I. IDENTITY AND INTEREST OF AMICUS CURIAE

The Defender Initiative, at the Korematsu Center for Law and Equality of Seattle University, works to improve public representation for those facing possible incarceration and to ensure that their legal rights are vigorously protected.

The Defender Initiative has a particular interest in the provision of effective representation for appellants challenging the fairness of their conviction. This case presents issues relating to a trial court's interpretation of RCW 46.61.502 in a vehicular homicide case involving alleged driving under the influence of marijuana. There is no accepted scientific standard regarding what constitutes impairment when under the influence of marijuana. The pro se defendant's briefing on sufficiency of the evidence can be complemented by the brief herein, which includes an analysis of the trial record and a discussion of scientific research, some of which has been published since the trial herein. The Defender Initiative does not, in this brief or otherwise, represent the official views of Seattle University or its School of Law.

II. ISSUES TO BE ADDRESSED BY AMICUS

A. Whether the testimony about impairment from smoking marijuana by a toxicologist who admitted that the scientific community has not yet accepted a specific THC level that indicates impairment and who used the words "likely," "most likely," and "potential to cause impairment," and the testimony by a police officer who testified that X's eyes were watery and bloodshot, provided sufficient evidence for a conviction of vehicular homicide and vehicular assault.

1. X was convicted of vehicular homicide [RCW 46.61.520] based on the "affected by . . . any drug" portion of RCW 46.61.502.[1] The toxicologist's opinion about the import of the blood test was the major evidence relied on by the trial court in determining that X had smoked marijuana between an hour and a half and two hours before the accident. Based on that finding, the court concluded that he was impaired and that he was guilty of both vehicular homicide and

[1] **RCW 46.61.502** Driving under the influence.
(1) A person is guilty of driving while under the influence of intoxicating liquor or any drug if the person drives a vehicle within this state:
(a) And the person has, within two hours after driving, an alcohol concentration of 0.08 or higher as shown by analysis of the person's breath or blood made under RCW 46.61.506; or
(b) While the person is under the influence of or affected by intoxicating liquor or any drug; or
(c) While the person is under the combined influence of or affected by intoxicating liquor and any drug.

vehicular assault. The toxicologist's opinion, however, was speculative and inconsistent with scientific research.

2. Although X has now challenged the evidence as insufficient, in part because there is not a scientific consensus on at what level of marijuana consumption a driver would be impaired, the state has argued that the findings of fact supporting the conclusion of law and verdict are "verities on appeal" (Resp. Br. 12), precluding X from making this challenge. (Resp. Br. 13). But **"**Conclusional findings reached on an erroneous basis, and not supported by substantial evidence, are not binding on appeal." Nord v. Eastside Ass'n Ltd., 34 Wn. App. 796, 798, 664 P.2d 4 (1983). The findings of fact were based on questionable testimony concerning the interpretation of blood tests.

III. STATEMENT OF THE CASE

In 2---, X was driving in Seattle with Y in in his passenger seat. RP 10-17, 2. X was traveling westbound on Orchard Street. RP 10-17, 2. He stopped the car at an intersection when the traffic light turned red. RP 10-10, 75. There are conflicting accounts of what happened next. X and another witness asserted that he proceeded into the intersection after the

light turned green, while other witnesses asserted that X drove into the intersection when the light was still red. RP 10-09, 60; RP 10-10, 75; RP 10-15, 89. When X proceeded into the intersection, he collided with a van that was traveling southbound. RP 10-10, 76. Y died as a result of the collision. RP 10-9, 63.

Police found marijuana in X's car, and X admitted to smoking marijuana the evening before the accident. RP 10-9, 41, 47.

At around 1:00 p.m., Officer Jongma, a drug recognition expert, saw X at Harborview Hospital. RP I0-9, 14-15. X was on his back in a bed in a neck collar. RP 10-9, 14. X responded appropriately to questions. RP 10-9, 16-17. Officer Jongma was unable to conclude whether the defendant was under the influence of any substance. RP 10-10, at 4.

Soon afterwards, Officer M went to the hospital and saw X on his back in a bed in a neck collar. RP I0-9, 38-41. X had watery, bloodshot eyes, which the officer testified is "one of many signs that a person has been using marijuana." RP I0-9, 42. The officer testified that X told him he had used marijuana the previous night. RP I0-9, 47. The officer also testified that other reasons besides smoking marijuana could cause watery, bloodshot eyes. RP 10-15, 35.

Officer went to the hospital at 6:57 p.m. to place X in custody. RP 10-9, 21. X was in the emergency room. RP 10-9, 21. He was cooperative with the officers. RP I0-9, 22-23.

X was given valium and morphine at the hospital before his blood was drawn. RP 10-15, 18. X's blood was drawn at 1:38 p.m. RP 10-15, 30. The defense unsuccessfully sought to exclude evidence from the blood draw. RP 10-9, 61-62 , 10-10, 10-12. Forensic toxicologist Justin Knoy testified that he found Mr. Xs THC concentration level to be at 1.6 nanograms per milliliter. There was carboxy THC of 16.6 nanograms per milliliter. RP 10-15, 50.

Forensic toxicologist Knoy testified: "So once an individual smokes marijuana, they initially have a very high concentration of THC, but then it rapidly dissipates to a very low level in the bloodstream as it goes into tissues." RP 10-15, 55.

The toxicologist testified that he could not determine a specific value of what the blood level would have been an hour and forty minutes before the blood draw. RP 10-15, 61. He said he could estimate it, however, and that in this case, "it would have been upwards of four to five nanograms at the least, at a minimum, depending on when they actually smoked." RP 10-15, 61-62. He also said that the scientific community has not yet accepted a specific THC level that indicates impairment, though it

was coming to an agreement that 2-5ng/mL indicated impairment. RP 10-15, 61.[2]

The toxicologist further testified that, based on the level of THC in the blood sample, X "most likely" had smoked marijuana three or four hours before the 1:30 p.m. blood draw. RP 10-15, 57. Additionally, he stated that "Studies have shown . . . that an individual would be impaired for several hours post smoking." Id. He also testified that there are no accepted medical practices for use of marijuana. RP 10-15, 57-58. He testified:

> Q. So that's just independent research into marijuana impairment and that people with two to—I am sorry, what was it?
> A. Between two and five nanograms per milliliter.
> Q. That those folks are all impaired from the marijuana that they have ingested?
> A. It's not out there, but that is the research that is being led to, yes.
> Q. If the defendant has a THC level of 1.6 nanograms an hour and 40 minutes after his driving, is there any way for you to determine the levels of THC that he would have had an hour and 40 minutes before the blood draw?
> A. Not a specific value. I could estimate what it could have been.

RP 10-15, 57. Mr. Knoy qualified his answer on cross-examination by saying that there was only "potential" for impairment based on the blood levels he found. RP 10-15, 76.

[2] X's defense counsel did not object to the testimony. There was no hearing on the admissibility of the toxicologist's conclusions. Frye v. United States, 293 F. 1013 (App. D.C. 1923).

Mr. Knoy testified that he was unfamiliar with the specific models of research relating to the calculation of the time of ingestion of marijuana "based on what is found" in the blood. RP 10-15, 71. While he testified that there "is recent research that shows levels of two to five nanograms per milliliter to be correlated with impairment," he admitted that that research has not led to scientifically accepted conclusions. RP 10-15, 72-73.

As the Court of Appeals noted, the toxicologist admitted that he could not say with certainty what the actual THC level was at the time of the collision.

X was charged in King County Superior Court with Vehicular Homicide and Vehicular Assault. The information charged:

> That the defendant . . . in King County, Washington, on or about October 16, 2006, did drive a motor vehicle which proximately caused injury to [decedent], a person who died within three years on or about October 16, 2006, as a proximate result of the injury; and that at said time the defendant was operating the vehicle (a) while under the influence of intoxicating liquor, or any drug as defined in RCW 46.61.502 and (b) in a reckless manner and (c) with disregard for the safety of others.

X was convicted and sentenced to 195 months in prison. The court imposed a high-end standard range sentence for vehicular homicide and vehicular assault. The sentence included a mandatory 24-month enhancement under RCW 46.61.520(2) based on a prior conviction for reckless driving that was originally charged as a DUI. The convictions

were affirmed on appeal, and the final mandate was issued on November 18, 2009. X filed a personal restraint petition with the Court of Appeals in May of 2010, which was dismissed on November 17, 2010. On May 27, 2010, the Court of Appeals had ruled that "Petitioner's request for appointment of counsel is premature." Clerk letter to counsel, May 27, 2010. X filed a second personal restraint petition with the state Supreme Court on April 19, 2011.

IV. ARGUMENT

I. X's restraint is unlawful.

A. The evidence introduced at trial was insufficient to support the conviction of vehicular manslaughter and vehicular assault.

The trial court relied heavily on the testimony of a toxicologist whose opinions were equivocal and questionable. As a result, the court's verdict relied on insufficient evidence. As the National Research Council of the National Academy of Sciences has written:

> . . . in some cases, substantive information and testimony based on faulty forensic science analyses may have contributed to wrongful convictions of innocent people. This fact has demonstrated the potential danger of giving undue weight to evidence and testimony derived from imperfect testing and analysis. Moreover, imprecise or exaggerated expert testimony has sometimes contributed to the admission of erroneous or misleading evidence.

Strengthening Forensic Science in the United States: A Path Forward, 4 (2009).

In Washington state, a person can be found guilty of driving while under the influence if the driver has an alcohol concentration of 0.08 or higher within two hours after driving (the per se prong) or if the driver "is under the influence of or affected by intoxicating liquor or any drug" (the under the influence prong). RCW 46.61.502. There is no per se limit for marijuana, so to be found guilty of driving while under the influence of marijuana, it must be established that the driver was under the influence of or affected by marijuana. Id.[3] Because there was insufficient evidence to conclude that X's ability to handle his vehicle was lessened to an appreciable degree by marijuana, his continued restraint is unlawful.

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[3] The Michigan Supreme Court recently vacated a conviction for failing to stop at the scene of an accident that resulted in death, MCL 257.617(3), operating while intoxicated (OWI), second offense, MCL 257.625(1), and operating a motor vehicle with the presence of a schedule 1 controlled substance in his body, causing death, MCL 257.625(4) and (8). People v. Feezel , 486 Mich. 184, 187-188 (Mich. 2010). The defendant had 6 nanograms of 11-carboxy-tetrahydrocannabinol (11-carboxy-THC) per milliliter in his blood. The court held that the 11- carboxy -THC was not a schedule 1 controlled substance and that the defendant could not be prosecuted under the statute for having it in his blood while driving. The Michigan statute prohibited operating a vehicle with any amount in the body of a controlled substance listed in schedule 1 under section 7212 of the public health code, 1978 PA 368, MCL 333.7212. This is markedly different than the Washington law, which requires proof of being under the influence or affected by the drug. The Court discussed the Michigan medical marijuana law and noted that, as 11-carboxy-THC could remain in a person's blood for a long period after the THC is gone, a person who had used marijuana for medical purposes a long period before driving could still be prosecuted if the court permitted prosecution for having any amount of 11-carboxy-THC in the blood. The court found that that would permit arbitrary and discriminatory enforcement. People v. Feezel, 486 Mich. 184, 215.

The trial judge concluded that X was "impaired by his consumption of marijuana," RP 10-17, 4, and that the toxicologist's "testimony provides a basis for the court to find that the consumption adversely impairs a person's ability to perform complex, divided attention tasks involved in driving." RP 10-17, 4. These conclusions were not supported by the testimony and are somewhat at odds with the scientific literature.[4]

In fact, the toxicologist testified that there was no scientific consensus on the level of marijuana in the blood that could be related to impairment. And the trial judge's conclusion did not address the recognition in the law that a person may have consumed drugs and not be under their influence. State v. Hurd, 5 Wn.2d 308, 316 (1940). [5] And the "drug recognition expert" who saw X at the hospital was unable to

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[4] In Developing Science-Based Per Se Limits for Driving under the Influence of Cannabis (DUIC) (2005) at 6, available at http://www.canorml.org/healthfacts/DUICreport.2005.pdf
the authors note**:**

> Low doses of alcohol impair complex driving functions most and automatic functions least. In contrast, at THC serum concentrations of about 5 ng/mL, THC affects highly automated driving functions such as tracking performance most, while more complex driving tasks that require conscious control (e.g., overtaking, interpretation and anticipation of traffic) are less affected. This may explain why drivers under the influence of cannabis in driving studies generally show more awareness of their impairment than drivers on alcohol and are able to make the correct response if given a warning. However, where events are unexpected such compensation is not always possible.

[5] The WPIC 92.10 reads in part: "The law recognizes that a person may have consumed [intoxicating liquor] [or] [drugs] and yet not be under the influence of it."

conclude whether the defendant was under the influence of any substance. RP 10-10, 4.

The toxicologist also testified that there is no medical use for marijuana, despite the state law recognizing that there is. Under the Washington State Medical Use of Marijuana Act (MUMA), qualified patients are permitted to engage in the medical use of marijuana. RCW 69.51A.005. Washington has recognized this appropriate medical use since Initiative Measure No. 692 was approved November 3, 1998. While medical marijuana use was not an issue at trial, the toxicologist's testimony on this point cast additional doubt on his expertise.

This Court's review of the sufficiency of the evidence to support the trial judge's conclusions can be informed by a discussion of the research documenting both the lack of consensus within the scientific community as to what THC level constitutes impairment, as recognized by toxicologist Justin Knoy, and the differences between calculating alcohol and marijuana impairment by blood level.

Quantifying drug impairment by blood test results of a specific drug concentration is difficult because people vary in their response to drugs, and in their tolerance. 5 Modern Scientific Evidence: The Law and the Science of Expert Testimony § 42:55 Interpretation—Drugs and driving cases, David L. Faigman, David H. Kaye, Michael J. Saks, Joseph Sanders (2009), cited at 32 Wash. Prac., Wash. DUI Practice Manual § 3:5

(2011-12 ed.). In addition, THC blood concentration itself is dependent on pattern of use as well as dose. Fiona Couper and Barry K. Logan, National Highway Traffic Safety Administration, Drugs and Human Performance Fact Sheets (DOT HS 809 725) (2004) at 8. According to a recent study by researchers at the Yale School of Medicine, it is "much harder to generate blood level versus impairment curves for marijuana than it is for alcohol." R. A Sewell, MD, J Poling, PhD, and M Sofuoglu, MD, PhD. The Effect of Cannabis Compared with Alcohol on Driving. Am J. Addict. 2009; 18(3): 185–193, *available at* http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2722956/pdf/nihms115730.pdf at 6. The authors noted, of particular relevance to the facts in this case, that experimental studies have shown that functional impairment reaches a maximum an hour after smoking. Id. In this case, the toxicologist testified as to his opinion that X smoked marijuana three to four hours before blood draw, which would have been an hour and twenty minutes to two hours and twenty minutes before the accident. RP 10-15, 72.

The researchers also pointed out that alcohol levels "are easier to back-calculate to the time of the accident, and are consistently linked with increased culpability in crashes." Id. The authors added:

> What 5 ng/mL means in terms of actual impairment is hard to calculate, as THC levels in the blood peak quickly following inhalation then decrease rapidly according to complex

> pharmacokinetics, making it almost impossible to extrapolate backwards from the concentration of THC at the time of the blood test to the concentration at the time of the traffic accident. [Emphasis added.]

Id. They noted a Swiss study of 440 DUI suspects who were positive for only THC, where researchers found average blood concentrations of 5.0 ng/mL at the time of testing, "indicating that a residual level of 5 ng/mL does appear to correlate with observable driving impairment earlier." Id. But the 5 ng/ml level was at the time of testing, and X's level at the time of testing was only 1.6 ng/ml.

The authors noted that some studies suggest that low concentrations of THC "may even decrease" the rate of accidents. They noted that "serum concentrations of THC higher than 5 ng/mL are associated with an increased risk of accidents." Id. at 8. In this case, the toxicologist testified that he could only estimate X's THC level at the time of driving

The State used his THC level of 1.6 ng/mL from the test one hour and forty minutes after the accident. This THC level was used as evidence that X was under the influence of marijuana despite the fact that RCW 46.61.502(1)(b) does not provide what THC level indicates impairment, and it is difficult to "back-calculate" THC concentration levels at the time of the accident, *See* R. A Sewell, MD, J Poling, PhD, and M Sofuoglu, MD, PhD. The Effect of Cannabis Compared with Alcohol on Driving.

Am J. Addict., 18(3): 185-193 (2010). Unlike for alcohol, there is not a per se THC concentration blood level that indicates that a driver is under the influence.

> The most meaningful recent culpability studies indicate that drivers with THC concentrations in whole blood of less than 5 ng/mL have a crash risk no higher than that of drug-free users. The crash risk apparently begins to exceed that of sober drivers as THC concentrations in whole blood reach 5–10 ng/mL (corresponding to about 10–20 ng/mL in blood serum or plasma). Because recent studies involved only a few drivers with THC concentrations in that critical range, a reliable assessment of the associated crash risk is still lacking.

Franjo Grotenhermen & Gero Leson, Developing Science-Based Per Se Limits for Driving Under the Influence of Cannabis (DUIC): Findings and Recommendations by an Expert Panel, 5 (2005).

> Comparison with the results of a meta-analysis on alcohol and driving suggests that a THC concentration in serum of about 4 ng/mL, caused by smoking or oral use of cannabis, is associated with the same overall performance impairment as a blood alcohol content (BAC) of 0.04% (percent by weight). In a similar sense, a BAC of 0.08% corresponds approximately to a THC concentration in serum of 9–10 ng/mL.
> Id., at 6.

The same lead author reported the suggestion of an international panel:

> The panel suggested consideration, on a preliminary basis, that a per se limit of a serum THC concentration of 7–10 ng/ml might cause impairment comparable to a BAC of 0.05% of driving-related skills; the panel also suggested that using a "zero limit for legal determination of impairment by cannabis … would classify inaccurately many drivers as driving under influence of, and being impaired by, the use of cannabis."

Franjo Grotenhermen, et al., Society for the Study of Addiction, Developing Limits for Driving Under Cannabis, (2007), 102 Addiction 1916, cited in 32 Wash. Prac., Wash. DUI Practice Manual § 3:5 (2011-12 ed.).

The evidence did not support a conclusion that X was impaired by marijuana at the time of the accident.

To challenge the sufficiency of evidence, a defendant must prove that, after viewing the evidence in a light most favorable to the State, a rational trier of fact could not have found the essential elements of the statute with which the defendant was convicted to have been proved beyond a reasonable doubt. State v. Green, 94 Wn.2d 216, 221-222 (1980).

X was charged under RCW 46.61.520 with

> operating the vehicle (a) while under the influence of intoxicating liquor, or any drug as defined in RCW 46.61.502 and (b) in a reckless manner and (c) with disregard for the safety of others.
> 2007 WL 4426174.

Following a bench trial, X was found to have been operating his vehicle while under the influence of marijuana at the time of the accident, which, according to the judge, constituted recklessness and disregard for the safety of others. RP 11-09, at 2. Because the court linked the conclusion that X was driving in a reckless manner and with disregard for the safety of others to the conclusion that X was impaired by marijuana,

the insufficiency of the evidence of impairment undermines the conclusion that he operated his vehicle in a reckless manner and with disregard for the safety of others. RCW 46.61.520.

Evidence is insufficient to prove that X was under the influence of marijuana at the time of the accident because the evidence was not sufficient for a fact finder to infer that his ability to handle his automobile was lessened by an appreciable degree by the drug. State v. Wilhelm, 78 Wn.App. 188, 193 (1995). At trial, State Toxicologist Knoy testified that X smoked marijuana within 3-4 hours of the blood draw (based on X's 1.6ng/mL THC concentration), estimated that X's THC concentration was 4-5 ng/mL at the time of the accident, and said that 4-5 ng/mL has the "potential to cause impairment." RP 10-15, 56, 76. In the written findings of fact and conclusions of law, the judge concluded that X was under the influence of marijuana at the time of the accident because 1) based on non-active carboxy-THC levels, X was an infrequent user and would have been more affected; 2) based on X's THC level, which was measured one hour and forty minutes after the accident, he smoked marijuana an hour and a half to two hours before the accident; 3) marijuana impairs driving; 4) X's eyes were watery when his blood was drawn; and 5) running a red light and "failing to take evasive action" demonstrated impairment. RP 10-17, 1-7.

Mr. Knoy's testimony did not support these findings and conclusions by the court. As he admitted, he could only make an estimate of the blood level at the time of the accident. His estimations lacked a sufficient basis; there is no consensus within the scientific community as to how to back-calculate THC concentration levels at the time of an accident. Longo MC, Hunter CE, Lokan RJ, White JM, White MA, *The prevalence of alcohol, cannabinoids, benzodiazepines and stimulants amongst injured drivers and their role in driver culpability, Part II: The relationship between drug prevalence and drug concentration, and driver culpability*, ACCID. ANALPREV. Sep:32 (5) (2000). Further, there is a lack of scientific consensus as to what extent smoking marijuana impairs driving. *See, e.g.,* H. Robbe and J. O'Hanlon, National Highway Traffic Safety Administration, Marijuana and Actual Driving Performance, (DOT HS 808 078) (1993); Simpson HM, Mayhew DR, Warren RA. Epidemiology of Road Accidents Involving Young Adults: Alcohol, Drugs and Other Factors. *Drug Alcohol Depend.* 1982 Sep;10(1):35–63.

Had X's trial counsel objected to Mr. Knoy's testimony about impairment under Frye, this testimony would likely have been excluded. Frye v. United States, 293 F. 1013, 1014 (1923).

The court's concluding that there was no factual basis for any other explanation than marijuana consumption for X having bloodshot and watery eyes (RP 10-17, 6) ignored the trauma that X experienced in the

accident, the death of his passenger, and the drugs being administered to him at the hospital. Officer M testified:

> Q. Now, things other than being high on marijuana can
> 2 cause watery or bloodshot eyes, correct?
> 3 A. Certainly.
> RP 10-15 at 35.

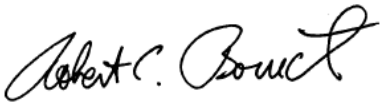
There was insufficient evidence for the fact finder to conclude that X's ability to handle his automobile was lessened to any appreciable degree by marijuana.

The state has argued that the findings of fact supporting the conclusion of law and verdict are "verities on appeal" (Resp. Br. 12) precluding X from making this challenge. But **"**Conclusional findings reached on an erroneous basis, and not supported by substantial evidence, are not binding on appeal." Nord v. Eastside Ass'n Ltd., 34 Wn. App. at 796, 798 (1983). As this Court later wrote, citing Nord, **"**A trial court's erroneous determination of facts, unsupported by substantial evidence, will not be binding on appeal." State v. Hill, 123 Wn.2d 641, 647, 870 P.2d 313 (1994). And **"**a less strict approach is applied if the claimed error is included in an assignment of error or is clearly disclosed in the associated issues pertaining thereto." Sherrell v. Selfors, 73 Wn. App. 596, 599, 871 P.2d 168 (1994). In his petition, X has emphasized that the evidence did not support the trial judge's findings. PRP at 24-26.

V. CONCLUSION

This Court should grant X's personal restraint petition. The evidence was insufficient to support a vehicular homicide or vehicular assault conviction. The state's testimony on the interpretation of blood tests of marijuana levels was not based on scientifically accepted analysis and the toxicologist's testimony was replete with words, such as "likely," that do not support a conviction beyond a reasonable doubt. The trial court improperly relied on it in reaching its conclusions.

Respectfully submitted,



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