TCP faces the following major issues in ad hoc wireless networks.

1. Multipath routing
2. Asymmetric link behaviour
3. Path length impact
4. Frequent path breaks
5. Use of sliding window based transmission
6. Packet loss misinterpretation
7. Congestion window misinterpretation
8. Uni-directional path
9. Partitioning and remerging of networks.

1. **Multipath Routing**

Qos routing protocols use multiple paths that exists between a source and destination pair. Multipath routing offers several advantages such as enhanced security, high call acceptance ratio, high resistance to path breaks and reduction in route completing time. However, these advantages may reduce network throughput, generate out-of-order data packets, consume more power and bandwidth. Further, congestion control may become difficult due to duplicate acknowledgments.

2. **Asymmetric Link Behaviour**

Ad hoc wireless networks use radio channels which are location-dependent. These radio channel may effect on propagation and directional properties leads to asymmetric links. In certain circumstances, a bi-directional link may become uni-directional for a short period. Further, the directional link can deliver data packets but doesn't send acknowledgment to the sender. This may result in duplicate packets which can cause congestion.

3. **Path Length Impact**

The throughput of TCP is directly dependent on the length of path. The shorter is the path, the better is the throughput. The possibility of path breaking increases when its length increases. Frequent path breaks results in low performance of overall network.

4. **Frequent Path Breaks**

Ad hoc wireless networks are inherently mobile in nature. The topology changes frequently as a result a route to a destination may need to be recomputed frequently. The broken path need to be reestablished which consumes time and it is dependent on nature of routing protocol and traffic load of the network. Further, if reestablishment exceeds RTO period of TCP sender, then the sender retransmits packets assuming that the earlier packets were lost. This retransmission degrades network performance. In addition to this, when a new route is established, the TCP throughput remains low.

5. **Use of Sliding Window Based Transmission**

Transmission of data packets is dependent on the window size and acknowledgments received from a destination. One acknowledgment is received, more packets are transmitted. This enables to use single fine-grained timers for each TCP flow. It also improves scalability of the networks. However, sliding window can result in low performance due to unfairness in TCP acknowledgment packets. Further, inefficient use of bandwidth can also result.