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Model of Multi-Layered Security Zones and Security Strategies for Tourism Security in Samarkand

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Abstract: This article examines a multi-layered tourism security zone model developed for Samarkand, one of the most significant cultural and tourism destinations in Uzbekistan and Central Asia. The study aims to systematize tourism safety management by dividing the city into four interconnected security zones: the historical core, the hotel and service ring, the mass event and festival areas, and transport corridors. Each zone is analyzed according to its specific risk profile, tourist flow characteristics, infrastructure conditions, and security requirements.

The research demonstrates that tourism safety cannot be managed through a single centralized approach, but requires spatially differentiated and risk-based strategies. The historical core is identified as a high-sensitivity heritage and image zone, while the second zone focuses on everyday tourist services and minor risk prevention. The third zone addresses dynamic crowd management during public events, and the fourth zone ensures safety at transport entry and exit points following international aviation and transport security standards.

The study highlights that effective tourism security in Samarkand depends on integrated measures such as technological monitoring, spatial planning, emergency preparedness, and inter-agency cooperation. The proposed model contributes to sustainable tourism development by improving visitor confidence, reducing risks, and strengthening Samarkand's position as a safe international tourism destination.

Keywords: Safety Zone Model, Historic Core Area, Tourism Police, Seasonal Mode, Ring Transfer.

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1. Introduction

Today Samarkand is emerging as one of the largest tourist centers not only in Uzbekistan, but also in Central Asia as a whole. Wealth of ancient monuments, shrines, cultural heritage of the city and the growing tourist flow from year to year, naturally require the security issues to be raised to a new level. And it is in these conditions multi-layer security zone model It provides systematic management of security across the city, proper allocation of resources, reduction of risk potential, and rapid response to emergencies.

2. Materials and Methods

The basic idea of this model is that a stabilization of the overall level of security can be achieved by dividing the areas into several special security zones. Each zone requires a separate approach based on risk levels, population density, tourist activity, and infrastructure complexity. We proposed a 4-layer tourism security system for Samarkand. Below is a detailed detail of each safety zone.

3. Results and Discussion

The historical core of Samarkand — not only the geographical center, but also the cultural, spiritual and image heart of the entire city tourist system — was chosen as the first security zone (Figure 1). The area where Registon Square, Bibi Khanim Mosque, Shah Zinda Complex and Amir Temur Mausoleum are located is one of the largest centers of thousand-year history, the crossroads of civilizations and Islamic and cultural heritage. It is this region that defines Samarkand's international recognition and firmly places the city on the global tourism map.

The historic core area is located in the center of the city, in a space where high-level foot traffic, the flow of pilgrims and tourist activity are concentrated. In this region:

- a. The daily tourist flow is at its peak;
- b. Foreign delegations, official guests and visitors will begin a visit from these places;
- c. Open spaces, narrow historic corridors, and ancient structures are located very close to each other.

This is why the area is considered the most sensitive from a security point of view. Any negative situation that happens here — from petty theft to mass riot or emergency — reverberates not only at the local level, but also on the international information space.



Figure 1. First Security Zone Map

The strategic importance of the first security zone is manifested in:

First, the historic nuclear area includes UNESCO World Heritage sites. In international practice, such objects are considered as "zero-tolerance heritage zones". Because security in these places is directly related not only to human life, but also to the preservation of cultural heritage.

Secondly, the psychological state of tourists in the region will be specific. Tourists in this zone will be more in the following position:

- a. Take pictures;
- b. Watching the environment;
- c. To be lost;
- d. Less attention to personal belongings.

This could turn the historic core into a suitable venue for crimes. In international studies, for example, in Paris, Istanbul, Barcelona, it is in such areas that the incidence of pocket theft, diversion and petty fraud is recorded. Third, the historic nuclear zone is the territory of the state's image. In these places, security officers act as "city ambassadors" rather than ordinary overseers. The experience of the world's major historical and cultural tourism centers shows that the issue of ensuring security at historic cores represents a much broader concept than traditional police control. Security in these areas is not limited to crime prevention, but also includes tasks such as preserving cultural heritage,

improving the tourist experience, strengthening the city's image, and ensuring social stability. In cities such as Rome, Istanbul and Paris, special security models for historical cores have been developed on the basis of this approach.

The historic center of the city of Rome, especially the area around the Colosseum and Forum Romanum, is one of the most complex and most visited heritage areas in Europe[1]. Ensuring security in the area is based on the principle of "heritage-primary security", which means that the main purpose of security measures is to ensure human security while maximizing the preservation of historical heritage.

In Roman practice, the historical core is managed as an informal cultural heritage ring of security. Pedestrian patrols are a regular presence in the area, as narrow historic streets and open spaces are not suitable for car patrols. The main task of foot patrols is not only control, but also direct contact with tourists, provide directions, prevent dangerous situations and eliminate minor conflicts on the spot.

In addition, emergency preparedness is of particular importance in the Istanbul experience. Evacuation corridors in the Sultanahmet area are clearly marked, equipped with visible information signs and are constantly tested. This approach is considered especially important for earthquake-prone areas and can be applied directly to historic cities such as Samarkand.

The historic core of the city of Paris — the surroundings of the Louvre Museum and Notre-Dame Cathedral — is one of the most advanced examples of a multi-layered model in security management[2]. Security in this area is ensured by a combination of open and hidden mechanisms. In Parisian practice, open patrols — that is, the appearance of armed or uniformed personnel — create psychological stability for tourists. At the same time, hidden surveillance and analytical monitoring systems allow you to identify potential threats. In this process, security guards work to identify suspicious behavior, relying on psychological profiling and behavioral analysis. Based on the above, we developed an overall security strategy for the first zone that combined spatial, operational, technological, preventive, and emergency strategies:

1. *Developing a spatial strategy:*

- the safety zone is clearly defined;
- input-exit points are mapped;
- "Hot spots" (hotspots) — identify the busiest places.

2. *Development of an operational strategy:*

- a special Tourism police will be attached only to this zone;
- pedestrian patrols will be prioritized;
- employees are trained in foreign languages and cultural communication.

3. *Development of a technological strategy:*

- installation of high-quality CCTV cameras;
- creation of a real-time monitoring center;
- Enhance evening lighting.

4. *Development of a preventive strategy:*

- the installation of open information signs, for example, "You are in a safe zone";
- installation of directions and information stands for tourists;
- Recruiting volunteer guides and volunteers.

5. *Development of an emergency strategy:*

- development of scenarios for mass evacuation;
- setting medical hotspots;
- developing separate protocols for fire and earthquake situations.

By implementing these 5 strategies, it will be possible to ensure the security of the historical core of Samarkand. The historical core of Samarkand is not just a tourist area, but the embodiment of the memory of the city, the embodiment of national heritage and international prestige[3]. Therefore, the issue of security in this zone should be considered

not only at the level of "maintaining order", but also at the level of strategic management, cultural diplomacy and sustainable tourism policy.

Samarkand's "2nd security zone" can be thought of as the most "vital" layer of the city's tourism system. Because a tourist can take a picture in Registon, but it is in this ring that he "feels" the real experience of the city: he checks into a hotel, eats in a restaurant, enters markets and souvenir shops, uses a taxi, takes money from an ATM, asks for directions on the street, and in the evening he spends time in a café or on the corridors of the promenade. That is why this zone is considered the most sensitive place of tourism security — a "daily contact zone" : it is here that both risks and services are most often exposed[4,5,6].

This zone is usually the area surrounding the historical core (zone 1), which in the example of Samarkand includes:

- a. Hotels and hostels around Registon and King Zinda;
- b. Ciob bazaar, catering points and outlets;
- c. Tour agencies, currency exchange offices, atms;
- d. Streets where taxi and transfer services are concentrated;
- e. Café-restaurants and elements of "night economy" that are crowded in the evening.

In other words, this zone ensures "tourist safety" not only through guarding, but through organizational order, information transparency, communication culture, and petty risk management.

The importance of this zone is that most of the tourist hazards occur here not in the form of "major crimes" but in the form of events with minor but significant representational damage: pocket theft, fraud, unreasonable price increases, unofficial taxi, tourist distraction, nighttime disturbances, sanitation problems, or conflicts in the course of service[7].

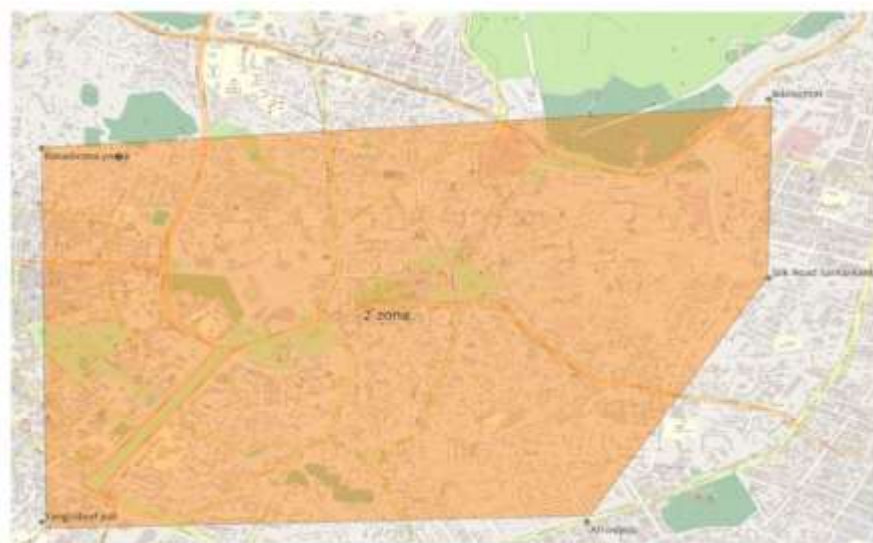


Figure 2. Second Security Zone Map

At the same time, this zone is economically the territory of "cash flow": the circulation of money in restaurant checks, souvenir sales, tour packages, transfers will be very fast. So security here involves not only physical, but also financial security and consumer rights issues. Of the international practical experiences, Dubai's experience is interesting in this aspect that it establishes tourism security as a service across a complete tourist infrastructure, rather than just "street control". The Dubai Police's Tourism Police Division describes its mission as receiving tourist appeals and messages, providing prevention and creating a safe tourist environment together with partners; And as a scope of coverage, it cites tourism facilities such as hotels, parks, markets, shopping centers, heritage sites, beaches[8]. This approach makes the essence of "Zone 2" very clear: security in the service ring means protection, information and rapid assistance at the same time.

Dubai's official tourism platform also provides a "tourist-friendly and prompt appeal" as part of its security model, showing ways for tourists to contact the police (including tourism police channels)[9].

One of the most commonly used approaches in international practice for the service ring is Crime Prevention Through Environmental Design (CPTED), which is to rely on urban environment design and management in crime prevention. The CPTED guidelines state that elements such as lighting, natural surveillance, area control, entry-exit control reduce risk. This works best, for example, at such points as the streets of hotels, the suburbs of the market, the location of ATMs, night pedestrian corridors: the increased lighting and visibility, the less "convenience" for the criminal[10].

The biggest problem in the second zone is often "informality": unofficial taxis, hiding price, tourist distraction. Therefore, the strategy starts with transparency first. In particular, it is important to realize:

- a. The introduction of "minimum security standards" (cameras, lighting, emergency checkout, contact numbers) for hotels and restaurants;
- b. Ensuring license and price transparency for taxis / transfers (fare via qr code);
- c. Organization of "help point" in tourist facilities.

At the same time, patrols in the second zone should not look aggressive: this place is considered a recreation and service area. Therefore, foot patrols should be placed in the zone, which should serve as assistance to tourists. At the same time, in the zone security strategy, the following are important:

- a. Lighting dark corridors;
- b. To deploy cameras for "analytical observation", and not for "open intimidation";
- c. Increase the visibility of atms, parking lots and busy spots;
- d. Increasing the signs in the area around the market and in tourist streets.

It is also important to develop a very simple but effective information system for tourists, Including installing signs such as "Take care of your belongings in crowded places" (3 languages), "Official taxi sign" and "Beware of unofficial taxi", "Complaint / helpline" stickers (at hotel reception, restaurants, market exit) will help to form the right environment.

In the second zone, while the problem is often "minor," it quickly becomes "big" on social media. Therefore, in the IIB system:

- a. Introduction of a system for receiving tourist complaints in 15-30 minutes;
- b. The formation of an "operational communication group" of the hotel, police and tourism department;
- c. Creation of a center for lost items;
- d. In the event of an accident, it is important to develop a protocol to "not leave the guest alone with the problem."

The third security zone of Samarkand — the area for mass events and holidays — is the most dynamic and changing space in the tourism security system. If the historic core (Zone 1) is a permanent and relatively stable area, the hotel and service ring (Zone 2) is an area of daily tourist life, while Zone 3 is characterized by short-term but very high-intensity activities. In this area, security requirements increase dramatically in a short period of time, and places that would normally be safe can escalate into a high-risk space in a matter of hours.

Security Zone 3 in Samarkand city generally covers the following areas (Figure 3):

- open areas where Navruz, Independence, cultural and sports events are held;
- Extended area of Registon Square and adjacent open spaces;
- Youth Square and places for city walks;
- territories where temporary stages, fairs, exhibitions are held.

The main feature of this zone is that it relies not on permanent infrastructure, but on temporary structures (stages, grids, entrance-exit points, shopping floors). Therefore, the

behavior and flow of the crowd becomes a more important factor in safety planning than the "place itself[12]."

The public event area is the space where the greatest concentration of risks arises in tourism security. International studies show that in places where a significant number of people are concentrated, the risk increases sharply in the following areas:

- a. Crowd pressure and compression;
- b. The spread of panic and misinformation;
- c. Petty crimes (pocket theft, robbery);
- d. Fire and technical breakdowns;
- e. Complications of emergency evacuation.

In addition, public events are a "double-edged sword" for the image of the city: a successful festival makes Samarkand look positive on the international stage, but even a small security incident can cause a wide information resonance. For this reason, the third zone is often assessed as a reputative risk zone. The area of public events and holidays is the most sensitive, but most visible part of the Samarkand tourism system. It is in this zone that the city can present itself in a modern, safe and professional way or, conversely, suffer huge reputative losses through small mistakes.

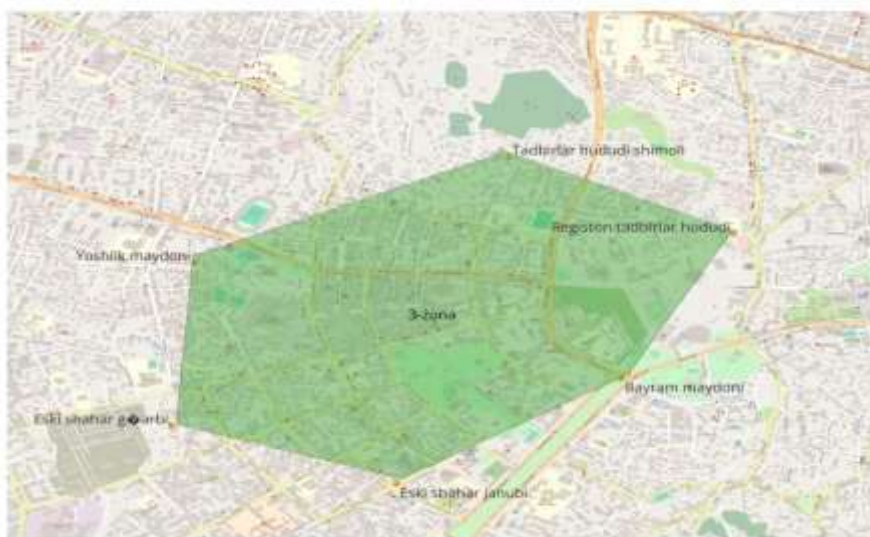


Figure 3. Third Security Zone Map

International experience proves that third-zone security is most sustainable when it is provided through planning, layered management, information and cooperation, rather than force-based control.

From our side, the following strategy for ensuring security in the third zone was proposed:

1. Advance planning and zoning

For each large event, the area is temporarily divided into subzones, such as:

- outer perimeter (traffic and flow regulation);
- the main event area;
- emergency evacuation corridors.

This zoning is pre-mapped using GIS tools and distributed to all services.

2. Develop a flow and crowd management strategy:

- limitation and direction of entry-exit points;
- monitoring of crowd density in real time;
- Placing stage and sales venues so that the crowd naturally disperses.

3. Implement security that is visible but does not cause panic:

Security forces in the third zone should not appear overly aggressive. The experience of London and Munich shows that visible but service-oriented patrols instill confidence among people and reduce panic.

4. Volunteers and introduction of the information system:

– Creating conditions for orientation and information of tourists by specially trained volunteers;

- installation of multilingual signs and announcements;

-to start the operational information transmission system in case of emergency.

5. Emergency preparedness checks:

-develop scenarios for a fire, compaction or sudden change in weather;

-definition and organization of medical aid points;

-Plan for the "spread phase" after the event ends.

By doing the above, it is possible to achieve enhanced and stable operation of the security system in the third zone.

The fourth security zone of Samarkand is the "vein roads" of the city's tourism system: it is through these corridors that a tourist enters the city, reaches the historical core, goes to a hotel, and then leaves the city through these corridors. Therefore, this zone is not just a simple transport infrastructure, but a space that creates the first and last impression of the destination, as well as where the risks occur the most. For a tourist, the queue at the airport, the chaos at the train station, fraud on the way or not finding directions - all this forms the assessment of Samarkand, even without visiting historical monuments. The peculiarity of this zone is that, while it is a "permanent training ground", the danger is dynamic: a problem can move from one point to another (for example, fraud at the train station → the wrong taxi → loss of documents / phone on the way).

Zone 4 is considered to consist of two layers (Figure 4):

1. Transport nodes: airport, railway station, bus station, large taxi/transfer collection points.

2. Corridors of connection **include** airport-center, station-center, major highways and highways through which many tourists travel.

As an important component of the Fourth Zone, airport and air travel security are governed by rigorous standards at the international level. Annex 17 of the International Aviation Organization (ICAO) requires countries to establish a national aviation security program, establish a continuous threat assessment, develop airport security programs, and establish a training system. Airports and train stations strongly affect "crowds", "infrastructure", "reputation": a single problem (for example, poor navigation or a dark exit corridor), even if it seems small, can lead to the conclusion "I did not feel safe" for a tourist.



Figure 4. Fourth Security Zone Map

The Airports Council International (ACI) organization states that perimeter protection in airport security is a combination of multi-layered processes, procedures, and

technologies, with layers together that give a "prevent + detect" effect, even if it is not a perfect system[13]. This approach is not only "one measure only" for Samarkand Airport, but also the need to bring access control, surveillance, personnel inspection, zoning, and operational cooperation into one system.

The above is set out in Appendix 17 of ICAO for risk assessment and the development of adaptive measures accordingly. States should constantly review threat levels and update their security programs accordingly[14]. This application substantiates the idea of developing differentiated protocols for zone 4 in Samarkand in terms of "seasonal mode" (festival/high season) and "normal mode" (low season).

UN Tourism's (formerly UNWTO) Guide to Tourist Safety and Security: Practical Measures for Destinations looks at safety in terms of planning, practical measures and destination management at the national and local levels[15]. It underscores that managing transport nodes as part of the tourism experience chain is a matter of destination management, "not just a police issue."

Based on the above, we have proposed the following security strategies for the fourth zone of Samarkand:

1) *"Gate" standards: introduction of a minimum security package at the airport/train station/bus station. This zone starts at the transport nodes. Therefore, the same, minimum standards must work at each transport node:*

- lighting + visibility + cameras (for crime prevention and prompt evidence);
- precise navigation (Uzbek/English/Russian): exit, taxi, transfer, bus, directions to the city center;

- Help Desk / Hotline: so that a tourist can quickly contact in case of a lost item, document, fraud or health problem;

- separation of official transport: official taxi/transfer place, fare transparency (prices with QR codes) – this will reduce the risks of "unofficial service" in the second zone at the transport gate.

2) *"Corridor control": introduction of enhanced control in certain areas on airport-center and station-center routes. Not always every meter along the lane can be controlled. Therefore:*

- points where there is a high risk (intersections, parking lots, dark corridors) are designated as hotspots;

- lighting, camera, patrol are planned at these points;

- an enhanced regime is used during the peak of tourist flow (evening flights, festival days).

3) *Railway safety. Measures on railway stations and railways will be specially strengthened:*

- establish visible patrols on the platform and waiting rooms;

- regulation of baggage / passenger flow (at busy times);

- Suspicious packet protocol and the designation of emergency evacuation routes.

4) *Aviation Security: Introduce "risk-based" governance that is consistent with ICAO logic. The strategy for the airport part would be a logical "translation" of the requirements of ICAO Annex 17:*

- coordination with the airport security program and partner entities (operators, services);

- develop ongoing training and certification directions for employees;

- Adapting control measures depending on the threat / risk assessment results.

5) *Develop a "First aid + repatriation" protocol. Problems with transport often require "speed": lost passport, delayed flight, wrong taxi. So that:*

- Level 1 response (information and guidance),

- Level 2 response (receiving a formal complaint),

- A simplified chain works, such as a Level 3 response (Rapid Team/Ambulance/Police).

If the first zone is the "historical heart" of Samarkand, the fourth zone is its "breathing passages". International practice shows that the most effective model at transport nodes and corridors is multi-layered, risk-based and service-integrated security.

The foregoing experiences contribute to ensuring that Samarkand remains an attractive place of tourist attractions and ensures the overall safety of the city.

Below we have provided a location map of the 4 zones for the city of Samarkand (Figure 5).

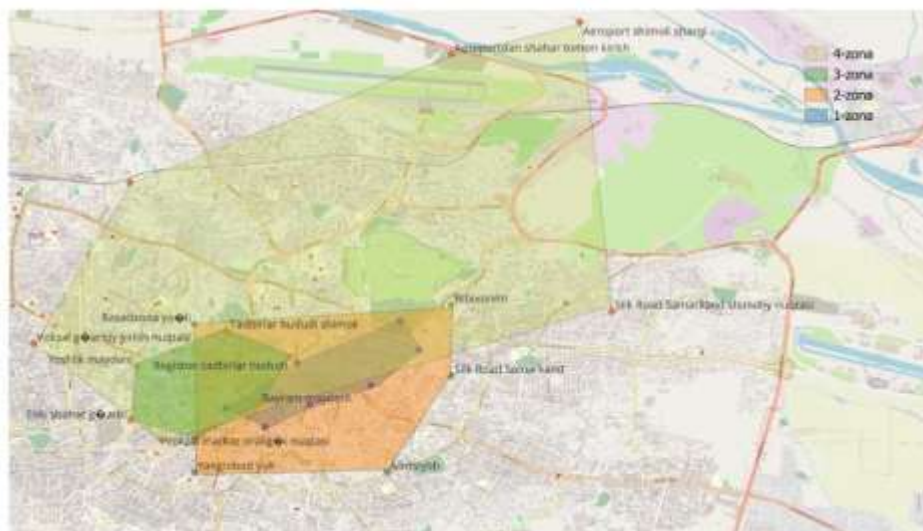


Figure 5. Tourism safety zones in Samarkand

4. Conclusion

The multi-layered model of tourism security developed in this study considers the city of Samarkand as a single, complex and interconnected tourism system. The basic idea of the model is that tourism safety is not limited to a single object or one zone, but encompasses the entire tourist experience - from entering the city, to sightseeing historical monuments, using daily services, participating in public events and leaving the city. In this context, the territory of Samarkand has been divided into four interdependent security zones, and for each zone a separate but corresponding approach to a common strategy has been proposed.

The first security zone — the historical core area — was assessed as the center of Samarkand's cultural memory and international tourism brand. It has been shown that the issue of security in this zone is not limited to physical protection, but is inextricably linked with the preservation of cultural heritage, ensuring the psychological peace of tourists and strengthening the image of the city.

The second security zone — the hotel and service ring — was interpreted as a layer of tourism security directly connected with everyday life. It is in this zone that the tourist enters into the most dialogue, moves the most, and at the same time faces small but reputedly significant risks.

The third security zone — the area of mass events and holidays — was defined as the most dynamic and high-risk layer of tourism security. A key feature of this zone is transient infrastructure and high people density, and security concerns can escalate dramatically in a short period of time.

The fourth security zone — traffic corridors and entry-exit gates — was seen as the main "connecting ring" that unites the entire tourist system. The airport, railway station and the corridors connecting them with the city center form the first and last impression for a tourist. Therefore, security in this zone should be organized on the basis of a multi-layered and risk-based approach in accordance with international standards.

In general, this four-zone model makes it possible to form the security of tourism in Samarkand not as a set of fragmentary measures, but as a single, integrated and spatially logically structured system. The zones work as complementary rather than mutually independent mechanisms: safety in transportation builds trust in the historic core,

arrangement in the service ring ensures stability at public events, while a positive experience in a historic area increases the overall value of the entire trip. As a result, the proposed multi-layered tourism security model for Samarkand will serve not only to reduce existing risks, but also to strengthen the city in the international arena as a safe, convenient and sustainable tourist destination. This model does not interpret safety as a limiting factor, but as a quality tourism experience and an important component of sustainable development.

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