085	853	581	1491
Public Safety	1	0	0	0	0	0	1
Unknown	34	16	1	2	0	0	1
Water Ambulance	0	0	0	0	0	0	1
Other	5	9	2	4	0	2	3
N/A	87	4	0	0	0	0	0
All	1644	2016	2737	2445	2078	1357	3507

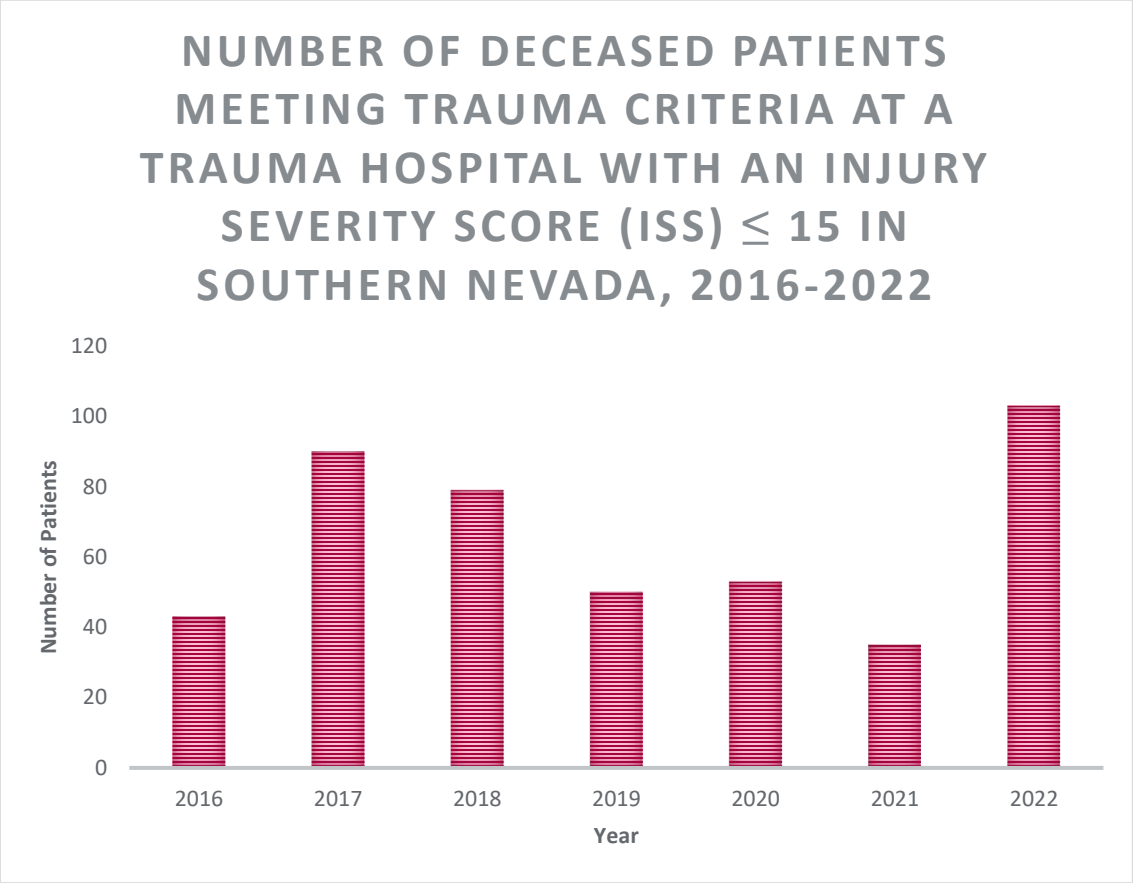
Source: State Trauma Registry data

Number of Deceased Patients Meeting Trauma Criteria at a Trauma Hospital with an Injury Severity Score (ISS) >15 in Southern Nevada, 2016-2022



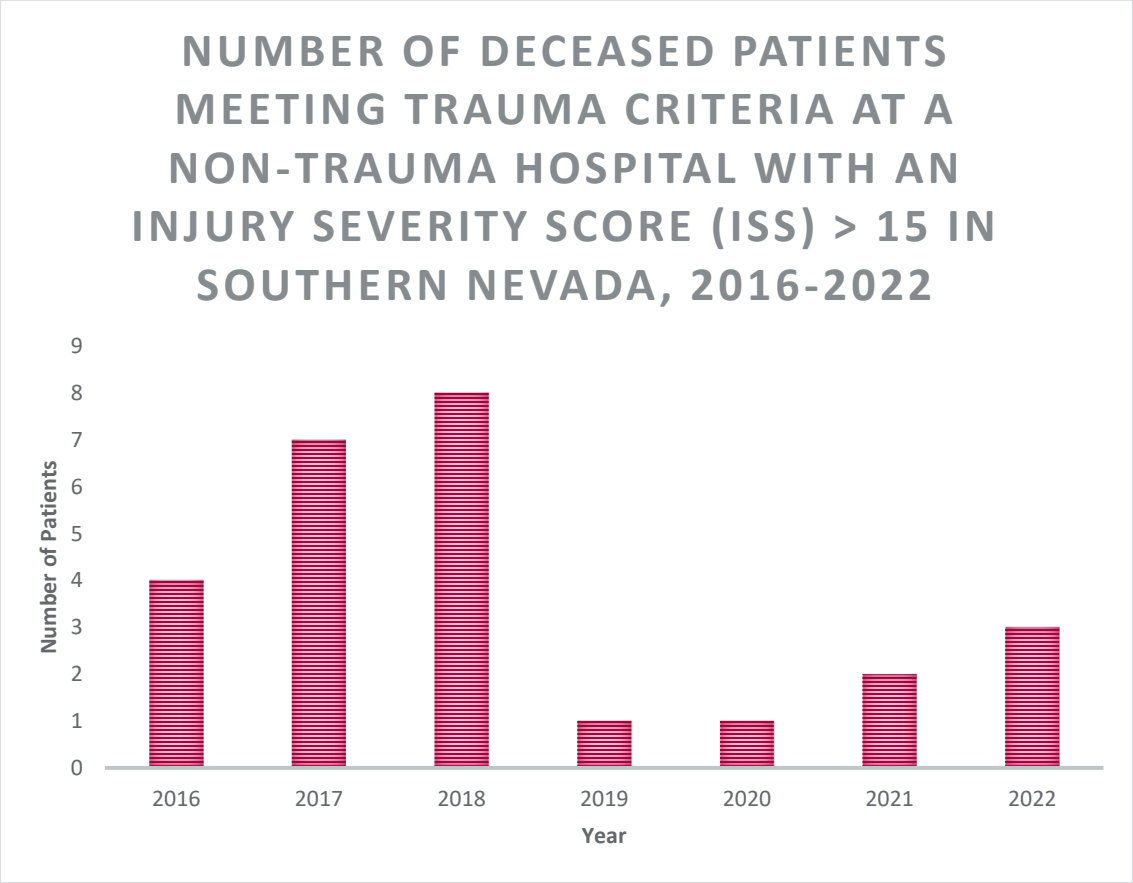
Number of Deceased Patients Meeting Trauma Criteria at a Trauma Hospital with an Injury Severity Score (ISS) >15 in Southern Nevada, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
All	289	278	222	162	185	88	330
Source: State Trauma Registry data							

Number of Deceased Patients Meeting Trauma Criteria at a Trauma Hospital with an Injury Severity Score (ISS) ≤15 in Southern Nevada, 2016-2022



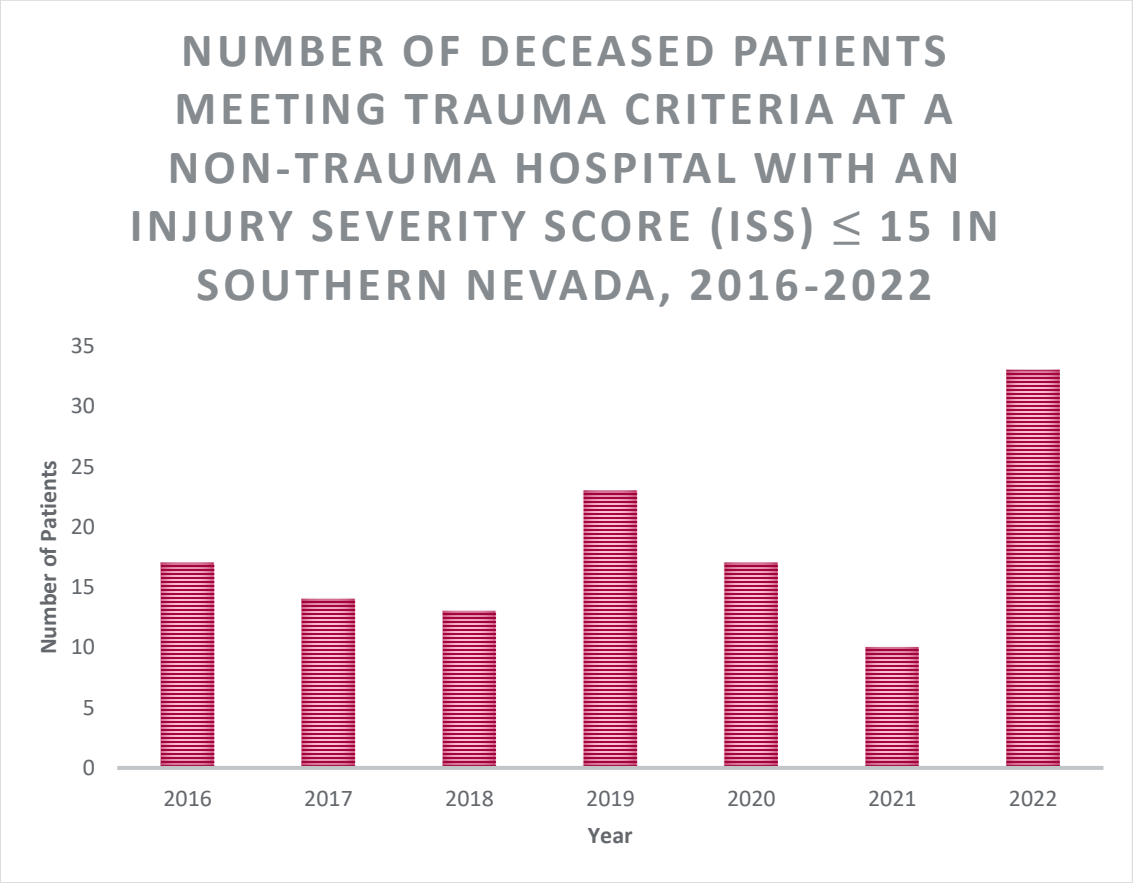
Number of Deceased Patients Meeting Trauma Criteria at a Trauma Hospital with an Injury Severity Score (ISS) <=15 in Southern Nevada, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
All	43	90	79	50	53	35	103
Source: State Trauma Registry data							

Number of Deceased Patients Meeting Trauma Criteria at a Non-Trauma Hospital with an Injury Severity Score (ISS) >15 in Southern Nevada, 2016-2022



Number of Deceased Patients Meeting Trauma Criteria at a Non-Trauma Hospital with an Injury Severity Score (ISS) >15 in Southern Nevada, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
All	4	7	8	1	1	2	3
Source: State Trauma Registry data							

Number of Deceased Patients Meeting Trauma Criteria at a Non-Trauma Hospital with an Injury Severity Score (ISS) ≤15 in Southern Nevada, 2016-2022

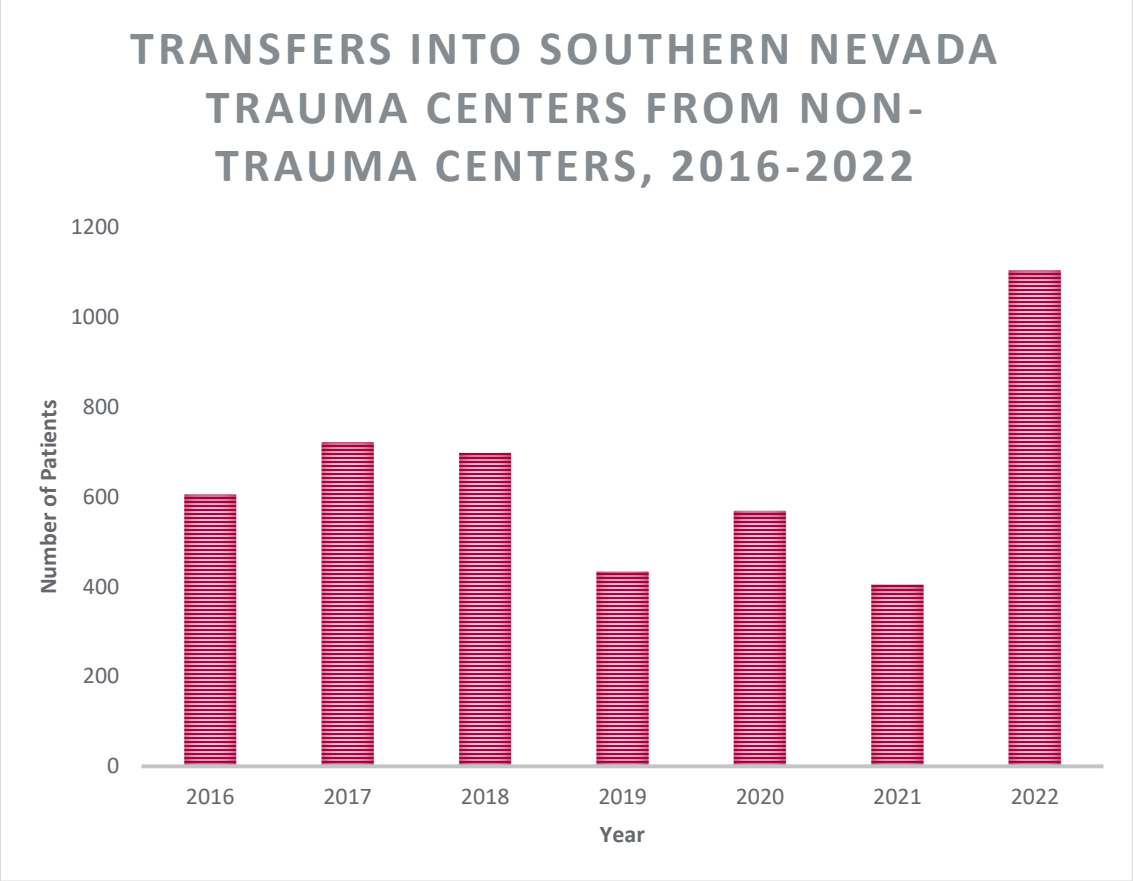


Number of Deceased Patients Meeting Trauma Criteria at a Non-Trauma Hospital with an Injury Severity Score (ISS) <=15 in Southern Nevada, 2016-2022

	2016	2017	2018	2019	2020	2021	2022
All	17	14	13	23	17	10	33

Source: State Trauma Registry data

Transfers to Southern Nevada Trauma Centers from Non-Trauma Centers, 2016-2022



Transfers into Southern Nevada Trauma Centers from Non-Trauma Centers, 2016-2022							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
All	605	721	698	434	569	405	1104
Source: State Trauma Registry data							

Emergency Department and Trauma Center Hours

Intent

Southern Nevada's inclusive trauma system includes designated Trauma Centers and Non-Trauma Center Hospitals (Emergency Departments). Traditionally an Emergency Department (ED) can meet the demands of trauma-related injuries. Trauma Centers were developed to provide an expedited resource for the optimal care of trauma patients. When there is a designated Trauma Center, the trauma system is designed to transport the patient to the most appropriate destination, bypassing EDs that may be closer. Most Trauma Centers are integrated into EDs but function separately. All hospitals (EDs & Trauma Centers) must develop protocols to manage a crisis that may require closure. The crisis may be that capacity is met, and no additional patients can be received, or that an internal disaster/failure (e.g., infrastructure, technology, medical professionals) requires closure. The protocols developed to manage the closure of an ED and Trauma Center are separate. An ED may declare it is on Internal Disaster, but that declaration would never include the Trauma Center. A Trauma Center, even if an integrated part of an ED, will remain open and be able to receive trauma patients while the ED is closed. When a Trauma Center closes, it is called Trauma Bypass. It is rare for a Trauma Center to close. As part of the ACS-COT verification process, a Trauma Center must not be on bypass more than 5 percent of the time.

Definitions specific to Southern Nevada Trauma System and Emergency Medical System:

Trauma Bypass- Closure of a Trauma Center. If on Trauma Bypass, which is a mandated reported requirement, the center cannot take patients. All EMS agencies can view this real-time status via telemetry. The time spent on trauma bypass is regularly reviewed at TMAC and is part of ACS-COT criteria.

Internal Disaster- Closure of an Emergency Department. If on Internal Disaster, the ED is not able to take patients. All EMS agencies can view this real-time status via telemetry.

Operational Hours for Emergency Departments and Trauma Centers, 2016-2022

* Source: Juvare EMS Data System

University Medical Center (UMC) ED and Trauma Center Operational Hours							
	2016	2017	2018	2019	2020	2021	2022
ED Open Total Hours	7816	8113	8437	8683	8634	8510	8518
ED Closed Total Hours	967	647	323	77	149	250	242
ED % of Total Hours Open	89%	93%	96%	99%	98%	97%	97%
Trauma Center Bypass Event Hours	0	0	0	0	0	0	0
Trauma Center % Open	100%	100%	100%	100%	100%	100%	100%

Sunrise ED and Trauma Center Operational Hours							
	2016	2017	2018	2019	2020	2021	2022
ED Open Total Hours	8774	8754	8756	8760	8784	8760	8760
ED Closed Total Hours	10	7	3	0.2	0	0	0
ED % of Total Hours Open	99%	99%	99%	100%	100%	100%	100%
Trauma Center Bypass Event Hours	0	6	0.5	0	0	0	0
Trauma Center % Open	100%	99.9%	100%	100%	100%	100%	100%

St. Rose-Siena ED and Trauma Center Operational Hours							
	2016	2017	2018	2019	2020	2021	2022
ED Open Total Hours	6168	7658	8433	8530	8400	8188	8480
ED Closed Total Hours	2616	1102	327	230	383	572	280
ED % of Total Hours Open	70%	87%	96%	97%	95%	94%	97%
Trauma Center Bypass Event Hours	0	0	0	0	0	0	0
Trauma Center % Open	100%	100%	100%	100%	100%	100%	100%

Mike O'Callaghan ED and Trauma Center Operational Hours							
	2016	2017	2018	2019	2020	2021	2022
ED Open Total Hours	N/A	N/A	N/A	N/A	N/A	N/A	8732
ED Closed Total Hours	N/A	N/A	N/A	N/A	N/A	N/A	28
ED % of Total Hours Open	N/A	N/A	N/A	N/A	N/A	N/A	99%
Trauma Center Bypass Event Hours	N/A	N/A	N/A	N/A	N/A	N/A	0
Trauma Center % Open	N/A	N/A	N/A	N/A	N/A	N/A	100%

Southern NV Hospitals ED and Trauma Centers Operational Hours							
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
ED Open Total Hours	144k	169k	201k	220k	236k	243k	269k
ED Closed Total Hours	9480	3105	4672	9094	1330	3073	2245
ED % of Total Hours Open	94%	98%	98%	96%	99%	98%	99%
Trauma Centers Bypass Event Hours	0	6	0.5	0	0	0	0
Trauma Centers % Open	100%	99.9%	100%	100%	100%	100%	100%

Trauma Medical Audit Committee

The Trauma Medical Audit Committee (TMAC) is a multidisciplinary closed medical peer review committee of the District Board of Health that meets quarterly. Its purpose is to review the Southern Nevada Trauma system by evaluating trauma care, monitoring trends, and making system improvements recommendations.

- For 2022, TMAC has reviewed trauma cases as an evaluation of trauma care. In a review of those cases, TMAC has not found any significant trauma protocols or regulations variance.
- For 2022, TMAC did not observe any delays in care in trauma services.
- For 2022, TMAC has not identified any significant change in trends in system performance.
- For 2022, TMAC did not observe any aberrations in out of hospital deaths, patients treated in non-trauma center hospitals, or prehospital services.

As part of the TMAC's purpose to implement improvement activities to ensure quality care throughout the trauma system, it reports that the current trauma system is functioning efficiently. TMAC recognizes the importance of controlled and appropriate growth of the trauma system for future sustainability.

Lisa Rogge, RN

TMAC Chair

Appendix

Appendix A: Trauma Field Triage Criteria

Trauma Field Triage Criteria

A licensee providing emergency medical care to a patient at the scene of an injury shall use the following procedures to identify and care for patients with traumas:

1. Step 1 – Measure vital signs and level of consciousness. If the patient's:
   A. Glasgow Coma Scale is 13 or less;
   B. Systolic blood pressure is less than 90 mm Hg; or
   C. Respiratory rate is less than 10 or greater than 29 breaths per minute (less than 20 in infant aged less than 1 year), or is in need of ventilatory support

   the adult patient *MUST* be transported to a Level 1 or 2 center for the treatment of trauma in accordance with the catchment area designated. The pediatric patient MUST be transported to a pediatric center for the treatment of trauma.
2. Step 2 – Assess anatomy of injury. If the patient has:
   A. Penetrating injuries to head, neck, torso, or extremities proximal to elbow or knee;
   B. Chest wall instability or deformity (e.g. flail chest);
   C. Two or more proximal long-bone fractures;
   D. Crushed, degloved, mangled, or pulseless extremity;
   E. Amputation proximal to wrist or ankle;
   F. Pelvis fractures;
   G. Open or depressed skull fractures; or
   H. Paralysis

   the adult patient *MUST* be transported to a Level 1 or 2 center for the treatment of trauma in accordance with the catchment area designated. The pediatric patient *MUST* be transported to a pediatric center for the treatment of trauma.
3. Step 3 – Assess mechanism of injury and evidence of high-energy impact, which may include:
   A. Falls
      1) Adults: greater than 20 feet (one story is equal to 10 feet)
      2) Children: greater than 10 feet or two times the height of the child
   B. High-risk auto crash
      1) Motor vehicle was traveling at a speed of at least 40 miles per hour immediately before the collision occurred;
      2) Intrusion, including roof: greater than 12 inches occupant site; greater than 18 inches any site;
      3) Ejection (partial or complete) from automobile;
      4) Motor vehicle rolled over with unrestrained occupant(s);
      5) Death in same passenger compartment
   C. Motorcycle crash greater than 20 mph
   D. Auto vs pedestrian/bicyclist thrown, run over, or with significant (greater than 20 mph) impact

   The patient *MUST* be transported to a Level 1, 2, or 3 center for the treatment of trauma in accordance with the catchment area designated. For patients who are injured outside a 50-mile radius from a trauma center, the licensee providing emergency medical care shall call and consider transport to the nearest receiving facility.

Trauma Field Triage Criteria (Cont.)

4. Step 4 – Assess special patients
   A. Older adults
      1) Risk of injury/death increases after age 55 years
      2) SBP less than 110 mm Hg might represent shock after age 65 years
      3) Low impact mechanisms (e.g. ground level falls) might result in severe injury
   B. Children should be triaged preferentially to a trauma center.
   C. Anticoagulants and bleeding disorders: Patients with head injury are at high risk for rapid deterioration.
   D. Burns
      1) Without other trauma mechanisms: transport in accordance with the Burns protocol
      2) With trauma mechanism: follow appropriate catchment guidelines for trauma. Trauma patients with burns falling into St Rose Siena catchment area will be transported to Sunrise Hospital, and those falling in the Mike O'Callaghan catchment area will be transported to UMC Hospital.
   E. Pregnancy greater than 20 weeks
   F. EMS provider judgment

The patient *MUST* be transported to a Level 1, 2, or 3 center for the treatment of trauma in accordance with the catchment area designated. For patients who are injured outside a 50-mile radius from a trauma center, the licensee providing emergency medical care shall call and consider transport to the nearest receiving facility.

The person licensed to provide emergency medical care at the scene of an injury shall transport a patient to a designated center for the treatment of trauma based on the following guidelines:

St. Rose Dominican Hospital - Siena Campus (Level 3 Trauma Center) Catchment Area

All trauma calls that meet Step 3 or in the provider's judgment meet Step 4 of the Trauma Field Triage Criteria Protocol or pediatric Step 4 and occur within the City of Henderson or the geographical area bordered by Interstate 15 to the west and Sunset road to the north, and the county line to the east, are to be transported to St. Rose Hospital – Siena Campus and the medical directions for the treatment of the patient must originate at that center;

Mike O'Callaghan Military Medical Center (Level 3 Trauma Center) Catchment Area

All trauma calls that meet Step 3 or in the provider's judgment meet Step 4 of the Trauma Field Triage Criteria Protocol or pediatric Step 4 and occur within the geographical area bordered by Pecos Road to the west, Interstate 15 to the west/northwest and Lake Mead Blvd to the south, and the county line to the east, are to be transported to Mike O' Callaghan Military Medical Center and the medical directions for the treatment of the patient must originate at that center;

Sunrise Hospital & Medical Center (Level 2 Trauma Center) Catchment Area

All adult trauma calls and pediatric Step 3or 4 trauma calls that meet the Trauma Field Triage Criteria Protocol and occur within the geographical area bordered by Paradise Road to the west, Sahara Avenue to the north, Sunset Road to the south, and the county line to the east, are to be transported to Sunrise Hospital & Medical Center and the medical directions for the treatment of the patient must originate at that center;

In addition, adult trauma calls that meet Step 1 or 2 of the Trauma Field Triage Criteria Protocol and occur within the St. Rose Dominican Hospital – Siena Campus Catchment Area, City of Henderson, or the geographical area bordered by Paradise Road to the west continuing along that portion where it becomes Maryland Parkway, Sunset Road to the north, and the county line to the east, are to be transported to Sunrise Hospital & Medical Center and the medical directions for the treatment of the patient must originate at that center.

Trauma Field Triage Criteria (Cont.)

University Medical Center (Level 1 Trauma Center and Pediatric Level 2 Trauma Center) Catchment Area

All trauma calls that meet the Trauma Field Triage Criteria and occur within any other area of Clark County are to be transported to University Medical Center/Trauma and the medical directions for the treatment of the patient must originate at that center.

All pediatric Step 1 and Step 2 trauma calls that occur within Clark County are to be transported to University Medical Center/Trauma and medical directions for the treatment of the patient must originate at that center.

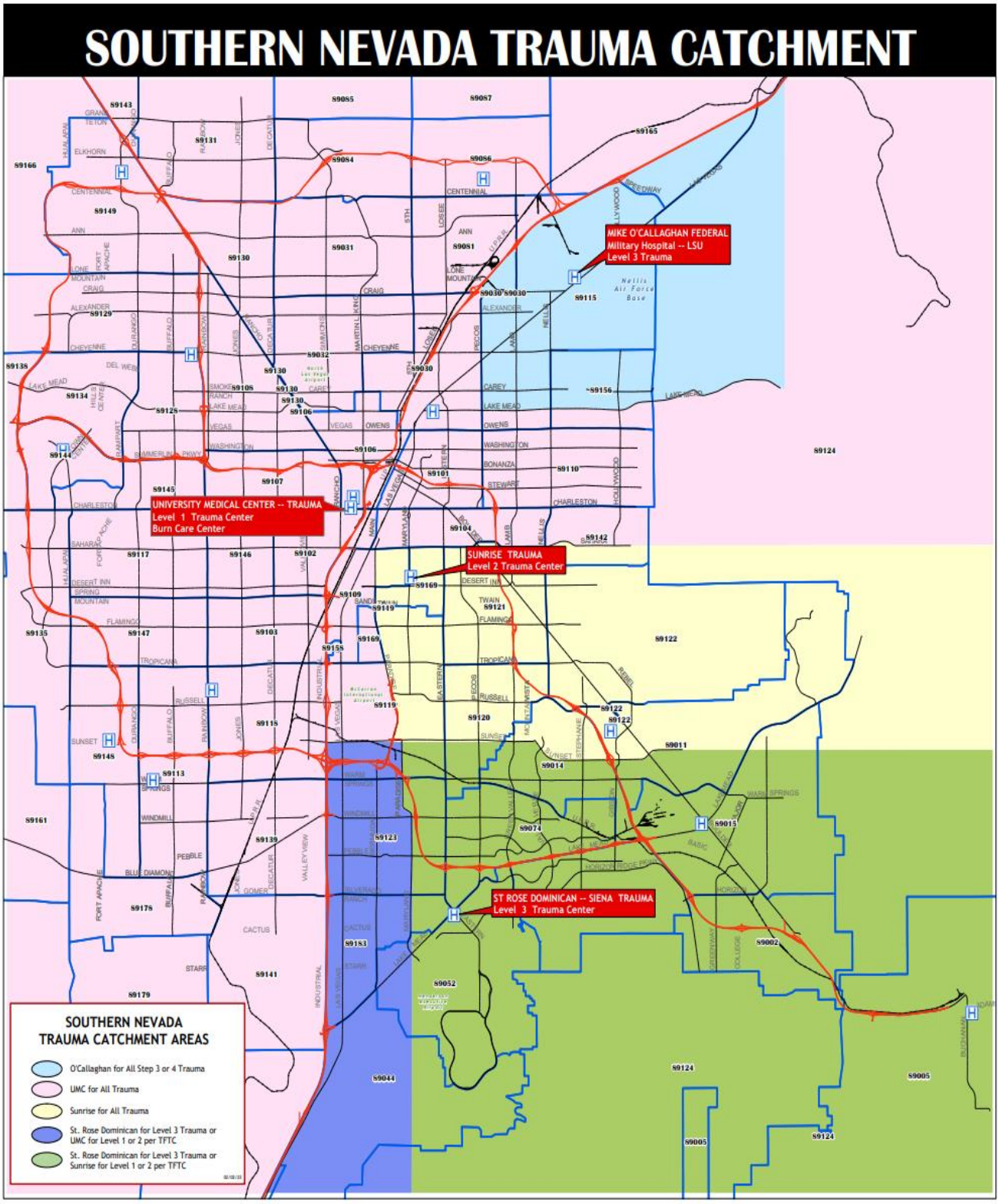
In addition, adult trauma calls that meet Step 1 or 2 of the Trauma Field Triage Criteria Protocol and occur in the geographical area bordered by Paradise road to the east, Sunset Road to the north, Interstate 15 to the west, and the county line to the south, are to be transported to University Medical Center/Trauma and the medical directions for the treatment of the patient must originate at that center.

All trauma calls that meet the Trauma Field Triage Criteria Protocol, regardless of location, that are transported by air ambulance are to be transported to University Medical Center/Trauma and the medical directions for the treatment of the patient must originate at that center.

EXCEPTIONS:

1. Nothing contained within these guidelines precludes transport to any trauma facility if, in the provider's judgment, time to transport to the designated center would be unduly prolonged due to traffic and/or weather conditions and might jeopardize the patient's condition.
2. Additionally, nothing contained within these guidelines precludes transport to the closest facility if, in the provider's judgment, an ability to adequately ventilate the patient might result in increased patient mortality.

Appendix B: Southern Nevada Trauma Catchment Areas



https://www.southernnevadahealthdistrict.org/programs/emergency-medical-services-trauma-system/southern-nevada-trauma-system/